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POSSIBILITIES FOR SOCIAL INTERACTION IN SOCIALIST AND POST-SOCIALIST HOUSING ESTATES[2]

Mogućnosti za društvenu interakciju u socijalističkim i postsocijalističkim stambenim celinama

ABSTRACT: *Housing estates, as both physical and social environments, impact the lives of residents in diverse ways. Research indicates that multifunctional urban design has positive implications on the quality and frequency of social interaction among residents, directly impacting the social processes within neighbourhood communities. Drawing on interdisciplinary research which integrates both spatial and social aspects, this article explores the relationship between housing estates built within two social-political systems – socialist and post-socialist, and the potentials for social interaction within these two types of neighbourhoods. Additionally, it examines how residential blocks were developed within these different systems, as well as the degree to which attention was given to public spaces and the social aspect of collective living within these urban paradigms. A case study of these two dominant types of housing estates in Novi Sad, Serbia, demonstrates how different socio-political systems produced different spatial features of city neighbourhoods, which mediate social interaction in neighbourhood communities. The findings illustrate the significant relationship between spatial characteristics of housing estates and the social dynamics of neighbourhood communities, with the residential frames mediating, shaping and structuring activities, encounters and various social interactions between residents.*

KEY WORDS: *spatial characteristics, social interaction, housing estates, socialist housing, post-socialist housing*

APSTRAKT: *Stambene celine, istovremeno i fizičko i društveno okruženje, utiču na živote stanara na različite načine. Istraživanja ukazuju na to da*

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multifunkcionalni urbani dizajn ima pozitivne implikacije na kvalitet i učestalost društvene interakcije između stanara, direktno utičući na društvene procese unutar urbanih zajednica. Oslanjajući se na interdisciplinarna istraživanja koja uključuju kako prostorne, tako i društvene aspekte, ovaj rad istražuje vezu između stambenih celina izgrađenih u okviru dva različita društveno-politička sistema – socijalističkog i postsocijalističkog i potencijala za društvenu interakciju stanara. Takođe, ovo istaživanje ispituje način na koji su stambeni blokovi bili formirani unutar ova dva drugačija sistema, kao i u kolikoj meri je pridavano pažnje javnim prostorima i društvenom aspektu kolektivnog stanovanja u okviru ovih urbanističkih paradigmi. Studija slučaja bazirana na ova dva dominantna tipa višeporodičnog stanovanja u Novom Sadu, Srbija – socijalističkog i postsocijalističkog, ilustruje kako su različiti društveno-politički sistemi stvorili drugačije prostorne odlike gradskih stambenih celina, koje posreduju interakciju članova urbanih zajednica. Ovo istraživanje pokazuje značajnu vezu između prostornih karakteristika stambenih celina i društvene dinamike urbanih zajednica, pri čemu stambeni okviri posreduju, oblikuju i strukturišu aktivnosti, susrete i različite društvene interakcije stanara.

KLJUČNE REČI: *prostorne karakteristike, društvena interakcija, stambene celine, socijalističko stanovanje, postsocijalističko stanovanje*

Introduction

Spaces and places serve as focal points of our everyday lives, providing physical frames which shape and direct actions, experiences, interaction and activities taking place within them. Minar and Greer (2017: 9) emphasise the role of community, arguing that it is inseparable from human actions, aims and values, representing the need for togetherness and shared desires. In the context of housing estates, neighbourhood communities embody both territorial and social aspects. Thus, they can be understood as a series of locally based social networks, which are regulated through interactions within a shared residential area (Petrović, 2007; Mirkov, 2015). However, even though shared residential space is a key aspect of these social groups, it does not guarantee the creation of communities in each and every housing estate, since communities are formed through frequent social interaction and shared experiences of members (McMillan and Chavis, 1986). Gottdiener and Budd (2005) argue that spatial propinquity alone is insufficient for generating meaningful social bonds between residents. However, spatial propinquity of residents can be understood as a prerequisite for community creation, while the spatial characteristics of a city neighbourhood play a role in shaping the opportunities for social encounters amongst residents, thus impacting the possibilities for community development. Schumacher (2011) highlights the role of architecture in the act of "framing" communication, creating set premises for all interactions. He argues that spaces „set the scene" for encounters, therefore influencing the potential communicative scenarios and ultimately mediating social encounters (Schumacher, 2011: 365). Gehl (2011) emphasizes that the physical environment can be designed to either

encourage and facilitate social interaction, or, conversely, to impede and hinder opportunities and possibilities for encounters.

This article explores the relationship between housing estates developed under two different social-political systems – socialist and post-socialist, and the potentials for social interaction within these two types of neighbourhoods, from an urban studies perspective – primarily through the disciplines of social psychology and urban sociology. Although space alone does not generate communities, research indicates that it has a role in the type of activities, the frequency of encounters and types of interaction residents can experience within their neighbourhoods, ultimately encouraging or deterring social interaction. Relying on interdisciplinary research encompassing both spatial and social dimensions, this article provides a comprehensive understanding of the interrelations of specific spatial factors of residential environments and the interaction of neighbourhood community members. Furthermore, this research includes a case study based on two dominant forms of residential neighbourhoods in Novi Sad, Serbia – specifically socialist and post-socialist, illustrating how different spatial configurations and urban design mediate real-life experiences of neighbourhood community members. These blocks were created under different urban paradigms correlating with the specific cultural, political, social and economic circumstances present at the time of their development, resulting in different spatial characteristics. Multifamily housing created in socialist Yugoslavia was an important project of the state, realised in the form of housing estates based on the key ideas of modernism and modern urban planning, as well as the socialist paradigms of equality (Stefanović, 2024). The post-socialist transition introduced other actors and investors to the urban development, led by privatisation and the decentralisation of decision-making processes (Backović, 2019: 27). This urban transformation is characterised by the dominance of private interest and profit, resulting in post-socialist housing projects to be created in a way that maximises the usable square footage of allocated building lots. Both blocks were examined through spatial and functional analysis, specifically in terms of their morphologies and urban design, assessing safety, accessibility and potential usage scenarios of public spaces within the residential frames, which are aspects that assorted research has found to influence the social interaction of residents. The case study and comparative analysis of a socialist and post-socialist housing estate aims to assess spatial characteristics and qualities of their urban concepts, in regards to their ability to enable and encourage frequent usage of the open public areas of the residential blocks, and therefore, the potentials for repeated encounters of residents. Through this comparative analysis, the case study further enhances the comprehension of the complex and ever-present link between residential areas and neighbourhood communities, realised through the distinct relationship between the social interaction of residents and the shared spaces it occurs in.

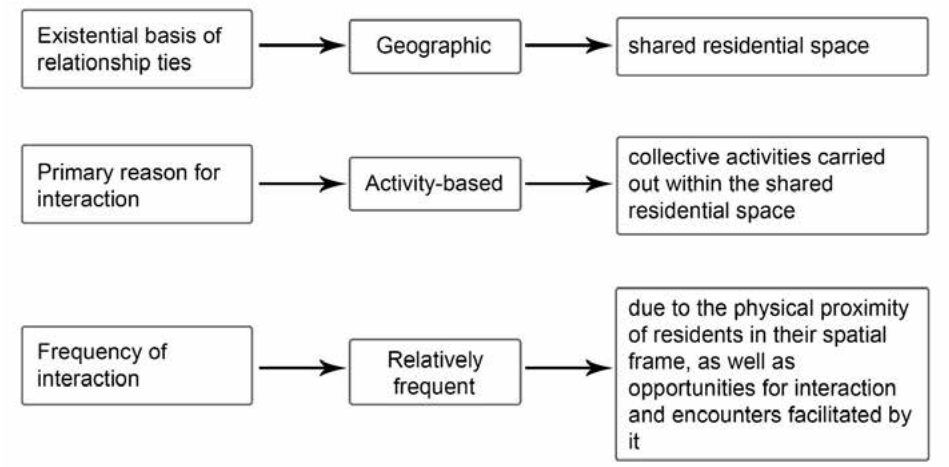
Neighbourhood Communities

There are many types of social groups, with varying levels of interconnection and personal relationships between members. However, a community is widely considered a social group which also entails emotional attachment. Community

is a complex term, representing both an empirical concept, describing the actual structure of a social unit, and a normative one, reflecting the qualities that are valued or desired within that unit (Minar and Greer, 2017: 9). Brint (2001: 8), defines communities as "aggregates of people who share common activities and/or beliefs and who are bound together principally by relations of affect, loyalty, common values, and/or personal concern (i.e., interest in the personalities and life events of one another". A neighbourhood community represents a distinct type of community, with its specificity stemming from the complex relationship between these social groups and the residential space in which they reside. These communities are created by and are based on territorialised social relations, which are mediated by their residential urban environment (Pajvančić-Cizelj and Knežević, 2017: 443). Due to the importance of social bonds among residents, residential neighbourhoods should be understood not only as housing units, but also as complex networks of social relations (Forrest and Kearns, 2001: 2130). Pušić (Mirkov, 2015: 62) states that, in a sociological sense, a neighbourhood represents a group of individuals who reside in the same space and are connected through shared and specific social circumstances. Mirkov emphasises this duality, noting that the fundamental characteristics of a city neighbourhood are territoriality and social organisation (Mirkov, 2015: 62). Jacobs famously argues that quality neighbourhood communities depend on frequent informal social networks developed from everyday interactions facilitated by spatial and social environments (Jacobs, 1961). These social relations, emerging in everyday lives, form a basis for social cohesion, which results in residents obtaining a sense of belonging and social order (Forrest and Kearns, 2001: 2130). The social relationships formed amongst members of a neighbourhood community are shaped by its spatial context, particularly through its spatial composition and configuration (Small and Adler, 2019). Spatial composition refers to the existence or lack of specific places which serve as environments for social interaction. Oldenburg (1989) coined the term "third place", to signify "the core settings of informal public life (Oldenburg, 1989: 16)". The third place is explained as different from first place – home and second place – work, and it represents various places which are vital for informal interaction and social life. These places can be enclosed (cafés, restaurants, etc.) or they can be formed in public spaces. In urban neighbourhoods, these spaces are usually in the form of green areas, sport courts, urban furniture layouts, plateaus and similar spaces, all of which have an important social function. Spatial configuration, which represents another key characteristic of space, is seen as the "arrangement of physical barriers and pathways that result in the segmentation of a space (Small and Adler, 2019: 120)." Hillier et al. (1993) highlight the importance of this spatial structure as a key factor in influencing and shaping movement patterns in space. Small and Adler (2019) explain that spatial configuration has two main aspects: "the segmentation of space by boundaries and pathways and the position of these elements relative to one another (Small and Adler, 2019: 121)". Every residential neighbourhood has a distinct spatial configuration and spatial composition, aspects which are interlinked and interdependent. Together, they mediate and shape possible usage scenarios, pedestrian movements and opportunities for social interaction.

Brint (2001: 10) developed a classification system that identifies eight major community types. This system is used to conceptualise neighbourhood communities based on their specific characteristics, as presented through the author's classification criteria. The first and most general differentiation between community types is defined through the criteria pertaining to the "ultimate context of interaction among members", whereas communities can either be geographic or choice-based. The next level of classification refers to the foundational motive for interaction, whereas communities are divided into those that are belief-based or activity-based. The third and fourth levels refer to rates of interaction, and are constructed by ecological and motivational factors which influence interaction. Thus, they vary based on the results of the first two steps of classification, seeing as the third and fourth levels are specific to each community type. Through this system, Brint distinguishes eight major community types as three geographically based communities: communities of place, communes/ collectives, local friendship networks, and five choice-based communities: dispersed friendship networks, activity-based elective communities, belief-based elective communities, imagined communities and virtual communities. In terms of neighbourhood communities, they are classified through three criteria: the existential basis of relationship ties, the primary reason for interaction and the frequency of interaction (Brint, 2001: 10). The resulting variables have been represented and further interpreted in Figure 1.

Figure 1
Neighbourhood communities conceptualised through Brint's community classification system



Source: Author, created based on the source image: Brint, S. (2001). Gemeinschaft Revisited: A Critique and Reconstruction of the Community Concept. Sociological Theory(19), 1–23, page 10, figure 1.

The first level of classification concerning the essential basis for forming relationships is geographical – for neighbourhood communities, this is recognised as the shared residential urban space. The second tier regards the primary reason for interaction, and for these communities, the motive for interaction stems from activities which can be perceived as collective activities occurring in the shared urban frame. The third variable is seen as the frequency of interaction, which is considered to be relatively high, which can be attributed to the physical circumstances of multifamily collective living, as well as the opportunities for shared activities this urban frame can facilitate (Figure 1). The results of the classification indicate that the collective residential urban frame is a focal point of all three criteria, further underlining the assertion that the architectural and urban design of this space shapes and mediates the functioning of neighbourhood communities, by affecting the frequency and quality of social interaction.

Neighbourhood urban design and social interaction

Neighbourhood communities, intrinsically linked to the shared residential space that connects their members, entail the influence of this spatial frame. Relph (1976: 34) highlights the importance and value of the relationship between a community and its place, each reinforcing the identity of the other, resulting in this space becoming a physical expression of shared values, beliefs and interpersonal relationships which are encompassed in that community. Norberg-Schulz (1999: 72) indicates that the design of an architectural space also implies the embedding of a certain form of lifestyle within that environment. Research indicates that a plethora of physical and design characteristics of neighbourhoods impact the socialisation patterns of residents. More precisely, aspects such as housing density, street layouts and the availability and accessibility of public spaces generate more or less possibilities for encounters and social interaction (Deidre and Cloutier, 2016: 4). Small and Adler (2019) identify three main characteristics of space that impact social ties: spatial propinquity (physical proximity of residents), spatial composition (the urban design of neighbourhoods, i.e., the existence or non-existence of places fit for social interaction) and spatial configuration (the arrangement and segmentation of space via streets, pathways and other physical elements). All three aspects are interdependent and cannot be separated from one another. In their well-known and respected study from 1950, Festinger et al. (1950) examined the relationship between residents' spatial proximity and the potential for friendship formation within a housing complex on the MIT campus in Massachusetts, USA. The authors highlighted the importance of frequent passive contacts in the developing of more significant social bonds. They distinguish two factors that impact social interaction: physical, spatial distance between two housing units (spatial proximity), as well as functional distance, which can be understood as the urban design and layout that can create communal movement patterns, thus increasing the potential for encounters. Vujadinović (2016), typologized neighbourhood

public open spaces in Podgorica, Montenegro according to three spatial aspects: the degree of the integration of public spaces, accessibility and permeability. The study ultimately demonstrates that different spatial configurations enable different social outcomes, with well-integrated and more visually and physically accessible spaces encouraging more frequent encounters and opportunities for social contact. There are many different terms used to identify and describe spatial qualities of neighbourhoods and their role in supporting socialisation, with the term "walkability" being frequently used in contemporary spatial studies (Lund, 2002; Van den Berg et al., 2017; Žnidaršič and Juvančič, 2021, Sonta and Jiang, 2023; Otsuka et al., 2025). The walkability of a space represents the degree to which it enables, encourages and supports walking, influencing the potentials for frequent pedestrian movement and resulting social encounters. The frequent usage of this term stems from the fact that walkability can be achieved through street connectivity, mix-use design, safety and proximity to interesting destinations, thus representing a direct result of the architectural and urban design of the residential area. Van den Berg et al. (2017) conducted an empirical study in Eindhoven, The Netherlands, to examine the relationship between neighbourhood walkability, social cohesion and social interaction among residents. The findings, based on analysis of collected surveys and social interaction diaries, indicate that neighbourhood walkability is positively associated with a higher frequency of important social interactions. Otsuka et al. (2025) researched neighbourhood walkability in three cities: Gothenburg (Sweden), Dortmund (Germany) and Genoa (Italy) through a mixed-methods approach, combining surveying of residents and their assessments of walking routes with spatial modelling. The findings identify key factors which improve perceived walkability, including increased pedestrian areas with well-maintained infrastructure, safety from traffic and more green space. Spatial factors which are recognised through these and other studies remain the core elements that influence, mediate and facilitate the way members of a neighbourhood community interact with one another.

Apart from walking, there are other, different types of activities which can be carried out by residents. Gehl (2011: 9–12), who is known for developing urban design concepts which focus on the human scale and designs multifunctional public spaces, developed a systematisation of activities that can take place in public areas. He differentiates three types of activities, which vary in the extent to which they are subject to spatial influence. The three types of activities are: necessary, optional and social (resultant) activities. Necessary activities encompass all of those tasks that people must carry out, such as going to work, waiting for public transport, running errands, etc. These activities are the least prone to be spatially influenced, since they (must) take place under any physical and weather conditions. However, optional activities, which are – as their name suggests – optional, include activities such as recreation, leisurely walking, sunbathing, etc. Optional activities are reliant on the physical environment, as well as weather and other external conditions. If the urban space is suitable and is considered to be of good quality and the weather is favourable, the

frequency of these activities increases. The third type of activities are identified as social activities, which are also considered "resultant" activities since they are usually generated as a result of the other two activity groups, specifically through the encounters and interaction of people in the same space at the same time. These types of activities are based on the interaction of multiple people, ranging from conversations to shared activities. The term "public space" in the context of neighbourhood communities refers to the open and collective areas of residential blocks where most encounters take place. The classification Gehl created highlights the complexity of usage patterns of residents in these spaces, as well as the correlation between the frequency of the occurrence of activities and the frequency of social encounters and social interaction (2011: 9–12).

Assorted research indicates that neighbourhood design impacts the socialisation of residents, the development and strength of the sense of community, the establishing of trust among community members and even influences the happiness of residents (Lund, 2002; Mason, 2010, Deidre and Cloutier, 2016).

Methodology

This interdisciplinary research which focuses on the relationship between spatial characteristics of neighbourhoods and the potentials for social encounters and interaction of residents applies a mixed-methods approach and conducts a case study contrasting two spatially distinct existing representative examples of dominant forms of residential neighbourhoods in Novi Sad, Serbia, created under different urban paradigms – socialist and post-socialist. The hypothesis, grounded in assorted research, is that multifunctional and varied architectural and urban design have positive implications on the quality and frequency of social interaction among residents, directly impacting the social processes within neighbourhood communities. The blocks were analysed in terms of their spatial configuration and composition, specifically elements that research indicate have a role in creating the potential for resident interaction, including street and path connectivity, accessibility of public spaces, the physical separation of vehicular and pedestrian traffic, as well as the presence or lack of specifically designed spaces intended for different activities and socialisation. This practical example will aid the understanding of the differences urban residential areas can have in terms of their urban design concepts, as well as the resulting impact on the neighbourhood communities which are formed within them. The case study utilises both qualitative and quantitative research methods, with data gathered by the author. The data consist of photo documentation collected through multiple site visits, as well as satellite images and technical drawings. Satellite images of the selected urban blocks were obtained from the Geosrbija website (https://a3.geosrbija.rs/), providing accurate base material for analysis. Furthermore, these images enabled the author to produce precise technical drawings that clearly illustrate the blocks' morphologies, which also serve as a basis for calculating key urban parameters. These urban parameters represent the quantitative aspects

of the research, enabling the comparison of spatial proportions. The qualitative component involves the assessment and evaluation of the quality of the spatial characteristics of both blocks, based on the technical drawings, satellite images, photographs and field observations.

Novi Sad Case Study

Novi Sad is the second largest city in Serbia, a former Republic of the Socialist Federal Republic of Yugoslavia. Similarly to other large cities that went through significant transformations during the socialist era and are now (still) in the process of post-socialist transition, in Novi Sad there are two dominant forms of multifamily residential neighbourhoods, built under two different urban paradigms and which can be identified as socialist and post-socialist forms of city housing. The city's urban fabric went through major changes during the socialist era, which were based on the socialist ideology in terms of its paradigms and the social-political context, as well as the modernist architectural and urban discourse which was highly relevant at the time. In terms of housing, urban residential blocks created during this era were highly influenced by the concept of modern urban planning, based on principles of "The Functional City", as defined by CIAM, as well as the famous Athens Charter (Blagojević, 2007; Stefanović, 2023). The resulting housing forms, which were continually developed throughout the socialist period, were characterised as large-scale housing complexes, built on state-owned (publicly owned) land, with buildings positioned so as to form inner courtyards that were designed as an integral part of the architectural-urban design concept (Stojanović, 1975). These communal areas feature multifunctional design, with specifically defined spaces and urban furniture meant for various activities. The post-socialist period, shaped by an economic and political crisis, as well as the disintegration of ex-Yugoslavia, is characterized by drastic changes in the state's functioning, particularly seen through the processes of privatisation and the decentralisation of governmental power (Backović, 2005: 27). In terms of housing, the post-socialist transition led to significant changes in the urban paradigm. Petrović (2005) emphasises that "urban governance in post-socialist cities is more reactive to the interest of capital investments as well as tolerant of illegal practices than it is strategically proactive, which leads to organic rather than comprehensive entrepreneurial city development (2005: 9)". Privatisation, which was prompted by the state's overall instability, as well as an inflow of war refugees, initiated the reshaping of the urban fabric of Novi Sad (Nedučin, 2014). Although the population increase played a role in terms of the housing demand, the significant shift in the urban paradigm was enabled by the transformation of the social-political system and governmental processes which reinstated market-driven mechanisms to the housing sphere. The first years of the post-socialist transformation negatively impacted city development, seen through the neglect of the social aspects of urban policies and the disregard of the value of long-term urban planning objectives (Jadžić, 2011: 73). This resulted in a decline of the scope and quality of

public spaces, as well as an increase in socio-spatial inequalities (Jadžić, 2011: 73). These different political and economic circumstances enabled private investors to have a central role in the housing sector, who are focused on maximising usable square footage on the building lots at their disposal. The distribution of buildings minimises open space that could be intended for the design of shared outdoor spaces. In the case that the buildings are juxtaposed so as to frame an inner courtyard, these spaces are dominantly used as parking lots. The same urban paradigm is still dominant in today's multifamily housing in Novi Sad.

In order to illustrate diverse spatial characteristics of different urban residential areas, as well as their role in enabling potential usage patterns, resident activities, encounters, and social interactions, this section presents a comparative case study from Novi Sad, Serbia. The study incorporates spatial and functional analysis of the spatial configuration, composition and urban design of two different multifamily residential blocks, investigating the relationship between these spatial aspects and potentials for social interaction within neighbourhood communities, thus practically applying concepts established through the theoretical framework. More precisely, Small and Adler's (2019) definitions of spatial propinquity, spatial composition and spatial configuration encompass a large range of spatial characteristics and urban design elements which have been referenced through other studies. Spatial propinquity refers to the physical distance of residents, while spatial configuration entails all physical aspects relating to the morphology of the neighbourhood and segmentation of space, which includes path interconnectivity and safety elements, both influencing pedestrian movement. Spatial composition encompasses urban design elements, such as urban furniture and the creation of designed spaces meant for different activities and socialisation. Thus, these three interconnected terms and the aspects they incorporate, which range from the morphology of the residential area, to the availability and accessibility of public spaces, as well as walkability, will be used in the case study analysis. Additionally, Gehl's (2011) insight into activity types, their differentiation and correlation with space will be referenced and combined with the spatial and functional assessment of the blocks.

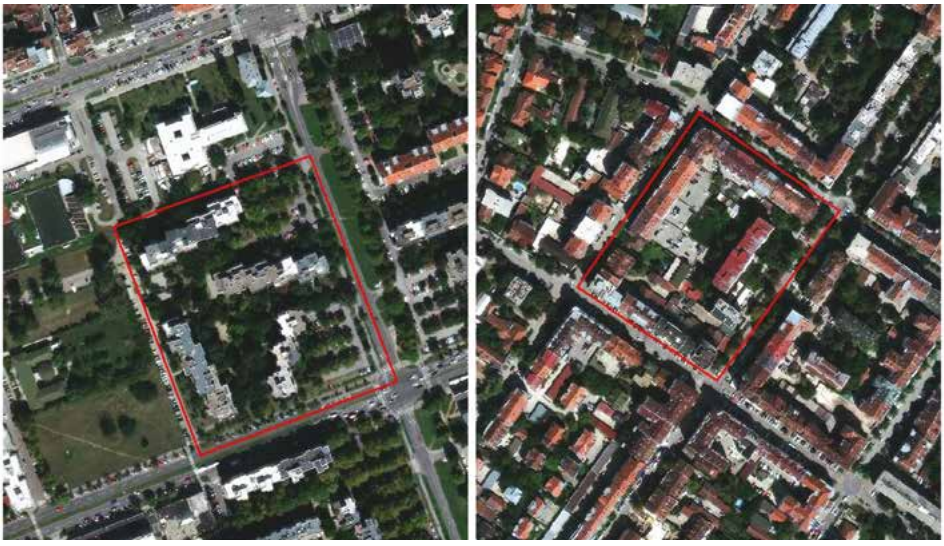
Comparative analysis

The case study focuses on two representative urban residential blocks from Novi Sad which belong to the two dominant forms of multifamily housing in this city– one was built in the socialist era and the other during post-socialism. Within the study, the socialist block will be referred to as the „SB" block, whereas the post-socialist block will be labelled as the „PSB" block, to allow for the clear communication of data.

The SB block is located in the Liman IV area and it was built during the 1970s. The Liman neighbourhood as a whole is divided into four sections and represents a specific spatial sequence which was developed in socialist Yugoslavia. This area was previously uninhabited and was prepared for development through the draining of the Danube River marshes, which allowed for the realisation of planned neighbourhoods. The neighbourhoods in the

Liman I area originated as the first examples of the socialist urban paradigm and the Liman IV neighbourhoods showcase the concepts developed throughout the era (Stefanović, 2024: 174). The block is physically defined by the Balzakova, Narodnog Fronta and Đorđa Servičkog streets, while the street on the north is an unnamed connecting street. The PSB block chosen for this study is located in the Grbavica area, which is a large residential zone that was transformed from more traditional housing forms during the post-socialist period. The Grbavica block which has been chosen for this analysis featured dominantly single-family housing before the 1990s and was transformed into new residential blocks with densely built multifamily housing during the late 90s and early 2000s. It is defined by Miše Dimitrijevića, Puškinova, Doža Đerđa and Gogoljeva streets. Pajvančić-Cizelj and Knežević (2017) conducted an empirical study of neighbourhood relations in different residential areas in Novi Sad, with findings indicating that Grbavica, as a residential area which has been heavily transformed during post-socialism, is characterised by less intense social relations between neighbours, compared to less transformed areas, such as the Liman area which has dominantly remained unaltered. Both blocks selected for this case study can be seen in Figure 2.

Figure 2
The SB and PSB blocks – satellite images (SB on the left, PSB on the right)

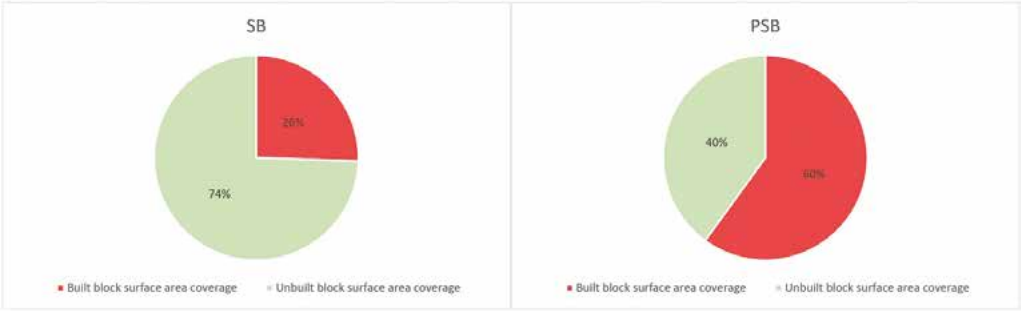


Source: Geosrbija (https://a3.geosrbija.rs/)

The general differences between the blocks in terms of space usage reflect the respective urban paradigms under which they were developed, which also influenced their spatial configuration. This can best be observed from the contrasts between the built and unbuilt block surface areas of the blocks, which were measured on the technical drawings of the blocks created based on

accurate satellite imagery. The SB block has an unbuilt area coverage of 74%, while the PSB block's unbuilt area represents only 40% of the total block surface area (Figure 3). Even though the unbuilt area of the PSB block is less than half of its total surface, it is important to note that even a smaller-scale open area can be treated with a multifunctional design approach. The scale of the unbuilt surface areas undoubtedly impacts the spatial characteristics of the blocks; however, it is not the defining factor of the quality of the public open space, but rather the organisation and functionality of the space, realised through establishing accessible spaces intended for socialisation and various activities.

Figure 3
The differences in built and unbuilt block surface areas (SB on the left, PSB on the right)



Source: author; based on data from calculating the urban parameters of the blocks

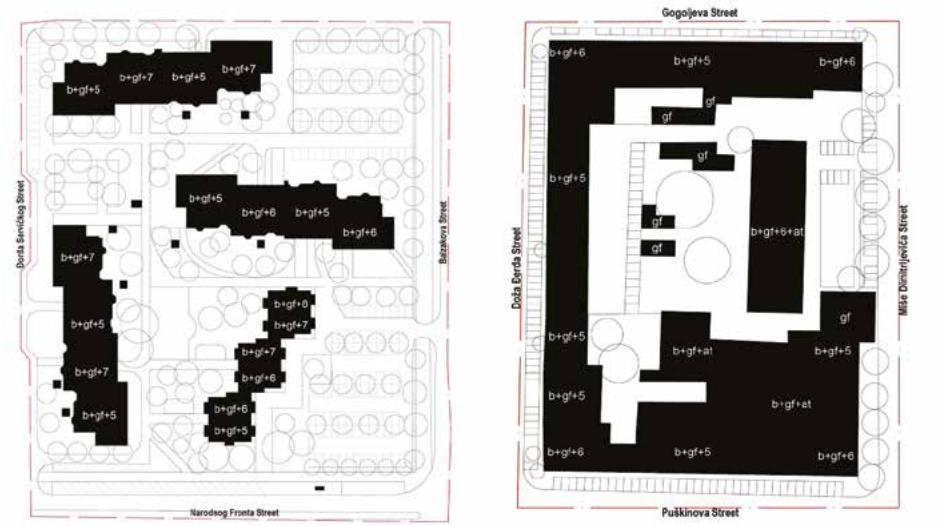
Seeing as spatial propinquity (physical distance of residents) can be considered to be similar and sufficient in both the SB and PSB blocks, due to the residential density associated with multifamily city housing, the spatial composition and spatial configuration of the residential neighbourhoods represent the key factors which determine physical and functional aspects of urban and architectural design which mediate the social dynamics of neighbourhood communities.

While the PSB block has limited entry points for pedestrians due to the positioning of buildings that form a continual front and strict physical barrier relating to the surrounding streets, the buildings in the SB block are juxtaposed so as to allow free entry into the inner block space (Figure 4). Additionally, the fact that in the SB block the parking areas are located on the outer corners of the area and slow-speed access roads which lead to underground garages are positioned alongside the buildings, enables the separation of vehicular traffic from pedestrians that are using the public outdoor space. Conversely, vehicles can freely enter the inner courtyard of the PSB block, which is also used as a parking lot. In order for people of all ages, especially younger children, to frequent and use shared residential open spaces, their physical safety needs to be ensured by the spatial environment. The morphology and spatial configuration of the SB block is a good example of a spatial frame which enables safe, accessible and unrestricted usage of the communal residential space. The concepts of residential

complexes created during socialism included the positioning of buildings in a way that enables the development of shared courtyards which include vegetation and different spaces designed for various purposes with the aim of encouraging frequent use, thus supporting the social aspects of collective living.

Figure 4

The SB and PSB blocks – spatial composition and configuration – black represents built structures, while white indicates open or unbuilt areas (SB on the left, PSB on the right)



Source: author

The spatial composition of the blocks refers to the presence of spaces, elements and urban furniture which are intended for different usage scenarios and also incorporates important aspects such as walkability. These spatial characteristics can be observed and recognised both through the morphology represented in Figure 4 and the photographs represented in Figure 5. Whereas the spatial composition of the PSB block lacks designated and specifically designed spaces for various activities, as well as spatial elements that would foster walkability, the SB block has a variety of elements and zones that enable residents to spend time in the shared space. Most prominently, the block features a double sport court, one intended for futsal and the other for 3x3 basketball, with benches lining the sides (Figure 5 – top image).

While the sport courts represent the main focal point of the space in the SB block, there are a couple of plateaus in different areas in the block, which are spatially marked and formed by concrete elements that can also be used as seating (Figure 4). The entire communal area is interlined with footpaths, while the different zones distributed throughout the space encourage a variety of usage scenarios for people of all age groups. Considering both spatial configuration and

Figure 5
The SB and PSB blocks – communal residential open space (SB on the top, PSB on the bottom)

Top image source: author, 2022; bottom image: author, 2019

composition of the SB block, it can be concluded that walkability is established – both through ensured physical safety stemming from the clear spatial separation of vehicular and pedestrian traffic, as well as by the numerous intersecting footpaths leading to all of the block's focal points. Regarding the activity types outlined in the previous section, due to the SB block's multifunctional urban design, it can be argued that a variety of optional activities can occur in this space, while Figure 5 (top image) depicts a social (resultant) activity taking place on the sports field. Individuals from various age groups can be observed interacting with one another through different activities – participating in the sport activity, observing as spectators, or engaging more indirectly by being in the vicinity of the field and conversing while passively observing others.

The functional and spatial analysis of these two representative examples of dominant residential blocks in Novi Sad, examined through the prism of spatial aspects that research has shown to positively affect socialisation and, by extension, neighbourhood communities, has highlighted the positive implications associated with the multifunctional urban design of the SB block, as well as the elements lacking from the PSB block. Since the SB block was built and conceptualised under specific social-political circumstances, it is important to note that the value of the SB's quality urban and spatial design is relevant in any context and therefore transcends any ideology. However, an argument may

arise regarding whether multifunctional urban design of collective residential areas can be achieved in the same scope in today's political climate and privately owned lots. Although scale certainly does have a role in shaping the spatial composition and configuration of the block, it is not a critical determinant in terms of the potential to create communal residential spaces that foster social interaction. Even smaller spaces can be deliberately designed to enable opportunities for social encounters, such as a small plateau with well-lit urban furniture, or a compact playground. The defining factors of quality urban design lie not in size, but in the functionality, organisation and optimisation of space in a way that encourages and enables active use by residents.

Conclusion

Assorted multidisciplinary research highlights the relationship between residential areas and respective neighbourhood communities, with these spaces mediating social encounters in shared open areas. Key spatial elements have been identified as crucial for mediating, fostering and shaping social interaction and activities of residents, which can be surmised in the terms: spatial propinquity, spatial configuration and spatial composition. These aspects include an array of physical characteristics related to morphology, street layout, urban design, as well as specific places and elements which can be conductive to the socialisation of residents. These spatial factors also have a great role in the establishing of the walkability of these residential areas, as well as the types and frequency of activities that can arise within these spatial frames.

By incorporating a comparative case study and based on the two most dominant multifamily residential forms in Novi Sad – socialist and post-socialist (which are, arguably the two dominant forms of city living in most Serbian cities), this study practically investigated the differences between these two urban paradigms, through both spatial and functional analysis of the selected representative urban blocks. The analysis was conducted using established terms and spatial features recognised and developed through the theoretical framework pertaining to the relationship between spatial frames and neighbourhood communities. The findings of the case study indicate that the block created during socialism features multifaceted urban design, characterised through physical elements that enable safe and frequent use of the many different areas and zones intended for various activities and socialisation, while the shared open space in the post-socialist block is dominated by vehicles and parking spaces, with a lack of spatial infrastructure which would enable frequent use by residents, thus directly reducing the possibilities for social encounters. Since research indicates that accessible, safe and multifunctional areas which offer opportunities for various activities and interaction can improve the social cohesion of neighbourhood communities, it is clear that the Liman block which is characterised by multifaceted urban design, creates an environment that can mediate and encourage residents' social interaction. The urban paradigm which was applied to residential areas in socialist Yugoslavia incorporated the social aspects of collective living through the

deliberate design of shared open areas within neighbourhoods. City development was directed through official urban planning documents and projects were frequently awarded through high-standard architectural competitions. In contrast, the housing sector in post-socialist conditions is regulated through market mechanisms, with private investors influencing the urban fabric and shaping the development of cities. Urban plans are often modified so as to accommodate investor objectives – for example, permitting additional floors which exceed the original plan. The consequences of this approach in developing residential areas can be seen in the lack of shared outdoor spaces, which negatively impacts the life quality of residents, through impeding possibilities for various activities and opportunities for the creation and development of neighbourhood communities. In order for future city development to include residential areas designed to foster social cohesion, urban policies could be established by city planning officials to require a certain percentage of the building lots to remain unbuilt and be designed to support frequent and diverse use, thereby fostering opportunities for social interaction.

Although the lack of resident survey data may be considered a limitation of the case study in terms of empirically investigating the social relations of residents, previous research conducted in different residential areas of Novi Sad indicates that social ties are less intense in the Grbavica area, which was heavily transformed during the post-socialist period, compared to less transformed neighbourhoods, such as Liman (Pajvančić-Cizelj and Knežević, 2017). These conclusions are in line with the findings of the case study, which suggest that the spatial characteristics and urban design of the block in the Liman area provide more opportunities for the social interaction of residents. The complex and undeniable link between neighbourhood communities and their spatial frames inspires a vast area of interdisciplinary research. The methodology employed in this study can be easily replicated, and future studies could focus on topics such as anthropological investigations of different types of multifamily residential blocks, by surveying residents and following them over a prolonged period of time.

The findings of this article demonstrate the significant relationship between residential frames and the social dynamics of neighbourhood communities, while multifunctional and varied architectural and urban design has positive implications on the quality and frequency of social interaction among residents, thereby facilitating the social processes within neighbourhood communities.

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