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Article

Spatial Variability and Clustering of Quality of Life at Local Level: A Geographical Analysis in Athens, Greece

Antigoni Faka *, **Kleomenis Kalogeropoulos**, **Thomas Maloutas** and **Christos Chalkias**

Department of Geography, Harokopio University of Athens, 17671 Kallithea, Greece; kalogeropoulos@hua.gr (K.K.); maloutas@hua.gr (T.M.); xalkias@hua.gr (C.C.)
* Correspondence: afaka@hua.gr; Tel.: +30-210-9549347

Abstract: This paper presents a geographical analysis to evaluate urban quality of life in Athens, Greece, and investigate spatial heterogeneity and potential clustering. The urban environment was examined using composite criteria related to natural, built and socioeconomic environment, housing conditions, public services and infrastructures, and cultural and recreational facilities. Each criterion constructed from a set of mappable sub-criteria/variables. Weighted cartographic overlay was implemented to assess the overall urban quality of life of each spatial unit, based on the importance the residents of the area attributed to each criterion. High levels of quality of life were revealed in the eastern neighborhoods of the municipality, whereas low levels were noticed mainly in the western neighborhoods. The results of the study were validated using the perceived quality of life of the study area's residents, resulting in substantial agreement. Finally, after spatial autocorrelation analysis, significant clustering of urban quality of life in Athens was revealed. The quality-of-life assessment and mapping at a local scale are efficient tools, contributing to better decision making and policy making.

Keywords: urban quality of life; GIS; multicriteria analysis; spatial heterogeneity; spatial autocorrelation; Athens

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1. Introduction

For many years, Quality of Life (QoL) research was limited to health-related issues, investigating individuals' physical and mental health [1]. By increasing consumerism and its influence on the levels of satisfaction of individuals, QoL was related to material well-being, defined mainly by high levels of consumption and property possession [1,2]. Afterwards, researchers studied QoL taking into consideration the general living framework, including social structure and environmental conditions [2–4]. Since the 2000s, researchers have been aiming at a more comprehensive approach of QoL, considering QoL as a multidimensional concept and incorporating domains of health, psychology, sociology, natural environment, economy, social characteristics, etc. [4–6].

The improvement of individuals' living environments and their satisfaction with life is often included in the policy agendas of governments, as well as European and global organizations, resulting in numerous studies assessing QoL [7–10]. It is characteristic that Eurofound has planned and accomplished a series of surveys about QoL, the European Quality of Life Surveys (EQLS) [7,11–13]. These national scale surveys focus on all the parameters that play a crucial role in shaping QoL, going beyond GDP toward sustainable QoL [14], such as health, education, economy, employment, services, security, environmental quality, culture, living and housing conditions, family and social life. Eurofound uses both objective measures to evaluate the living conditions of European citizens, and subjective perceptions to measure satisfaction with domains of life [7]. EQLS carried out every four years enables the recording of QoL key trends over time among the member states.

However, investigating QoL at a national level ignores local issues citizens are confronted with, especially in urban areas which are important centers of economic growth and development. The rapid population growth combined with the high rate of urbanization, as well as the modern living conditions affect the Urban QoL (UQoL) [15,16]. Furthermore, cities encounter problems such as social dissimilarities, ecological deprivation, crime, etc. reducing the UQoL [7,16]. Hence, the assessment of the UQoL and the investigation of spatial inequalities of UQoL in cities is crucial.

Focusing on urban environments, the European Union has carried out another set of surveys evaluating the UQoL in European cities [8,17–19]. Through these surveys, the European Commission has been monitoring challenges that affect UQoL by recording individuals' satisfaction with various aspects of urban life, such as transport, health, education, cultural and sports facilities, as well as the quality of natural environment. The latest report [8] included comparisons between the satisfaction rates in particular aspects of UQoL and corresponding objective measures, in order to define factors that may affect people's perception. In 2016, the European Commission recorded the state of European cities, including how inclusive they are in terms of UQoL [16]. Combining both objective measures and the findings of previous research [19], the performance of cities in terms of housing, education, employment, poverty reduction and social cohesion was investigated.

Researchers have used both objective and subjective approaches to examine UQoL. Many studies support that secondary statistical and geospatial data allow the most objective evaluation of the environmental conditions and assess UQoL independently of the individuals' perceptions [20–24]. On the other hand, some studies focus on how people perceive and evaluate the conditions of the environment they live in [25,26], underlining that UQoL concerns preferences and experiences. Nevertheless, the combination of objective measures with subjective perceptions and evaluations expressed by people themselves has been adopted in most UQoL studies [4,7,27–32], as it is commonly accepted that UQoL encompasses individuals' preferences and the quality of environmental living conditions. This combination is adopted in this study as well. Moreover, this study concentrates on evaluating the level of the UQoL within the city of Athens. The needs of citizens correspond to multiple aspects of the quality of urban environment. Although these aspects have been extensively studied, there is a lack of a standard methodology for UQoL assessment in urban neighborhoods [33]. As a result, the domains and the variables evaluating UQoL vary among the studies from the international literature [28–42]. Most of them focus on social and economic city functions, on the quality of natural and built-up environment, as well as on housing and services provided to citizens [28–39].

This study examines the quality of the urban environment and evaluates the neighborhoods of the Municipality of Athens (MoA) according to the levels of UQoL that they provide as residential areas. Based on people's satisfaction with living in a city, Athens scores below the overall average (64%) among 83 European cities and is ranked third in the bottom ten scores [8]. However, a previous study at municipality level in the same area underlined the need to investigate UQoL in detail in order to examine internal spatial inequalities within municipalities [36]. Therefore, here we examine UQoL at a local/neighborhood scale in MoA.

The analysis addresses the following research questions: (a) what is the spatial distribution of UQoL in MoA? (b) are there any significant concentrations of high or low values of UqoL in the study area? To answer these questions, first we employ and validate spatial multicriteria analysis to evaluate UQoL, and second, we implement local autocorrelation analysis to investigate spatial clusters and outliers of UQoL. The results of this research promote our knowledge about UQoL assessment at a local level and may support decision making and targeted actions for the enhancements in the area under investigation.

This research aims to investigate and map UQoL in the central and most populated municipality of the Athens Metropolitan Area (AMA) that scored a moderate UQoL level [36]: MoA. The study focuses on the quality of the urban environment and classifies MoA's neighborhoods according to the levels of UQoL that they provide as residential areas. The spatial properties of UQoL were examined in detail within MoA, by implementing GIS-based Multicriteria Analysis (MCA), using objective measures (statistical census data and spatial indexes) weighted by their subjective importance according to the study area's residents. The final results of UQoL were mapped and validated to the citizens' perceived UQoL. Finally, spatial autocorrelation analysis [43,44] was implemented in order to identify potential spatial clusters and outliers.

2. Study Area

MoA is a central municipality of AMA and is located in Attica prefecture, in the central part of Greece (Figure 1). Athens is the capital and the largest city of Greece. MoA has a population of 664,046 inhabitants, which makes it the one of the most populous municipalities in the European Union and extends over an area of almost 40 km^2. The urban fabric of Athens is the most densely populated (over 16.600 habitants/km^2). The trend towards the development of large urban centers, as well as the demographic eruptions of previous decades, created the need for housing development. The study area is divided into 494 Urban Analysis Units (URANUs) that correspond to the spatial unit of analysis (Figure 1). These spatial units are assumed here as neighborhoods of similar size as they have ~1000 inhabitants each.

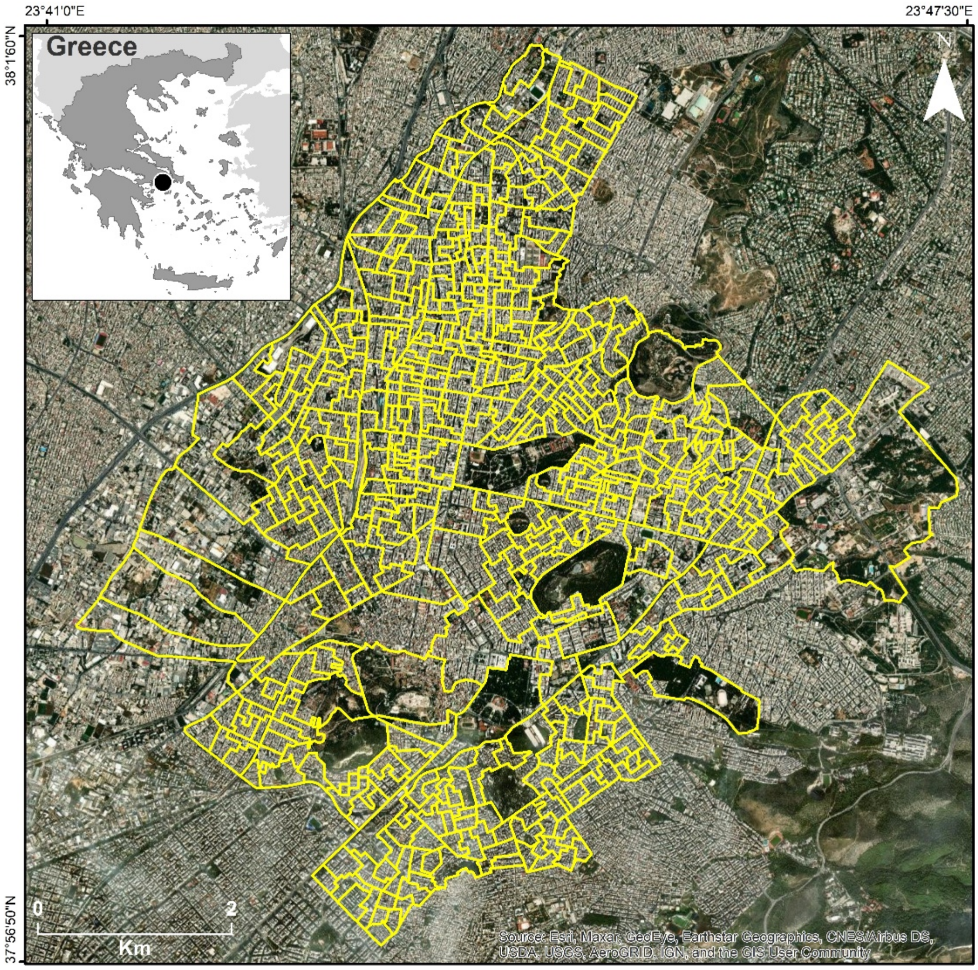

Figure 1. The study area and the spatial analysis units (URANUs).

3. Data and Methods

3.1. Criteria and Indicators

Following the methodology proposed in previous work for the greater area of Athens [36,39], a composite index combined by six criteria was created to evaluate UQoL. MCA is an effective method to evaluate UQoL, dealing with problems that involve a set of discrete alternatives which are evaluated by conflicting and incommensurate criteria [45].

MCA is also popular in spatial dimension problems, and its combined use with Geographic Information Systems (GIS)—according to the weighted cartographic overlay concept—makes it a valuable method to support spatial-related decision making [46].

The criteria were based on basic domains of UQoL, including natural, built and socioeconomic environment, housing conditions and access to public services/infrastructures and cultural/recreational facilities. Each criterion is composed of a set of mappable sub-criteria/indicators that evaluate the domains described previously (Table 1). Further details about the criteria and the indicators that compose them can be found in [36].

Table 1. Criteria and indicators of the proposed composite index.

Criteria	Sub-Criteria/Indicators
Built environment	Population density (habitants/km^2) Open spaces (%)
Natural environment	Mean distance to industries (m) Density of high-traffic roads and highways (km/km^2) Urban Green (%)
Socioeconomic environment	Higher educated population (%)Mean income (euro)
Housing conditions	Detached houses (%) New buildings (%)
Public services and infrastructures	Accessibility to medical services/hospitals (min) Accessibility to schools (min) Accessibility to sport facilities (min)
Cultural and recreational facilities	Accessibility to cultural facilities (min) Accessibility to recreational facilities (min)

UQoL is affected both by the characteristics of the built and natural environment [38,47]. Many studies have noticed the importance of high population density on UQoL, either as a beneficial impact in terms of social interactions [48], or as a negative effect regarding the quality of urban environment [49]. As for the built environment, densely populated areas combined with limited open spaces lead to poorer UQoL and low levels of overall life satisfaction [15,49].

The limited green areas and high levels of air and noise pollution in cities have a significant negative impact on both physical and mental health [50]. Industries and vehicle traffic in transportation axes, two major sources of pollution, are intense in urban areas due to the local concentration of human activities [51]. Consequently, the distance to industries, the density of high-traffic roads and highways and the percentage of green urban areas were used to evaluate the quality of the natural environment.

The association of social and economic status with the UQoL has been pointed out, as the educational and income levels are linked to material living conditions [9,12,13]. As a result, the socioeconomic environment was assessed by evaluating the higher educated population and annual income.

Housing conditions affect a human's everyday life. Thus, the quality and amenities of residences and the housing space sufficiency were used to assess this criterion [7,33,40].

The last two criteria refer to the access to public services/infrastructures, and to cultural/recreational facilities. The accessibility to these facilities is related to a sense of security, economic prosperity, health and social life of individuals [7,20,25,31,33,42,52–56]. Proximity to facilities such as hospitals and schools, as well as to sport centers, was estimated for the criterion of public services and infrastructures. Accessibility to archaeological sites and monuments, museums and libraries was estimated for cultural facilities, and to recreational parks, theaters and cinemas for recreational facilities.

Tabular data of population, unemployment and education, and all data concerning the criterion of housing conditions, were obtained from the 2011 census database of the Hellenic Statistical Authority. Mean income (for 2016) was derived from the General Secretariat for Information Systems (Greek Ministry of Economy and Finance). Spatial layers of green urban areas and open spaces were obtained from the Urban Atlas of the European Environment Agency (year 2012). Spatial layers of industries, public services and cultural and recreational facilities were derived from Google Maps and other internet sites of related infrastructures (year 2020). The road network used to calculate the proximities and density of high-traffic roads and highways was obtained from OpenStreetMap (year 2020).

3.2. GIS-Based Multicriteria Analysis

Spatial layers and tabular data were organized in a geodatabase within GIS environment. GIS-based analysis was performed to geocode, aggregate and attribute all datasets in each neighborhood, in order to estimate all indicators and composite criteria.

All statistical data were attributed to spatial data. The mean income data were available at the higher spatial level of postal code areas. Thus, we assumed uniform distribution of the population both in the URANUs and the postal code areas in order to estimate mean income within URANUs.

Land cover percentages were based on polygons' geometry area, and road density on the length of the linear road segments. GIS-based network analysis was performed to calculate accessibilities and identify the cost of time on on-road traveling. The indicators' mean values for each spatial unit were calculated by implementing GIS-based zonal statistics.

After the calculation of all indicators, we classified their values into a five-category ordinal scale, ranking UQoL from very low to very high value (1 to 5, respectively). The indicators' value classification into five classes was based on the Natural Breaks method [57], widely used in both cartography and social analysis [58]. In this classification method, the break values are identified by best grouping similar values and maximizing the differences between classes. In this way, distinct categories with internal consistency are created. Finally, each composite criterion was calculated by the weighted sum of the indicators (1), and overall UQoL by the weighted sum of criteria values (2) [37,40].

$$C_i = \frac{\sum_i^n (I_i * W_i)}{n} \tag{1}$$

where

C_i = composite criterion
I_i = indicator
n = number of indicators per criterion
W_i = weight

$$\text{UQoL} = \frac{\sum_i^n (C_i * W_i)}{n} \tag{2}$$

where

UQoL = overall urban quality of life
C_i = composite criterion
n = number of criteria
W_i = weight

Both indicators and criteria were weighted based on the preferences of the residents of MoA. A questionnaire survey was conducted during a five-month period (September 2020 to February 2021) on a total sample of 181 residents/participants through online questionnaires. The survey targeted all age groups and gender balance in the sample, as well as the uniform distribution of the participants across the study area. The questionnaire survey was conducted online, using Google Forms, due to the COVID-19 pandemic lockdown, yielding a limited response to the questionnaires. Each questionnaire contained questions regarding the importance of UQoL indicators and criteria, as well as the score of their neighborhood overall UQoL. The swing weights method was applied to assign weights of importance to the indicators and criteria [59]. The weights were normalized, and the importance of each indicator and criterion contributed to weighted cartographic overlay analysis (Table 2).

Table 2. Indicators and criteria weights.

Sub-Criteria/Indicators Weights		Criteria Weights	
Population density Open spaces	0.46 0.54	Built environment	0.18
Mean distance to industries Density of high-traffic roads Green urban areas	0.33 0.32 0.35	Natural environment	0.18
Higher educated population Mean income	0.53 0.47	Socioeconomic environment	0.14
Population living in detached houses Population living in newly built units	0.49 0.51	Housing conditions	0.14
Access to medical services/hospitals Access to schools Access to sport facilities	0.35 0.30 0.35	Public services and infrastructures	0.17
Access to cultural facilities Access to recreational facilities	0.50 0.50	Cultural and recreational facilities	0.19

Next, spatial autocorrelation was examined using both global and local Moran's I indicators [43,44]. Global Moran's I evaluates whether the overall spatial pattern under investigation is clustered, uniform or random. Spatial autocorrelation is measured based on both feature locations and feature values simultaneously. Along with the global Moran's I, both a z-score and p-value are calculated to evaluate the significance of the indicator. Local Moran's I evaluates the local spatial autocorrelation between neighboring spatial units, providing a cluster map where geographical units with similar values cluster spatially. The local spatial autocorrelation types can be distinguished as "High-High" (high-value spatial units surrounded by units with similarly high value) and "Low-Low" (low-value units surrounded by units with similarly low value) spatial clusters, and "High-Low" (high-values surrounded mainly by low values) and "Low-High" (low value units surrounded mainly by units with high values) spatial outliers.

The local spatial autocorrelation of the UQoL was examined in the study area after the calculation of global Moran's I, using queen contiguity and row standardization for spatial weights. Queen contiguity sets neighbors if they share a point-length border, dealing better with potential inaccuracies in polygons and it is appropriate to apply for contiguous regions [60]. After the clustered pattern was confirmed, local Moran's I indicator [43] was implemented, using the queen case of spatial contiguity (1st order), to identify local clusters and local spatial outliers.

All the composite criteria as well as the overall UQoL were mapped, and a set of thematic maps that demonstrates UQoL levels within MoA's neighborhoods was created. The results were validated according to the residents' perception of the UQoL. The residents were asked to define the postal code of their residence area, and rate it from 1 (very low) to 5 (very high) in terms of the geographical environment and UQoL. Each URANU belongs to one of the 90 wider postal code areas of MoA. Thus, the median value of overall UQoL in each postal code based on the URANU scores of the proposed methodology was calculated and validated to the corresponding median value of the residents' perceptions.

GIS-based analysis was performed using an ArcGIS 10.2 commercial package, and spatial autocorrelation was performed using GeoDa 1.16.0.12.

4. Results

Figure 2 illustrates the spatial distribution of the UQoL criteria within MoA.

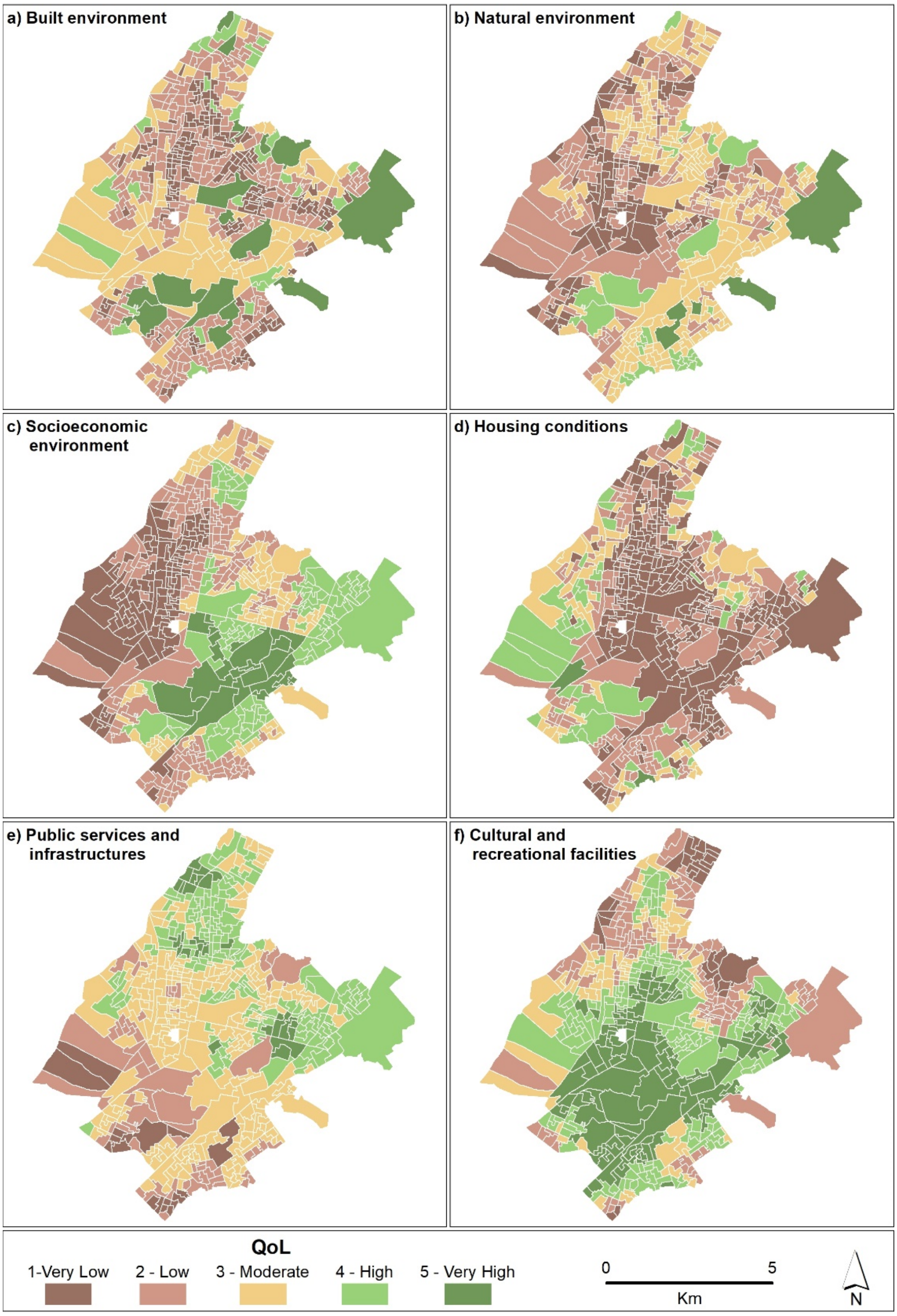

Figure 2. The criteria of UQoL in MoA.

Thus, for the criterion of the built environment, the lowest levels are noticed north of the city center and in the southern neighborhoods (Figure 2a). On the other hand, the highest levels are observed mainly in the larger area neighborhoods, where open spaces are concentrated. The lowest scores of the natural environment are noticed in the city center and in the western-northwestern neighborhoods, whereas a better natural environment is revealed only in limited neighborhoods at the eastern part of MoA (Figure 2b). A solid cluster of very low socioeconomic environment is located in the western part of MoA (Figure 2c), in contrast to the central and eastern neighborhoods which are characterized by a higher socioeconomic profile. Most of the dwellings in MoA are old apartments and only in limited neighborhoods are either newly built blocks of flats or detached houses found. This is evident in the housing conditions criterion (Figure 2d), revealing low and very low levels across the whole study area, except the southwestern neighborhoods. Regarding the public services and infrastructures, deprived neighborhoods are noticed in the southern MoA (Figure 2e). These neighborhoods are mostly industrialized/logistics areas with lack of hospitals and limited school facilities. In contrast, the northern and north-eastern part of the city scores higher levels. Finally, the cultural and recreational facilities criterion revealed a very common status of large city centers. All these kinds of facilities are mainly concentrated in the city center; therefore, the access to them is gradually decreased from the center (Figure 2f).

The spatial distribution of overall UQoL is demonstrated in Figure 3. This map reveals an axis from the southwest to northeast study area that divides the western from the eastern neighborhoods. These areas perform relatively low and high levels of UQoL, respectively. However, some pockets of either high or low levels of UQoL are scattered across the study area.

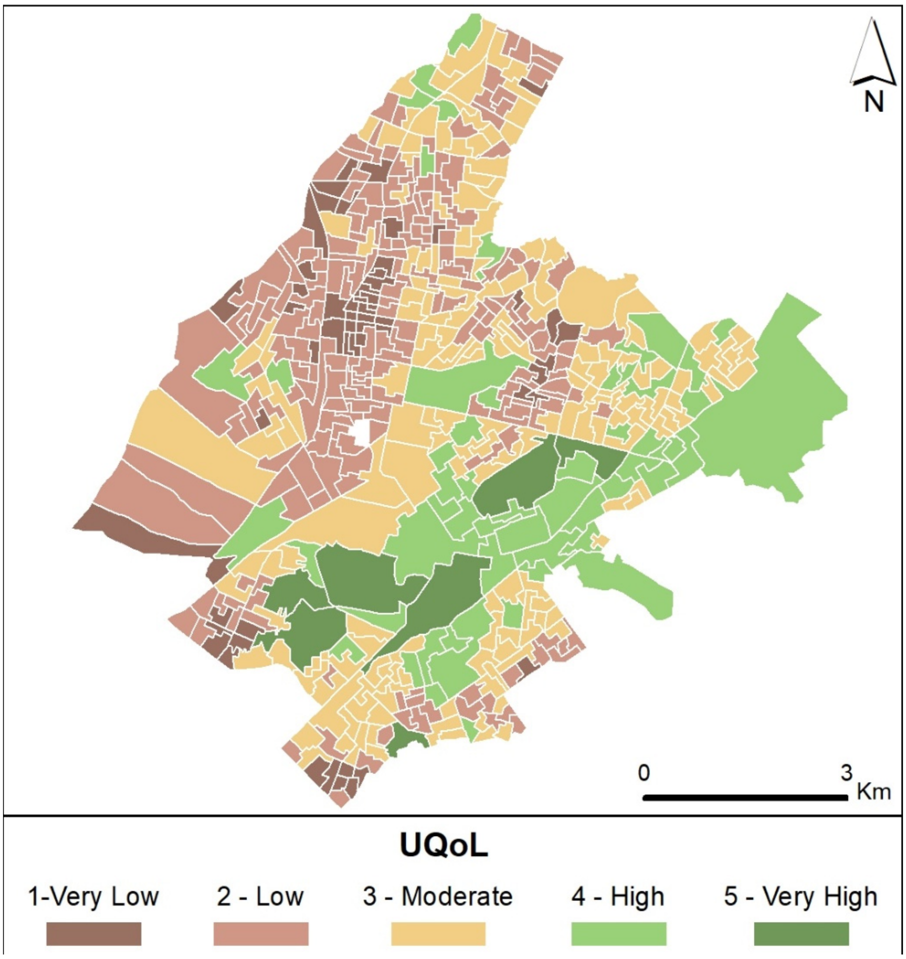

Figure 3. The overall UQoL map of the MoA.

Global Moran's I analysis confirmed a clustered pattern (z-score = 22.4, p-value < 0.001), and the outputs of spatial autocorrelation analysis are presented in Figure 4. Almost 18% of the neighborhoods belong to a Low-Low cluster, located mainly in the central-western MoA, whereas a High-High cluster (22%) is noticed in the eastern MoA. On the other hand, outliers are too limited, accounting for less than 1% of the MoA's neighborhoods.

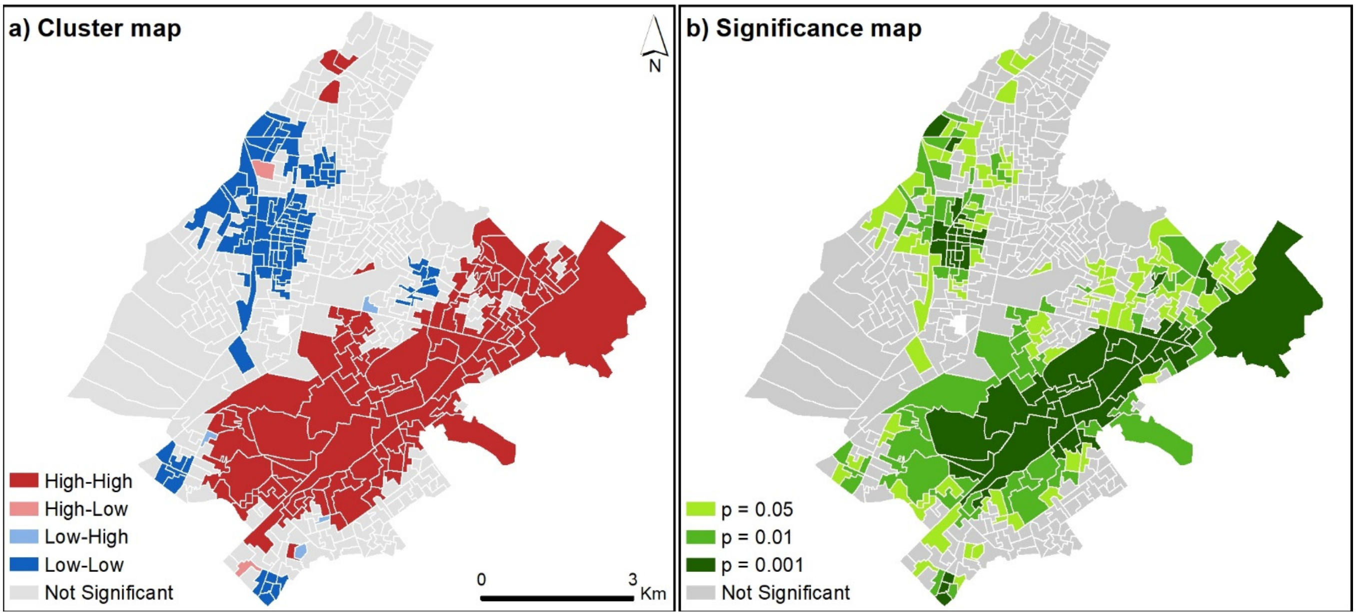

Figure 4. Map of the UQoL of MoA.

5. Validation

The final output was validated according to the residents' perception of the overall UQoL for their neighborhood. The comparison of the estimated UQoL levels from our analysis to the evaluation of the UQoL from the residents revealed that most of the neighborhoods have been rated at the same UQoL level. This comparison shows significant agreement between the modeled and perceived values as for only 6% of the samples is the difference in these values more than 1 (Table 3). The accuracy of the model's estimated values was over 70% in low and high levels of UQoL, and 65% in the moderate level (Figure 5). The polychoric correlation was implemented to estimate the agreement between modeled values and values of UQoL from the perception of the residents. The Pearson chi-squared statistic ($X^2 = 43.11$ and p-value < 0.001) and the correlation coefficient were estimated, indicating a strong correlation ($r = 0.81$). This finding, in combination with the average accuracy validation results, shows a substantial agreement between estimated and perceived UQoL values.

Table 3. Validation cross table.

Model's UQoL Values	Residents' Perception UQoL Values					Sum
	1	2	3	4	5	
1	1	0	0	0	0	1
2	1	15	8	0	0	24
3	3	4	24	6	2	39
4	0	0	5	3	12	20
5	0	0	0	0	6	6
Sum	5	19	37	9	20	90

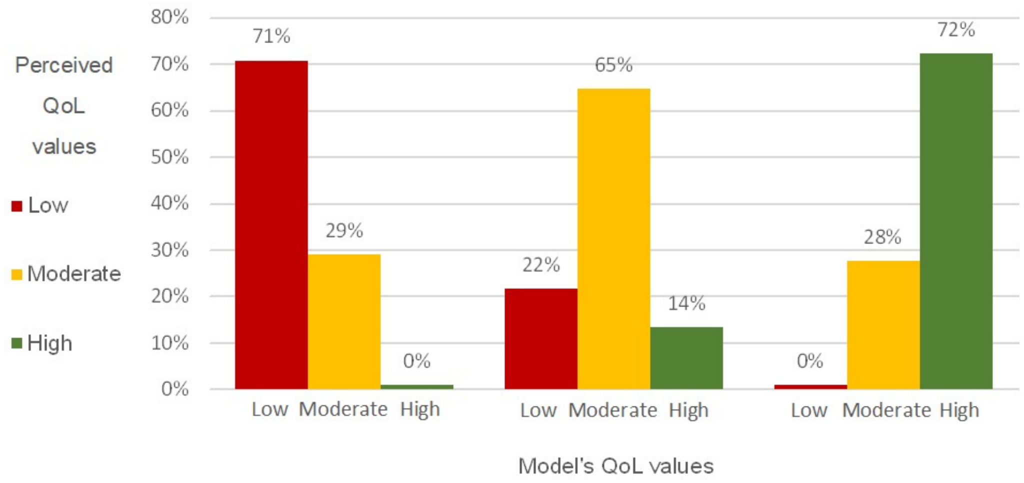

Figure 5. Accuracy (%) of the model's estimated values according to the residents' perceived values, per low, moderate and high level of UQoL.

6. Discussion

To our knowledge, this is the first study to evaluate the spatial distribution and clustering of UQoL in Athens at the neighborhood level. Previous assessments of UQoL in the broader Athens metropolitan area revealed that the overall value of the QoL in the study area is moderate, but with significant inequalities of values in the evaluating criteria [36,39]. The study area is characterized by severe geographical inequalities resulting significant inequalities in the level of UQoL for the citizens. The method adopted here utilizes both objective (cartographic and statistical) and subjective (citizens' perception of UQoL) data within GIS-environment. Thus, we assume that the interpretation of the interaction between multiple factors is critical for the evaluation of QoL in urban areas. Accordingly, geographical inequalities are related to inequalities of the UQoL.

The final result highlighted significant inequalities of UQoL values within the study area, dividing the western neighborhoods of low UQoL from the eastern neighborhoods which scored higher UQoL levels. The spatial pattern of these inequalities is in line with the socioeconomic status of MoA. Specifically, neighborhoods with high levels of UQoL are characterized by a relatively high socioeconomic status. In contrast, in central-western neighborhoods where lower socioeconomic strata are highly concentrated, lower levels of UQoL dominate. This finding is in line with the results of previous studies (among others: [7,24,33,38,61]). Similarly, regarding the criterion of natural environment, the eastern neighborhoods are characterized by better environmental conditions than the central and western areas. This may be due to the fact that in urban areas with significant green spaces, house prices are high, making them affordable mostly to the upper economical strata [62–64]. In general, the neighborhoods with high levels of UQoL are characterized by larger open spaces and green urban areas than the neighborhoods with lower UQoL. Nevertheless, low and moderate levels of natural environment quality were observed in the majority of the neighborhoods. This finding is in line with the EU's survey on the UQoL in European cities that residents of Athens are not satisfied with the environmental quality, scoring 28% satisfaction with the air quality and 33% with the noise levels [8]. The buildings both in areas with low or high levels of UQoL are mostly residential apartment blocks, office blocks and buildings including commercial and recreational uses. However, in the western neighborhoods, there are also industries. Regarding the housing conditions, limited housing space and insufficient facilities are observed in neighborhoods where underprivileged people live, leading to low UQoL [3,7,40]. Nevertheless, despite the low socioeconomic environment of western MoA, sufficient housing conditions are noticed. These neighborhoods are less densely populated with many people living in detached houses, in contrast to the densely structured center with many apartment buildings. Finally, the high levels in the criterion of cultural and recreational facilities in almost 60% of the neighborhoods, seems to be in line with the 66% satisfaction of the residents with the cultural facilities of Athens [8].

Spatial autocorrelation revealed an extended statistically significant cluster of high UQoL values in the central-eastern part of study area, and a main cluster of low values in the northwestern neighborhoods. Nevertheless, smaller clusters of high and low values are noticed across the study area, demonstrating the spatial heterogeneity of UQoL in MoA. Furthermore, the limited spatial outliers indicated a smooth transition area between the clusters of low and high values.

According to the citizens' perception, the most important criteria were the cultural and recreational services and facilities, the built environment and the natural environment. Although the high importance of the latter two factors has been recorded previously [38,65], the accessibility to cultural and recreational services and facilities has not been reported as the criterion with the highest importance in previous studies. It seems that for many citizens of Athens city center—which is a region with a high concentration of ancient monuments and museums—the access to cultural and recreational monuments and services is regarded as an important factor of the quality of their life.

Regarding the methodology, the hybrid approach (combination of mappable criteria with citizens' perception) proved to be a reliable method for the evaluation and mapping of UQoL at a neighborhood scale. Furthermore, the implementation of local indicators of spatial autocorrelation can reveal significant patterns of neighborhoods with high or low values of UQoL in MoA.

There are four major limitations in this study that could be addressed in future research. First, the study assumed that the synthesis of the proposed criteria provides reliable evaluations of UQoL. This is strongly based on the related international literature, but more criteria should be examined in future work. The second limitation is related to the spatial and temporal compatibility of the input datasets. In this study, we used some aggregations to overcome this issue. Moreover, we assumed that time collection difference in some datasets is not significant enough to change our evaluations. The third limitation is about the spatial characteristics of the relationship between UQoL and the composite criteria. We assumed that these relationships are standard across the study area. Future work could investigate spatial inequalities in these relationships (e.g., with the implementation of Geographically Weighted Regression-GWR analysis). Finally, further investigation of clustering at the borders of the study area is required. The boundary spatial units neighbor other areas of the city's continuous urban fabric, not included in the study area. However, limiting the analysis in the MoA, UQoL was not explored in the neighboring areas and the contiguity with these neighborhoods was not taken into account.

The local decision-makers could make use of the final map of this study for the future implementation of targeted interventions in MoA. Specifically, urban planning interventions could take place in areas with poor built and natural environments, such as in the western and northern municipality. Focused social and long-term economic policies and actions seem necessary to improve overall UQoL in western MoA. Financial resources could be provided for dwelling repair or renovation programs in areas with concentrated poor quality housing buildings, while public services and recreational facilities need to be enhanced at the most distant from neighborhoods. Furthermore, the production of a series of UQoL choropleth maps highlighted the neighborhoods' benefits and drawbacks in each criterion and facilitated the identification of UQoL high or low clusters [36,39,52,65–69].

7. Conclusions

This study is one of the first evaluations of the Quality of Life, at neighborhood level, in Athens, Greece. The obtained results suggest that the proposed spatial multicriteria analysis performed satisfactorily in evaluating the UQoL levels in the study area. The final map shows significant heterogeneity of the UQoL in MoA, with statistically significant patterns of high UQoL levels in the central and eastern parts and low levels in the western part of the area. In the future, more criteria will be tested in order to improve model performance, the model will be tested in other urban areas and the temporal dimension will be included to identify UQoL changes and trends in the study area. Moreover, alternative spatial analysis approaches (e.g., GWR analysis) could be tested. Mapping the UQoL at local level is a powerful tool for policymakers to design future targeted actions and focused interventions in order to improve the UQoL for the citizens.

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Institutional Review Board Statement: Not applicable due to anonymous and voluntary participation in the survey.

Informed Consent Statement: Informed consent was obtained from all participants involved in the survey. Participation was voluntary. By completing the survey, the participants consented to participate.

Data Availability Statement: Not applicable.

Conflicts of Interest: The authors declare no conflict of interest.

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