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# Quality of Life as a Limiting Factor in the Development of the Region along the Great Bačka Canal (Serbia)

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Abstract: This paper presents the results of a study of the regional-demographic characteristics and the quality of life of the population of Central Bačka, carried out in five municipalities along the Great Bačka Canal (June-August 2022). It included 870 respondents (0.5% of the total adult population). This is a region that has considerable potential for satisfaction with quality of life; however, the studied area has undergone socioeconomic stagnation, so it was necessary to analyze the effect that the activities of all the existing natural and anthropogenic elements could have on mitigating the negative trends of development in an area where the staple of the economy is agricultural production and which was one of the most-developed areas in Serbia. The aim of this study was to identify the factors that impact the perceptions of the population regarding quality of life in the settlements of Central Bačka to define measures that could improve their quality of life. The hypothesis was that, based on the identified factors, the population is not satisfied with their quality of life, which could have a significant impact on demographic trends; there are statistically significant differences in the attitudes of the respondents surrounding basic standard-of-living elements, depending on their sociodemographic characteristics. The instrument used in the study consisted of two parts. The first part of the questionnaire was designed to compile the sociodemographic features of the participants, and the second part was used to study the indicators that determine quality of life. The non-parametric techniques used in this study were the Mann-Whitney U test and the Kruskal-Wallis test. The results indicated a medium or low degree of satisfaction with most of the indicators, confirming the proposed hypothesis regarding differences in the subjective perception of well-being compared to the sociodemographic characteristics of the studied population.

Keywords: quality of life; regional development; local communities; Central Bačka



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## 1. Introduction

Each local self-government unit has its own local development capacity. The set of different values that a local self-government unit (or several) has in relation to others constitutes its competitiveness. At the same time, economic competitiveness involves an opportunity for a local community to participate equally in market competition [1]. The "comparative advantage of some local milieu is reflected in its attractively and possibility to make new working places, investments for building infrastructure, local entrepreneurship and direct investment in small and medium enterprises, strategy of development of tourism attractively of a milieu as a place for living, recreation etc." [2] (p. 182).

Uneven regional development is a fact of economic development during the transition from a traditional agrarian to a modern industrial and tertiary society; this surfaces in the polarization of economic activities, the population, and income. In such a spatial–economic organization, the centers of polarized development begin to be singled out because of their increasing concentration of economic activity and capital and, therefore,

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greater opportunities for innovation and development, unlike the periphery. Due to limited resources and infrequent opportunities for innovation, the periphery is characterized by slower growth and stagnation in its development. The relationship between the center and the periphery can be seen in the spatial flows of capital, raw materials, and other goods, as well as the migration of the workforce between the center and the periphery [3]. Such processes of development strengthen the inequality in regional development, whose progressive growth is increasingly impeding socioeconomic development.

Based on the theory of regional development, such spatial—developmental inequality is the result of cumulative causation, whereby economic forces have a tendency of deepening—rather than decreasing—the differences in regional development [4,5]. Due to increased investments, innovation, and better services, developed regions become even more developed [6]. Contrary to that, less-developed regions are characterized by inverse development in the form of a downward spiral. A negative developmental process creates further unemployment [7], encourages emigration, and reduces investor confidence. The sequence of consequences for the periphery can be defined as a vicious cycle, which includes two causal problem cycles: worker migration and investment [8].

Considering that the population is both the founding agent of economic growth and a factor of change in regional structures, it is one of the three key parameters of regional development (economic, social, and demographic) [9]. However, according to some authors [10], regional development consists of seven dimensions (social, economic, ecological, medical, technological, cultural, and recreational) [10,11].

A decrease in the number of citizens—as a result of workforce emigration—is both a consequence and cause of stagnation in regional development. Since, as a rule, it is the younger population that leaves (the young and younger adults), the weakening potential of the periphery to provide a workforce causes an even greater lag in its regional development. At the same time, there is a drop in the structural and pivotal characteristics of the remaining population; this is directly (through the aging process and natural decline) reflected in a more intense decrease in the number of citizens in the periphery.

The causes of a decrease in the number of inhabitants in less-developed areas can vary. The usual explanation is that the root cause is stagnation in agriculture, especially if it is not intense enough, not market-oriented, and/or cannot provide a sufficient income [12]. The globalization of the economy and its accompanying social and cultural processes lead to young people being increasingly dependent on the opportunities offered to them in their local environment [13,14].

Job shortages and the centralization of the economy in larger industrial centers cause depopulation in less-developed areas. Market alternatives for people working in agriculture do not require an increase in the workforce, and wages have proved to be insufficient [15,16].

It would be erroneous to conclude that the causes of the decrease in the number of inhabitants were solely of an economic nature. This would indicate that it only occurs in areas with significant development potential. It is very important to take into consideration the non-economic variables of migration. These variables, such as the need for education or a desire to experience the urban environment—although they are classified as secondary causes—should still be taken into consideration [17,18].

In less-developed areas, primarily rural ones, non-economic living conditions are less favorable than in cities. Significant causes that lead to a decrease in the number of inhabitants in certain regions should also include an increase in the differences in the standard of living among these regions and other areas, primarily larger cities [19]. Because of the departure of the young and well-educated population, as well as the disruption in the structure of the population and the aging process, the remaining population does not have sufficient capacity to maintain basic functions in its settlements, causing spatial marginalization [20].

Based on recent research materials on the younger population, it can be concluded that the reasons for their desires and intentions to leave rural areas are not uniform; instead, they are influenced by numerous socioeconomic, cultural, and psychological Sustainability **2024**, 16, 2391 3 of 33

factors that originate from the immediate environment and are closely associated with their future professional aspirations [21]. Studies carried out in rural Austria and Iceland have indicated that the main predictors of the migration intentions of young people with economic considerations in mind include the scarcity of employment opportunities and the predominance of low-paid jobs in primary sectors [22,23]. Similarly, Auclair and Vanoni [24], having analyzed a sample of young people in France, argued that there is a great discrepancy between the professions that young people are being educated for and the availability of actual jobs in rural areas. Furthermore, studies indicate that family support, dedication, strong integration into the local community [23], social control, (dis)satisfaction with the living conditions—and thus the rejection or acceptance of the village as a "good place" to grow up—are all closely linked with the intentions of young people to leave or stay in rural areas [25]. The desirable destinations for young people are urban areas, since they provide significantly more opportunities for employment, entertainment, and education [26–28].

Despite the evident role that the processes of globalization and urbanization play in areas all over the world—afflicted by a decrease in the number of inhabitants—the factors which lead to such decreases in the populations of rural areas are specific for each country. Some authors distinguish between two types of decrease in the number of inhabitants: "the traditional type of depopulation in areas where the main cause of the loss of population is the negative net migration rate, and the so-called new type caused primarily by a negative birth rate" [29] (p. 126).

There is a pronounced decrease in the number of inhabitants throughout Serbia, where we find large concentrations of the population and industry in only a couple of cities. The extent of the economic development of certain cities in Serbia stems from their geographical locations. In numerous cases, this is the cause of functional isolation in relation to economic centers and centers of development, often resulting in slow development processes [30]. These trends have negative outcomes for the economic, social, spatial, and ecological spheres [31].

The decrease in the number of inhabitants is affected by two factors: the negative birth rate that is a consequence of poor age structure; migration [32]. Population migration is a complex social occurrence with an important role that has particular importance for the demographic development of Serbia. Significant migrations, both internal and external, have had an impact on the size, territorial distribution, and structural characteristics of the total population of Serbia in the second half of the 20th and the beginning of the 21st century. Today, in the territory of Serbia, we find several types of migration; these differ in their extent, intensity, trends, causes, and consequences. In synergy with the demographic effects—that are numerous, complex, and mutually intertwined—the economic, social, and cultural consequences of migration can cause, in addition to socially desirable changes, an abundance of problems and disproportions and thus impact the demographic and sustainable development of a country [33].

Geographically speaking, the region of Vojvodina includes the northern part of Serbia, i.e., north of the Sava and Danube Rivers. It consists of three meso-regional units: Banat, Bačka, and Srem. In terms of area, Vojvodina amounts to one-quarter of the area of Serbia; approximately 27% of the population of Serbia lives on its territory [34].

Bačka is located in the northwestern part of Vojvodina [35]. The Danube separates it from Srem, and the Tisa River separates it from Banat. It borders Croatia to the west and Hungary to the north [36]. According to data from the 2022 census, there were 973,139 inhabitants, 112.2 people/km<sup>2</sup>, living on the territory of Bačka, which covers an area of 8671 km<sup>2</sup> [37].

The Great Bačka Canal (GBC) passes through the central region of Bačka, connecting its western and eastern parts, and is a constituent of the Danube–Tisa–Danube hydrosystem [38]. The GBC was constructed in 1802 to decrease the navigation time along the Danube and the Tisa. The construction of the canal has also made drainage possible. By digging the GBC, the area of arable land increased considerably, and the living conditions

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improved, which led to the mass settlement of numerous ethnic groups that were primarily agricultural populations [36].

The subject of the study is the region of Central Bačka; more precisely, this study will focus on the region that is made up of the municipalities along the Great Bačka Canal (GBC) that connect its western and eastern parts. These include the territories of the City of Sombor and the municipality of Kula, which are part of the West Bačka District, as well as the municipalities of Vrbas, Srbobran, and Bečej, which belong to the South Bačka District.

The municipalities located along the GBC cover an area of 2843 km², which makes up 13.2% of the area of the Autonomous Province of Vojvodina (APV) and approximately 3.2% of the Republic of Serbia (RS). Covering in excess of 248,000 hectares of agricultural land, these municipalities make up 13.9% of the overall agricultural land of the APV and 4.9% of the agricultural land of the RS [39].

During the 20th century, this region was heavily industrialized. This resulted in the spreading of settlements and an increase in the population. In this region, industry was not only highly developed, but also structurally very heterogenous. The canal led to the development of significant industrial facilities and provided a location for numerous plants along its banks because of the easy access to the water that was needed for production processes. However, the development of industry and its "dirty technologies" created the problem of the disposal of wastewater, which became the principle polluter of the canal, which resulted in it becoming one of the most polluted of all the waterways of Europe. This pollution endangered all three elements of the environment—the water, the air, and the land [40].

Compared to the other parts of Bačka and the AP of Vojvodina, this region was characterized by more intense migration processes of settlement during more favorable periods: the emigration that occurred after the world wars, the arrival of colonists, the migrations to urban areas, the impact of the transition, the market loss that accompanied the dissolution of Yugoslavia, and the immigration of citizens who had obtained the necessary permits to live in EU countries.

The decrease in the number of inhabitants in the GBC region began in 1981, significantly earlier than that in Bačka and AP Vojvodina (Table 1), and its intensity increased over time, as shown by the results of the last two censuses (2011 and 2022) [41].

Census	Region	GBC	Bač	ka	AP Vojvodina	
Year	Number	Index	Number	Index	Number	Index
1948	229,292	100.0	805,590	100.0	1,640,599	100.0
1953	234,695	102.4	830,371	103.1	1,698,640	103.5
1961	250,105	106.6	904,591	108.9	1,854,971	109.2
1971	254,867	101.9	960,001	106.1	1,952,560	105.3
1981	257,638	101.1	1,010,641	105.3	2,034,782	104.2
1991	251,871	97.8	1,007,319	99.7	2,013,889	99.0
2002	250,310	99.4	1,022,488	101.5	2,031,992	100.9
2011	224,764	89.8	990,364	96.8	1,931,809	95.1

921,832

93.1

1,740,230

90.1

Table 1. The number of inhabitants in the region of GBC, Bačka, and AP of Vojvodina (1948–2022).

Source: authors' analyses based on [37,42].

188,049

83.7

2022

One of the reasons for the decreasing trend in the number of inhabitants was the lack of economic development. Among the once-leading municipalities of the AP of Vojvodina, even those of the RS have become areas of exodus. The population drain and the decreasing birth rate have had negative consequences for the economies of these municipalities, and thus the overall development of the area. As a result, it was necessary to determine the potentials and directions of regional development so that this area could regain not only the importance it had just half a century ago, but so that it could also achieve greater importance—the physical–geographic and social–geographic potentials of this area are significant [43].

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It is clear that the factors that can lead to a decrease in the number of inhabitants in a certain region are linked to the more evident differences in the standard of living in the region compared to those of other areas, primarily large cities [19,44].

Assuming that the decrease in the number of inhabitants will continue in the GBC region as a consequence of emigration and the negative birth rate, and assuming that such a population flow does not provide sufficient conditions for the revitalization of different agricultural branches in the units of local self-government (municipalities), steps have been taken to define the priorities of local development. A reaffirmation of the developing region would have favorable economic and demographic outcomes that would, at least in part, prevent immigration from these areas and increase life satisfaction.

Bearing in mind that the present study addresses a complex topic (the potential for local development), this paper singled out only those indicators which can be linked to the concept of quality of life.

The aim of this research was to identify the factors that influence the population's perception of quality of life in the settlements of Central Bačka in order to define measures that could improve quality of life and motivate citizens not to move out of the local community, thus creating conditions for sustainable development.

The basic hypothesis of the study was that, based on the identified factors, the population was dissatisfied with their quality of life in the settlements of the region of the GBC, and that statistically significant differences existed among the attitudes of the respondents that were related to the basic elements of the standard of living in relation to gender, age, profession, level of education, monthly income, the number of members in the household, and the municipality which the settlement that the respondents live in belongs to.

#### 2. Literature Review

Considering the fact that quality of life is a complex concept [45], it is not possible to provide a single accurate definition [46]. Some of the definitions of this concept are more general, such as "the level of what makes life good or high quality" [47] or that it is the "necessary preconditions for happiness" [48]; meanwhile, others are more specific: "a quality way of life is the desired outcome of policies and programs" [49]. Some authors define quality of life as an "indicator of the state of living and the well-being of people" [50]. Taking into consideration the lack of clarity surrounding the concept and the multidimensionality of the way in which it is discussed, certain authors consider it useless to look for a unique conceptualization [51,52]. It could be concluded that the idea the numerous scientific conceptualizations have in common is that the concept of quality of life almost always includes external situations or conditions that the individual perceives and then transforms into different "levels of well-being" [53].

In the most general sense, the concept of quality of life includes the entirety of one's living conditions, evaluated from the perspective of the satisfaction of various human needs, from biological needs to sociocultural needs [54]. In order for the quality of life concept to be properly understood, it was necessary to differentiate between its normative level and its value level. In the case of the normative level, it was taken for granted that there are certain standards that are required for the satisfaction of universal human needs; meanwhile, in the case of the value level, emphasis was placed on the role of the cultural milieu in determining priorities for satisfying the various needs of individuals and social groups. It is necessary to bear in mind that the quality of life concept is relative; this also means that it includes a subjective evaluation that is affected not only by cultural patterns, but also by personal affinities. Satisfaction with quality of life is conditioned by the extent of the discrepancy between personal aspirations and the actual opportunities for realization in the given social context [55].

Ruut Veenhoven defines life satisfaction as the level of positive assessment that a person will give of the overall quality of their life—that is, the extent to which someone loves the life they are leading. Life satisfaction is made up of the complete assessment

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provided by individuals regarding the quality of their lives [56] and is an important indicator of the quality of human life [57].

As synonyms for "life satisfaction", we often come across terms such as "happiness" and "subjective well-being". Ruut Veenhoven gives precedence to the term "life satisfaction" because it emphasizes the subjective nature of the concept; meanwhile, the term "happiness" can refer to both subjective and objective well-being, as is often the case in philosophy. Compared to the term "subjective well-being", which is based more on current feelings or specific psychosomatic symptoms, the term "life satisfaction" includes an overall assessment of life [58].

Well-being is one of the most frequently used terms in the social sciences and humanities. It is used in a variety of different ways, not only in scientific research, but also in everyday life. In her analyses of the theory and empirical studies of well-being, Anna Alexandrova claimed that this pluralism was unavoidable. "She claims that, even though we use numerous different concepts of well-being, we still do not have any trouble accepting and understanding that in these various contexts we are referring to well-being in a sense which is suited to that context" [59] (p. 2). Alexandrova refers to this contextualism as "the viewpoint that expressions of well-being have different content depending on the context in which well-being is being evaluated" [60] (p. 23).

Studying quality of life includes providing an overview of personal satisfaction [61]; meanwhile, certain authors point out that quality of life is linked to the quality of urban development [62].

When evaluating one's own life, we are at the same time evaluating our own satisfaction with it, so the concept of "quality of life" is suitably synonymous with the "assessment of life satisfaction". We need to add another dimension to this subjective aspect of quality of life: "the fact that we are living in a material world, that is, material residence, which objectively has its own demographic, social, technical, economic, ecological, and cultural parameters which create their own capacities. However, quality of life does not equal content, which is part of life satisfaction in the form of quality of place. This is the latter, objective dimension of quality of life. Quality of place is what we consider the level of external conditions for a good life" [63] (p. 2).

Data on life satisfaction were used to evaluate the level of a social problem; based on this evaluation, we can provide recommendations for possible interventions in a country or in a social group. If—based on existing studies—we determined that life satisfaction has been awarded a high score, then it could be considered that quality of life in that population was good; that is, even though the conditions are not ideal, the assessment might be that they were acceptable to the majority of the population. Otherwise, if the assessment of life satisfaction was low, then serious shortcomings are indicated [58].

Numerous sociologists have studied the relationship between individual pleasure and life satisfaction as a whole. Diener and Suh [64] in particular spoke of the indicators of economic, social, and subjective well-being. We note Diener's definition: "subjective quality of life is actually the way people value their lives, which includes happiness, satisfaction with one's own life, feelings of comfort, as well as a relative lack of unpleasant emotions and moods" [64] (p. 205).

Tsou and Liu [65] studied how individual characteristics impact life satisfaction. "Happiness is an emotional state which is sensitive to sudden changes in mood, while life satisfaction is a cognitive and critical state which refers to the assessment of life as a whole" [65] (p. 269). Happiness can be seen as a level; based on this, individuals evaluate the overall quality of their life as favorable, which is generally considered the ultimate aim in life. "Happiness depends on numerous factors, including income, the job market, job characteristics, health, rest, family, social relations, safety, freedom, moral values, etc." [66] (p. 1).

Considering that being satisfied with one's life circumstances to a great extent depends on economic development and the level of cultural development, it is clear that there are differences between understandings of happiness and satisfaction among various countries [67,68]. Peiró [69], when studying the association between socioeconomic conditions

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and happiness, determined that there was a strong association between unemployment and income, while the association with happiness was weaker.

By studying life satisfaction in ten European countries, Ruut Veenhoven compared life satisfaction as a whole and satisfaction with three aspects of life (finances, housing, and social contacts). The conclusion was that there were significant differences in the level of average satisfaction among the populations of certain countries. Life satisfaction as a whole and satisfaction with certain aspects of life are the highest in countries in Northern and Western Europe, average in countries in Southern Europe, and the lowest in countries in Eastern Europe [70].

When measuring quality of life among the general population, we used methods which differ from those that are used to measure the quality of life of an individual. In both cases, there is an overwhelmingly positivist methodology based on quantitative methods. The instruments used to evaluate quality of life were developed using qualitative methods. To calculate the unique index of quality of life, it was necessary to include the identification of indicators and measures which refer to various domains [71–74]. "These indicators can be subjective and objective, derived from socioeconomic statistics which are compiled by the government or during a census. The dominant approach to measuring quality of life is using instruments of self-evaluation, that is, questionnaires" [75] (p. 58).

Numerous indicators of quality of life can be found, including those that refer to health, the quality of the environment, living conditions, economic status and employment, the availability of institutions, education, entertainment and recreation, social and political activity, social stability, safety, etc. Many of the cited indicators are significant in studying quality of life. Most notably, quality of life is—to a great extent—conditioned by civic participation [55]; this is one of the possible ways in which respondents can adapt their living conditions to meet their own needs, by pointing out the problems related to quality of life which they encounter, and by participating in activities which contribute to overcoming unsatisfactory living conditions.

We should bear in mind that one of the main features of the concept of quality of life is that it is, in essence, evaluative in relation to the other concepts, which are descriptive [76]. In terms of structure, it is based on two elements: "the current state of a person's way of life in a particular moment, and the group of assessment (evaluation) criteria represented by values, in relation to which assessments are made as to whether that state is good or bad" [77] (p. 6).

Quality of life is closely associated with the concept of life satisfaction, and the latter is frequently used as a synonym for happiness and well-being. Therefore, life satisfaction refers to "accepting life circumstances and fulfilling the individual needs of a person" [78] (p. 292).

To date, the general determinants of life satisfaction have been studied among various groups of the population, including rural and urban dwellers and migrants relocating from rural to urban areas [79].

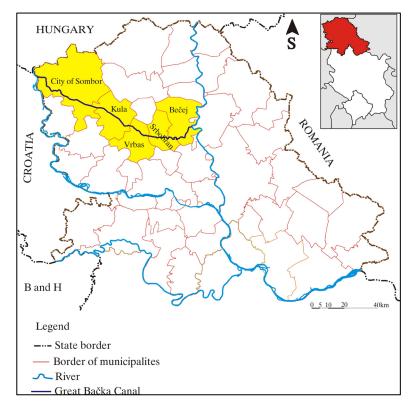
Studies on quality of life in Serbia have a long tradition. A special contribution was made to this tradition by a methodological study on the quality of life in socialist Serbia, written by Jerzy Gore–Gorszewski; this study deserves to be singled out for its significance [80].

Studying quality of life, in addition to a having scientific significance, has social significance; this is especially the case under the conditions of reduced payment power, the emigration of the Serbian population to developed countries, and the migration from less-developed areas to larger centers. The quality of life in the local environment has a considerable impact on the social–spatial integration and/or disintegration of the population in a particular settlement and in society as a whole. Specifically, good quality of life not only promotes emotional and practical connections to a place, but also represents a factor of attraction; this encourages local development and enables a relatively uniform standard of living in different parts of the country. Contrary to this, poor quality of life acts as an inhibitory factor which additionally deepens the problem of emigration from less-developed areas, motivated by a search for better living conditions [81].

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#### 3. Research Location

The research location is the region of Central Bačka, between the river Danube and the River Tisa: precisely, we have chosen the region that encompasses the municipalities through which the GBC flows, such as the territory of the City of Sombor (with 16 settlements), the municipality of Kula (with 7 settlements), Vrbas (with 7 settlements), Srbobran (with 3 settlements), and Bečej (with 5 settlements) (Figure 1). Of the total 38 settlements, 6 are of the urban type (Sombor, Kula, Vrbas, Crvenka, Srbobran, and Bečej), while the remaining settlements are of the rural type. Administratively, the region belongs to the AP of Vojvodina. To the north, it borders Hungary, and to the west, it borders Croatia (both of which are EU member states).



**Figure 1.** The geographical position of the research area. Sources: the authors formulated the figure based on [82].

A total of 188,049 inhabitants live in the studied area, according to the last census data; this population makes up 10.8% of the population of the AP of Vojvodina and 2.8% of the population of the RS. However, this is the lowest population level recorded since World War II. Compared to 1981, the number of inhabitants in the municipalities along the GBC has decreased by approximately 17%, which is a significantly greater decrease than the one recorded for Bačka (a decrease of approximately 3.7%) or the province in general (a decrease of approximately 14.5%) (Table 1). The national makeup of the population is multi-ethnic. In addition to the members of the population who comprise its majority—the Serbs (accounting for approximately 60%)—we also find Hungarians (accounting for approximately 14%), Montenegrins (accounting for 3.5%), Ruthenians (accounting for 3.5%), Croats (accounting for 3.2%), and the Roma (accounting for 1.6%) [37].

From 2011 to 2020, the birthrate in the region of the GBC was 8.2% and the mortality rate 16.2%, resulting in a negative rate of natural increase of -7.9% [83].

In terms of the index of development, none of the municipalities of the GBC region were among the most-developed. Of the entire GBC region, the City of Sombor had the highest development index in 2019 (86.04% of the national average), but it was also classified as belonging to the group of the second-most-developed areas. The remaining

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municipalities from the GBC region belong to the third group (insufficiently developed municipalities with the following features: high rates of unemployment, below-average incomes, and below-average budget funds per inhabitant)—Vrbas (76.82%), Bečej (73.74%), Kula (72.73%), and Srbobran (68.10) [84].

The identity of this Region and its rank within the RS in terms of development have changed significantly. This change could be described as a "transformation from an area of high economic development and desirable immigration goals into an economically depressed emigration space. Such a social perception, and above all self-perception, is an important push factor for the contemporary migration of the younger and more educated population" [85] (p. 132).

#### 4. Materials and Methods

## 4.1. Measuring Well-Being

When it comes to studying quality of life, we most frequently differentiate between two basic models: the Scandinavian model and the American model. At the center of the Scandinavian model, we find the concept of resources, where the emphasis is on objective factors—that is, the impact which living conditions have on their quality. The American model gives the upper hand to subjective perception and the processes of valuation, which means that the development of society and the development of quality of life are both measured based on the subjective mood of an individual. The basis of everything is the following attitude: average citizens know best how to assess the quality of their lives [86].

Measuring happiness and subjective well-being (SWB) is being used in an increasing number of studies. Indicators of quality of life equally encompass objective and subjective elements, which is why, in global studies, we find two concepts of quality of life. Objective indicators are obtained from the observer and can be directly measured (for example, the number of individuals living below the basic standard of living), while subjective indicators are formed based on questions, to which various responses can be given depending on the personality of the respondent. Since the objective circumstances of quality of life among individuals are mostly difficult to measure, subjective assessments must be added to these indicators. They primarily refer to the living circumstances of an individual, but there are frequent questions regarding the general level of happiness. These questions are used to measure fear, trust, and feelings related to the future [87,88].

Subjective well-being represents the way people evaluate their lives, and it includes variables such as cognitive judgments on life satisfaction and the assessment of moods and emotions [89].

Measuring the well-being of people can be carried out in a variety of ways which are all-encompassing and useful for the local authorities. This requires that people be asked about their feelings and experiences, usually by means of a survey and/or questionnaire. This is often referred to as a "subjective well-being" measurement [90] (p. 12).

This leads to the question of how one can most effectively measure well-being on a local level, so that local authorities and their partners could obtain the information needed to achieve better results for both individuals and for their communities [91,92].

Three levels are recommended for measuring well-being on the local level: the universal level, the level of the domain, and the target level [90].

"The universal level offers a general, all-encompassing measure of human life experience. It provides the key findings at the level of the overall population. It usually includes the measurement of one item (or small groups of measures), such as asking people to assess their overall well-being" [90] (p. 24).

"The level of the domain measures different aspects or dimensions of human well-being, for example, to pertaining to health, safety in the community, economic circumstances, etc. It goes beyond offering an all-encompassing evaluation of the outcome, in order to study the differences and variations in the local administration, studying some of the key components of life experiences of people" [90] (p. 26).

"The target level measures some of the basic factors which impact the sense of general well-being. These could include, for example, autonomy, resilience, self-respect, a sense of competence, and the strength of relationships" [90] (p. 27).

These levels are not mutually exclusive. When choosing a level, the deciding factor is the reason why new information is being compiled in the local community and the opportunity for making decisions and acting upon them [90].

This study was mostly carried out on the domain level. The aim was to determine how the population assesses their degree of satisfaction in various areas of life (health, education, culture, sport, the environment) and in that way offer information pertaining to a certain domain, which is the starting point for future planning and providing services. The study was designed to obtain information on how certain groups of the population (depending on their gender, age, profession, education, and the municipality in which they reside) assess certain aspects of their life.

In accordance with the definition of the universal level, the study included the recommended indicator for measuring the general state of subjective well-being, which is contained in the items referring to the level of overall satisfaction with the quality of life in the local community and satisfaction with the standard of living as a whole.

"In order to measure the degree of satisfaction, researchers usually rely on questions pertaining to happiness or satisfaction with life which they themselves prepared. Thus, questions regarding happiness, global or domain satisfaction, the adequacy of life domains in their own assessment, the frequency of good or bad feelings are usually included in surveys and used as indicators of subjective well-being. There is an increasingly greater support in developmental studies for analyzing the individual representation of subjective well-being as a necessary addition to the assessments which are being carried out by means of objective indicators. It was accepted that people do not base their behavior solely on what was available to them, but on what they feel about the different options or limitations they are facing" [88] (p. 6).

A more complex and all-encompassing view of quality of life requires a multi-dimensional approach, which decreases the possibility for error. That was why well-being in this paper was analyzed through specially selected indicators and the course of six dimensions (place of residence, educational opportunities, culture and sport, public services, healthcare, and economic opportunities), each of which was represented by a sequence of indicators [93].

## 4.2. The Instrument and Procedure

The study was based on a survey questionnaire previously used in the area of Srem, one of the three regional wholes in Vojvodina [93]. For this questionnaire, it was confirmed that the "statements have a relatively high internal consistency" [93] (p. 10).

The instrument used in this study consisted of two parts. The first part of the question-naire was designed to compile all the sociodemographic data of the respondents (gender, age, occupation, level of education, monthly income, the number of household members, and the municipality they reside in). In the case of age, the respondents were divided into three categories (18–25 years, 26–65 years, and older than 65; these categories correspond to the periods of education, employment, and retirement, respectively). The categories which were offered for the profession of the respondents, in addition to the usual ones (student, employee, retired), were expanded to include occupations which are prevalent in the studied area, including agricultural worker, housewife, and unemployed. In addition to the usual categories of education, provisions were made for individuals with an incomplete primary school education. In terms of monthly income, four categories were defined, formed based on the minimum and maximum average monthly income at the time when the questionnaire was being designed, with a separate category for those without a fixed monthly income.

To ensure an all-encompassing analysis of the data, descriptive analyses of the sociode-mographic characteristics of the respondents were provided. These results are shown in Table 2.

Table 2. The sociodemographic characteristics of the respondents.

Variables	Categories	Frequency	Percent
	Men	423	48.6%
Gender	Women	447	51.4%
	From 18 to 25 years	169	19.4%
Age groups	From 26 to 65 years	544	65.5%
	Over 65 years	157	18.1%
	Student	133	15.3%
	Employed	407	46.8%
Occupation	Retired	121	13.9%
Occupation	Agriculturist	81	9.3%
	Housewife	67	7.7%
	Unemployed	61	7.0%
	Unfinished primary school	78	9.0%
<b>7.1</b>	Primary school	169	19.4%
Education	Secondary school	445	51.1%
	College	45	5.2%
	University	133	15.3%
	No income	208	23.9%
Monthly income	Up to USD 250	156	17.9%
Monthly income	USD 250-500	300	34.%
	More than 500 USD	206	23.7%
	One	61	7.0%
Number of household	Two	184	21.1%
	Three	223	25.6%
members	Four	290	33.3%
	Five and more	112	12.9%
	Sombor	348	40.0%
	Kula	162	18.6%
Municipality	Vrbas	158	18.2%
	Srbobran	61	7.0%
	Bečej	141	16.2%

The study included a total of 870 respondents over the age of 18 who are residents of the settlements in the municipalities along the GBC. The gender structure, age, and level of education of the surveyed respondents fully corresponded to the structure of the population based on 2011 census data. Of those surveyed, 51.1% had a secondary school education, while 15.3% had a university education. Most of the surveyed respondents were employed (46.8%), while a special category in the sample was set up for agricultural workers (9.3%) and housewives (7.7%)—these are relatively frequent occupations in this region.

When it comes to monthly incomes, the limits were determined based on the minimum and average net incomes in the region at the beginning of the study. The category of individuals with no income (23.9%) was mostly made up of unemployed individuals, students, and housewives without a consistent monthly income. When it comes to the number of household members, the most frequent category included households with three (25.6%) and four (33.3%) members, which was congruent with the situation in the field.

In the second part of the questionnaire, which aimed to determine perceptions of the local community, indicators that reflected quality of life were studied. This part of the questionnaire was not standardized; instead, it was based on a questionnaire that was used to study the area of Srem in 2019 [93]. This was further modified by the Satisfaction with Life Scale (SWLS) [94]. Another part was taken from similar studies carried out in Serbia [86] and the neighboring Hungary [95], as well as based on recommendations for national indicators [96] and the recommendations made by international experts [56,97].

All the questions in this part of the questionnaire were closed questions. The introduction read: "Please use "X" to mark the extent to which you agree with all the claims regarding the level of your satisfaction with the elements of the standard of living!" The table included items in the forms of sentences such as "I am satisfied with...". Here, the respondents marked the level of their agreement with the given claim in the appropriate column based on their personal opinions, as required for a Likert-type scale (1—strongly disagree; 2—disagree; 3—neutral; 4—agree; 5—strongly agree).

The first five statements (A1–A5) referred to the respondents' place of residence (access roads, traffic connections to their settlements, roads within the settlement, the infrastructure, and the level of hygiene in the settlement); statements A6 and A7 referred to educational opportunities (the number and quality of kindergartens and primary schools in the settlement and the number of and quality of secondary schools in the municipality); A8–A10 were of an economic nature (the availability of markets and stores and the quality and prices of the offered products); A11 and A12 referred to the availability of cultural and sport/recreational events and facilities; A13–A16 addressed social services (public services, healthcare, safety, and urbanism); statements A17 and A18 enquired about degree of the respondent's satisfaction with the quality of the environment and life at the level of the municipality; A19 sought to attain a general evaluation of the respondent's degree of satisfaction with the standard of living; finally, item A20 enquired into the desire of the respondents to move out of the municipality they were residing in.

Data collection required a survey questionnaire that was distributed to a sample of citizens living in the abovementioned settlements. The survey was conducted during June, July, and August 2022. Participation in the survey was voluntary and the respondents were informed about the main aims of the research. A total of 900 questionnaires was prepared, and 870 were successfully filled out; the response rate was 96.7%. The number of respondents amounted to 0.5% of the total number of adult inhabitants of the region; of these, 348 (40.0%) were from the City of Sombor, 162 (18.6%) were from the municipality of Kula, 158 (18.2%) were from the municipality of Vrbas, 61 (7.0%) were from the municipality of Srbobran, and 141 (16.2%) were from the municipality of Bečej.

The structure of the respondents corresponded to the greatest extent to the structure of the population in each of these municipalities, based on 2011 census data; we referred to the 2011 data because—at the time of conducting this research—the results of the 2022 census had not been made public.

To meet the requirements for the structure of the respondents, the survey questionnaire was distributed over three phases:

- During the first phase, the questionnaires were distributed online using Google Drive (primarily due to measures put in place to prevent the spread of COVID-19).
- The second phase included a face-to-face survey carried out in the settlements.
- After the structure and the number of respondents were determined, there was a
  transition to phase three; during this phase, suitable structures (based on place of residence, level of education, and profession) were directly targeted so that a satisfactory
  structure could be achieved.

#### 4.3. Statistical Analysis

The data compiled were processed using the statistical software R 4.3.2. The statistical data analysis began by using basic instruments of descriptive statistics; after this, non-parametric techniques were used to confirm or reject the set hypotheses.

The descriptive statistical analysis included the calculation of the basic indicators of central tendency and variability, such as the arithmetic means and standard deviation of each of the responses, as well as table and the graphical representations of the relative frequencies of the results obtained.

The non-parametric techniques used in this study were the Mann–Whitney U test and the Kruskal–Wallis test.

The Mann–Whitney U test is one of the most precise and simple non-parametric tests [98]. It is used to check for the existence of differences between two independent groups on a continuous scale. This test represents a non-parametric alternative to the parametric *t*-test for independent samples, which compares the medians of two groups. The values obtained for the continuous variables are first transformed into ranks for both groups; then, the difference between these ranks is calculated. The null hypothesis for this test assumes that there is no difference between the studied groups; meanwhile, an alternative hypothesis assumes the existence of statistically significant differences.

The Kruskal–Wallis test represents a non-parametric alternative to the analysis of variance (the one-factor ANOVA). This test is used to compare three or more independent groups along a continuous scale. Similar to the case in the aforementioned test, in this test, the results are also converted into ranks; then, we compare the mean ranks for each group. The test is used to evaluate the null hypothesis that the samples belong to the same basic group; meanwhile, the alternative hypothesis assumes a statistically significant difference among the studied samples (groups) [99].

#### 5. Results

In Table 3, the first two columns present the codes and the complete text of the statements; in the other columns, we find the means (AS) and standard deviations (SD) for all 20 statements. This provides an overview of the respondents' satisfaction with their current quality of life in the settlements in the studied area.

**Table 3.** The descriptive statistics of the degree of satisfaction with elements of the standard of living.

Cod	Full Text of the Statement	AS	SD
A1	I am satisfied with the access roads to my settlement.	2.964	1.3970
A2	I am satisfied with the traffic connections (buses, trains) of my neighborhood.	2.626	1.4092
A3	I am satisfied with the quality of the roads in the settlement.	2.889	1.3442
A4	I am satisfied with the infrastructural facilities (water supply, sewerage, electrical network, TV, Internet) in the settlement.	3.301	1.3867
A5	I am satisfied with the hygiene in the settlement.	3.245	1.3998
A6	I am satisfied with the number and quality of kindergartens and elementary schools in the settlement.	3.663	1.2354
A7	I am satisfied with the quality of secondary and high schools in the municipality.	3.338	1.3132
A8	I am satisfied with the availability and the offer of shopping places (shops, markets).	3.791	1.2193
A9	I am satisfied with the quality of the products and services offered.	3.424	1.3105
A10	I am satisfied with the prices of the products and services.	2.385	1.1751
A11	I am satisfied with the number and availability of cultural institutions.	2.963	1.3307
A12	I am satisfied with the number and availability of sports and recreational facilities.	3.148	1.3190
A13	I am satisfied with the provision of medical services.	2.870	1.3672
A14	I am satisfied with the work of public services.	2.661	1.2957
A15	I am satisfied with the safety of living in my neighborhood.	2.009	1.3041
A16	I am satisfied with the state of urbanism and the construction method.	2.032	1.1389
A17	I am satisfied with the quality of the environment in our municipality.	3.241	1.4074
	Total A1–A17	2.951	1.4055
A18	I am satisfied with the overall quality of life in our municipality.	2.630	1.1448
A19	I am satisfied with my standard of living.	2.474	1.3471
A20	I was thinking of moving out of my municipality for work or some other reason.	2.746	1.4821

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If we were to provide a summary of the responses to the individual statements (A1–A17), we could conclude that the respondents were, on average, indecisive when evaluating the provided-opinion statements—arithmetic means (AS = 2.951) with a significant standard deviation (SD = 1.4055).

The greatest degree of satisfaction among the respondents was recorded for statement A8, indicating that they are satisfied with the availability of places to shop (arithmetic means  $AS_{A8} = 3.791$ ); then, for statement A6, the results indicate that they are satisfied with the number and quality of kindergartens and primary schools in their settlements ( $AS_{A8} = 3.663$ ). The lowest value of the arithmetic means for the responses was noted for statement A15, which referred to respondents' satisfaction with the level of safety of life in their settlements ( $AS_{A15} = 2.009$ ). The second statement with a very low value of arithmetic means was A16, which referred to satisfaction with the current state of urbanism and construction efforts ( $AS_{A16} = 2.032$ ).

The lowest value in the standard deviation was also noted for statement A16 (SD = 1.139). This indicated that most of the respondents had the same attitude towards this statement.

The greatest heterogeneity in the attitudes of the respondents was noted for statement A20: "I was thinking about moving out of my municipality for work or for some other reason" (SD = 1.482).

If the data in this table were to be analyzed based on area, the finding would be the following: in the case of the initial statements, which refer to access roads to the settlements (A1) and the quality of the roads in the settlements (A3), the respondents were indecisive on average (AS<sub>A1</sub> = 2.964, AS<sub>A3</sub> = 2.889); however, they were dissatisfied when it came to the traffic connections to their settlements (AS<sub>A2</sub> = 2.626).

The respondents were satisfied with the development of the infrastructure (the waterworks, the sewer systems, the electrical grid, cable television access, and Internet connection) in their settlements (A4) and the hygiene in their settlements (A5):  $AS_{A4} = 3.301$  and  $AS_{A5} = 3.245$ .

The respondents were satisfied ( $AS_{A6} = 3.663$ ) with the number and quality of preschool institutions and primary school institutions (A6) but were indecisive when evaluating their satisfaction ( $AS_{A7} = 3.338$ ) with the number and quality of secondary schools and colleges (A7).

The degree of satisfaction with the availability of places to shop ( $AS_{A8} = 3.791$ ) and the quality of the offered products ( $AS_{A9} = 3.424$ ) was relatively high, but the respondents were not satisfied with the prices of the products and services ( $AS_{A10} = 2.385$ ).

When it comes to the number and availability of cultural institutions (A11), the respondents did not have a clearly formed attitude. Most of them were neither satisfied nor dissatisfied with the state of the cultural offerings (AS<sub>A11</sub> = 2.963). A similar situation was found for the degree of satisfaction with the availability and diversity of the sports/recreational facilities (AS<sub>A12</sub> = 3.148).

The greatest level of dissatisfaction was noted for the public and social services, including the offer of medical services ( $AS_{A13} = 2.870$ ) and the work of the public services ( $AS_{A14} = 2.661$ ), and the current state of urbanism and the construction effort ( $AS_{A16} = 2.032$ ). A finding that was particularly disconcerting was the degree of dissatisfaction with safety ( $AS_{A15} = 2.009$ ), where the lowest evaluations were noted. This was somewhat expected due to the accumulation of problems with illegal migrants and their uncontrolled movements through the territories of the individual municipalities; this is primarily the case along the border areas with Hungary and Croatia.

The respondents had divided attitudes in terms of their satisfaction with the state of the environment ( $AS_{A17} = 3.241$ ), which significantly varied depending on the municipality they lived in. The citizens of the City of Sombor and the municipalities of Kula and Bečej had more favorable attitudes; meanwhile, the inhabitants of the municipalities of Vrbas and Srbobran expressed concern about the level of pollution of the canal and their environment and even expressed a negative attitude.

If we were to view the average evaluations of statements A1–A17 (AS = 2.951, SD = 1.4055), given in Table 3, it is evident that the respondents were indecisive when indicating their

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level of satisfaction with the quality of life in their settlements: 40.92% mostly or strongly disagreed with the aforementioned statements, while 41.49% mostly or strongly agreed.

The focus of the analysis was to determine the intentions of the respondents to remain in or leave their local environment, and to elicit the link between these intentions and the respondents' perceptions of the quality of living conditions in their settlements. Therefore, special attention was devoted to the results of statements A18, A19, and A20.

For statement A18, the respondents directly indicated their evaluation of the quality of life in their settlements, which in a way provided an evaluation of the summary of the previous 17 statements. It can be concluded that the respondents were not very satisfied with the current quality of life in the territories of the municipalities in which they lived (AS<sub>A18</sub> = 2.630). More than 50% (52.07%) of the respondents either strongly or mostly disagreed with the aforementioned statement; if we were to exclude those who were undecided, only approximately 17% agreed with the aforementioned statement.

For the specific statement about whether they were satisfied with their standard of living (A19), the majority of the respondents (57.70%) stated that they did not agree with this statement; meanwhile, as many as 32.30% of respondents stated that they completely disagreed with the statement that they were satisfied with their standard of living.

This practically confirmed the hypothesis that the population of the region of Central Bačka was not satisfied with their quality of life in their settlements. Section 5.1 provided an analysis of the responses based on the sociodemographic features of the respondents.

A point of interest was the analysis of the responses made to statement A20, which referred to whether they had considered moving out of their municipality for work or for any other reason. They had divided attitudes on this issue ( $AS_{A20} = 2.746$ ), with pronounced heterogeneity in their attitudes ( $SD_{A20} = 1.482$ ).

Attention should also be given to the fact that as many as 35.86% of the respondents were thinking about (or had thought about) moving out of the municipality they were living in with the hope of improving their standard of living.

# 5.1. Differences in Subjective Well-Being Based on Sociodemographic Characteristics

The responses to the opinion statements provided some insights into the current state of affairs when it comes to the degree of satisfaction with life in settlements which belong to the municipalities located along the GBC. In order to correctly specify the possible activities which could improve this degree of satisfaction, it was necessary to address some of the assumptions on which the study was based, and which referred to the attitudes of the surveyed individuals.

The initial hypothesis in this study was that gender, age, profession, level of education, monthly income, number of household members, and location—that is, the municipality where a respondent resides—all have a significant impact on the respondents' attitudes regarding quality of life.

## 5.1.1. Differences by Gender

Table 4 shows the results of the Mann–Whitney U test, which was used to study the differences in the degree of satisfaction based on the gender of the respondents; this was only used for the opinion statements, for which a statistically significant difference (SSD) was determined at the p < 0.05 level.

Based on the results of this test, an SSD was determined in favor of the respondents who were men regarding their evaluations of the degree of satisfaction with the prices of products and services (A10), their degree of satisfaction with the quality of the environment in the municipality (A17), and their degree of satisfaction with their standard of living (A19).

The following tables show the results of the Kruskal–Wallis test, which was used to study the differences in the levels of satisfaction based on the remaining sociodemographic features of the respondents; this was only used for those statements for which an SSD was determined at the p < 0.05 level.

**Table 4.** The Mann–Whitney U test of the differences in respondents' attitudes in relation to the degree of life satisfaction depending on gender.

	Arithme	etic Mean	
Statement	Ge	p	
_	Men	Women	
A10	2.475	2.300	0.032 *
A17	3.400	3.092	0.002 *
A19	2.574	2.378	0.033 *

Note: \* p < 0.05; the table shows only the results indicating statistical significance.

#### 5.1.2. Differences by Age

Table 5 shows the results of the Kruskal–Wallis test, which was used to determine whether there were any SSDs between respondents of different ages regarding their attitudes about their degree of satisfaction with elements of their standard of living.

**Table 5.** The results of the Kruskal–Wallis test for the differences in the degree of life satisfaction in relation to the age of the respondents.

		Arithmetic Mean		
Statement		 p		
_	18–25	26–65	65+	-
A3	2.959	2.792	3.146	0.012 *
A4	3.296	3.232	3.548	0.025 *
A5	3.503	3.108	3.439	0.001 *
A13	2.852	2.800	3.134	0.031 *
A15	1.663	2.132	1.955	0.000 *
A17	3.609	3.083	3.395	0.000 *
A19	2.178	2.493	2.726	0.001 *
A20	3.124	2.829	2.051	0.000 *

Note: \* p < 0.05; the table shows only the results indicating statistical significance.

The age of the respondents significantly affected the expressed degree of satisfaction only in some indicators of quality of life. Differences in the degree of satisfaction were observed for the quality of the roads in the settlements (A3), and the results of the post hoc test for comparing the mean values of the groups showed an SSD in the attitudes between the group of respondents aged 26-65 and the group of respondents aged over 65 years (p = 0.012).

An SSD was also found in the assessment of satisfaction with the infrastructural facilities of the settlements (A4), and the results of the post hoc test showed that, even in this statement, an SSD was only found between the group of respondents aged 26–65 and the group of respondents aged over 65 years (p = 0.021).

Satisfaction with hygiene in the settlement (A5) was also one of the statements where significant differences in the degree of satisfaction were shown in relation to the age of the respondents. The results of the post hoc analysis revealed that there were SSDs between the first age group of respondents (from 18 to 25 years old) and the second age group of respondents (from 26 to 65 years old) (p = 0.003); an SSD was also found between the group of respondents aged 26–65 and the group of respondents who are older than 65 years of age (p = 0.019).

SSDs were also found for the statement related to satisfaction with the provision of medical services (A13), where it was shown that older respondents were more satisfied with the provided medical services than younger respondents. It was found that there were statistically significant differences only between respondents aged 26–65 and respondents older than 65 years of age (p = 0.026).

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Based on the results, it can be seen that the views of the respondents regarding their degree of satisfaction with the safety of life in their settlements (A15) also differed statistically significantly in relation to their age. Younger respondents expressed a lower degree of satisfaction with the safety of life in their settlements. Additionally, the results of the post hoc analysis revealed that there was an SSD between the group of respondents aged 18–25 and the group of respondents aged 26–65 (p = 0.000), as well as between the respondents aged 18–25 and the group of respondents aged over 65 years (p = 0.035).

Younger respondents, up to the age of 25 years, were more satisfied with the quality of the environment in the municipality (A17) than respondents aged over 25 years; the results of the Kruskal–Wallis test revealed that there were SSDs between the respondents' age groups and their degree of satisfaction with the environment. The post hoc test showed that there were SSDs in the degree of satisfaction with the environment in the municipality between the youngest respondents, under the age of 25, and respondents between 26 and 65 years of age (p = 0.000), as well as between respondents between 26 and 65 years of age and those over 65 years of age (p = 0.033).

A high satisfaction with standard of living (A19) was expressed more by older respondents over the age of 65 years than by respondents under the age of 65 years. The results of the post hoc analysis determined that there were SSDs between the youngest and the oldest group of respondents (p = 0.001), as well as between the group of respondents between 18 and 25 years of age and the group of respondents between 26 and 65 years of age (p = 0.008).

SSDs were found between the different age categories of the respondents regarding their thinking about moving out of their municipality for work or some other reason (A20). As expected, younger respondents showed a higher degree of agreement with this statement, which was supported by the results of the post hoc test; also, this showed that there were differences between the first and second age groups of respondents and the group of respondents over 65 years of age (p = 0.000).

# 5.1.3. Differences by Occupation

Based on the results shown in Table 6, it can be seen that there were SSDs between the respondents depending on their occupation regarding the five statements referring to their satisfaction with the elements of quality of life.

Table 6. The results of the Kruskal–Wallis test of differences in the degree of life satisfaction depending
on occupation.

			Arithm	etic Mean			
Statement	Occupation						
<del>-</del>	Student	Employed	Retired	Agriculturist	Housewife	Unemployed	
A10	2.331	2.457	2.521	2.457	2.000	2.082	0.008 *
A15	1.654	2.189	2.099	1.901	1.761	1.820	0.000 *
A17	3.549	3.027	3.347	3.716	3.000	3.426	0.000 *
A19	2.068	2.577	2.843	3.160	1.985	1.557	0.000 *
A20	3.211	2.838	2.149	2.519	2.582	2.787	0.000 *

Note: \* p < 0.05; the table shows only the results indicating statistical significance.

The highest degree of satisfaction with the prices of products and services (A10) was expressed by retirees, employees, and agriculturists, and the lowest degree of satisfaction was expressed by housewives. The results of the post hoc test showed that the biggest differences in terms of the degree of satisfaction with the prices of products and services existed between employed respondents and housewives (p = 0.031).

SSDs, based on the occupation of the respondents, were found in the statement related to the degree of satisfaction with the safety of life in their settlements (A15). The highest degree of satisfaction with the safety of life in their settlements was expressed by retirees and employees, and the lowest degree of satisfaction in this area was expressed by students.

The results of the post hoc test confirmed these results, as it was observed that SSDs exist between the group of students and the group of employees (p = 0.000) and between the group of students and the group of retirees (p = 0.012).

Satisfaction with the quality of the environment (A17) was also one of the statements where differences were noted in the respondents' attitudes depending on their occupation. Based on the results of the post hoc test, it was determined that there were SSDs in the satisfaction with the quality of the environment between employees and agricultural workers (p = 0.001), between employees and students (p = 0.002), and between housewives and agricultural workers (p = 0.034).

Based on the results of the Kruskal–Wallis test, it was determined that there were SSDs in the degree of satisfaction with the standard of living (A19) among the respondents in relation to their occupation. The results of the post hoc analysis revealed that there were differences between all occupational categories, except between housewives and students and between unemployed people and students. Agricultural workers were the most satisfied with the standard of living in the studied municipalities, and unemployed respondents were the least satisfied.

Respondents with different employment statuses also differed significantly in considering whether they want to move out of their municipality for work or for some other reason (A20), with students taking the lead in this thinking. The results of the post hoc analysis showed that there were SSDs regarding this statement between retirees and employees (p = 0.000), between retirees and students (p = 0.000), and the agricultural workers and students (p = 0.013).

#### 5.1.4. Differences by Education

The level of education affects the degree of satisfaction of the respondents with the elements of quality of life, so SSDs were recorded in relation to the seven statements offered, which can be seen in Table 7.

**Table 7.** The results of the Kruskal–Wallis test of differences in the degree of life satisfaction depending on the level of education.

	Arithmetic Mean						
Statement	Education						
	Unfinished Primary School	Primary School Primary School Secondary School College			University		
A1	2.679	2.876	2.890	3.156	3.429	0.000 *	
A10	2.077	2.272	2.436	2.267	2.579	0.006 *	
A15	1.949	1.704	1.867	2.444	2.759	0.000 *	
A16	1.974	1.905	1.964	2.156	2.414	0.000 *	
A17	3.282	3.456	3.299	2.756	2.917	0.001 *	
A18	2.436	2.627	2.616	2.578	2.880	0.014 *	
A19	2.295	2.189	2.463	2.533	2.955	0.000 *	

Note: \* p < 0.05; the table shows only the results indicating statistical significance.

The results of the Kruskal–Wallis test showed that there were SSDs between respondents with different levels of education regarding their satisfaction with access roads to the settlement (A1). SSDs were found between the group of respondents who finished primary school and the group of respondents who had graduated from university (p = 0.000), between those who did not finish elementary school and those who had graduated from university (p = 0.000), and between those who had a secondary school education and those who had graduated from university (p = 0.000). Based on the means of the respondents' answers, it can be seen that the respondents that have not completed primary school and those that only have a primary school education were the least satisfied with the condition of access roads.

SSDs between respondents with different levels of education were also found in the degree of satisfaction with the prices of products and services (A10), where the post hoc

test determined that there was an SSD only between the group of respondents who have not finished primary school and the group of respondents who had finished university (p = 0.009). The respondents who did not finish primary school were the least satisfied with the prices of products and services, and those who finished university were the most satisfied.

Based on the results of the Kruskal–Wallis test, we determined the existence of SSDs between the respondents of different levels of education and their degree of satisfaction with the safety of life in their settlements (A15). The respondents who had a university degree were the most satisfied with the safety of life in their settlement, and those who had finished primary school were the least satisfied. The results of the post hoc test revealed the existence of SSDs in the degree of satisfaction with the safety of life in the settlements between respondents who did not complete primary school, completed primary or secondary school, and those who finished university (p = 0.000), as well as between those who completed primary or secondary school and those who had graduated from college (p = 0.000).

Satisfaction with the state of urbanism and the construction efforts in the settlements (A16) was another one of the claims for which SSDs were determined regarding the attitudes of the respondents depending on their level of education. The results of the test revealed the existence of SSDs between the respondents who did not complete primary school and those who finished primary or secondary school in relation to those who had graduated from college (p = 0.000). The respondents who finished primary school had the lowest degree of satisfaction with the state of urbanism and construction efforts, and those who had graduated from college had the highest degree of satisfaction.

Based on the test results, SSDs were noted in respondents' reported satisfaction with the quality of the environment in the settlements where they live (A17) between respondents with different levels of education. The results of the post hoc test confirmed that there were SSDs between the respondents who completed primary school and those who had graduated from college (p = 0.020), between respondents who completed primary school and those who had graduated from university (p = 0.005), and between respondents with a secondary school education and those who had graduated from university (p = 0.032).

The highest degree of satisfaction with the overall quality of life in their municipality (A18) was expressed by respondents who had graduated from university, while the lowest degree of satisfaction was expressed by those respondents who did not finish primary school. The results of the post hoc test revealed the existence of an SSD between these two groups of respondents (p = 0.000) regarding the stated claim.

An SSD between the degree of satisfaction with one's standard of living (A19) was determined based on the level of education of the respondents. The results of the post hoc analysis indicated the existence of SSDs between the groups of respondents who did not finish primary school and those who finished primary or secondary school in relation to the group of respondents who had graduated from university (p = 0.000). Based on the means, it can be seen that the respondents who had graduated from university were the most satisfied with their standard of living, and the respondents who finished primary school were the least satisfied.

The results of the Kruskal–Wallis test did not establish that there were any SSDs between the respondents with different levels of education in their attitudes towards thinking about moving out of the municipality where they lived (A20).

#### 5.1.5. Differences by Monthly Income

The results of the Kruskal–Wallis test did not show SSDs in the degree of satisfaction with the overall quality of life in their municipality (A18) between the respondents with different monthly incomes (p = 0.061); however, differences in the six statements offered were evident, as shown in Table 8.

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<b>Table 8.</b> The results of the Kruskal–Wallis test of differences in the degree of life satisfaction dep	ending
on the monthly income of the respondents.	

		Arithm	etic Mean			
Statement	Monthly Income					
	No Income	Up to USD 250	USD 250-500	More than 500 USD		
A3	2.938	3.212	2.680	2.898	0.001 *	
A15	1.865	1.750	2.163	2.126	0.000 *	
A16	2.029	1.788	2.170	2.019	0.002 *	
A17	3.433	3.474	3.033	3.175	0.001 *	
A19	1.923	1.833	2.637	3.277	0.000 *	
A20	2.976	2.833	2.777	2.403	0.002 *	

Note: \* p < 0.05; the table shows only the results indicating statistical significance.

If the means of the answers are analyzed, it can be seen that the respondents whose incomes were less than USD 250 were most satisfied with the quality of the roads (A3), and the respondents whose incomes were between USD 250 and 500 were the least satisfied. The post hoc test revealed that there was an SSD in the satisfaction with the quality of the roads in the settlements between respondents whose monthly income was less than USD 250 and the respondents whose monthly income was between USD 250 and 500 (p = 0.000).

SSDs between the respondents with different monthly incomes were also found in their degree of satisfaction with the safety of life in the settlements (A15). The most SSDs in the degree of satisfaction with the safety of life in their settlements were found between the group of respondents whose monthly incomes were less than USD 250 and the group of respondents whose income was between USD 250 and 500 (p = 0.003), as well as between the group of respondents who had no income and the group of respondents whose income ranged from USD 250 to 500 (p = 0.004).

Differences in the degree of satisfaction with the state of urban planning and construction effort in the settlement (A16) were also determined, depending on the monthly income of the respondents. A post hoc test determined that an SSD existed only between the group that had an income of less than USD 250 and the group that had an income between 250 and 500 USD.

Respondents with no income and those with incomes up to USD 250 were found to be most satisfied with the quality of the environment (A17), and respondents with incomes between USD 250 and USD 500 were found to be the least satisfied, which was also confirmed by the results of a post hoc test (p = 0.007; p = 0.010).

Satisfaction with standard of living (A19) is also one of the statements for which respondents with different monthly incomes had attitudes with an SSD. Between all groups of respondents in relation to the level of their income, an SSD was found in the degree of satisfaction with their standard of living (p = 0.000); there was an exception to this, between the group of respondents with no income and the group of respondents whose income is up to USD 250. These groups show the lowest degree of satisfaction with their standard of living.

Moving out of the municipality (A20) was most frequently considered by the respondents that had no income and was least frequently considered by those whose income was over USD 500. The results of the post hoc test established the existence of SSDs between the group of respondents who had no income and the group of respondents who had an income higher than USD 500 (p = 0.001), as well as between the group of respondents who had an income ranging from USD 250 to 500 and the group of respondents whose income was higher than USD 500 (p = 0.039).

## 5.1.6. Differences by Household Size

The results of the Kruskal–Wallis test did not show the existence of SSDs between the respondents with different numbers of household members in terms of the degree of their

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satisfaction with the overall quality of life in their municipality (A18), nor were SSDs found in terms of their thinking about moving out of their municipality (A20).

The results of the Kruskal–Wallis test showed the existence of SSDs between respondents with different numbers of household members in the four statements, which can be seen in Table 9.

**Table 9.** The results of the Kruskal–Wallis test of differences in the degree of life satisfaction depending on the number of household members.

		A	rithmetic Mea	an		
Statement		Number	of Household	Members		p
_	1	2	3	4	5 or More	
A1	2.656	2.696	3.126	2.976	3.223	0.002 *
A5	3.393	3.147	3.063	3.228	3.732	0.001 *
A17	3.197	3.250	3.108	3.169	3.705	0.004 *
A19	3.016	2.359	2.296	2.538	2.554	0.001 *

Note: \* p < 0.05; the table shows only the results indicating statistical significance.

The results of the Kruskal–Wallis test showed the existence of SSDs between the respondents with different numbers of household members (Table 9) and their degree of satisfaction with the access roads in their settlements (A1). The highest degree of satisfaction was expressed by the respondents whose households had five or more members; the lowest degree of satisfaction was expressed by respondents with one household member. These findings were also confirmed by the post hoc analysis (p = 0.003).

The degree of satisfaction with the hygiene in their settlements (A5) was found to differ in relation to the number of household members that the respondents had. The results of the post hoc analysis showed that there were SSDs regarding the degree of satisfaction with the hygiene in their settlements among the respondents who had five or more household members in relation to the other groups; this finding was specifically in relation to households with two members (p = 0.004), households with three members (p = 0.000), and households with four members (p = 0.008).

SSDs were also observed in relation to the number of members in the respondents' households regarding the opinion statement about the degree of satisfaction with the quality of the environment in their municipality (A17). The biggest difference was found between the group of respondents who had three household members and the group of respondents who had five or more members (p = 0.002), as well as between the group of respondents who had four members and the group of respondents who had five or more members.

Based on the test results, SSDs in the degree of satisfaction with their standard of living (A19) were determined between groups of respondents with different numbers of household members. The highest degree of satisfaction with their standard of living was expressed by the respondents who had one household member, and the lowest degree of satisfaction was expressed by the respondents who had two or three household members; these findings were also confirmed by the results of the post hoc analysis (p = 0.000).

## 5.1.7. Differences in Terms of Location

Table 10 shows the mean values for the degree of satisfaction for all 20 opinion statements by municipality and the results of the Kruskal–Wallis test, which was used to determine the differences in the degrees of satisfaction; here, SSDs were determined for p < 0.05.

The summary of the first 17 (A1–A17) opinion statements indicated that the respondents from all the municipalities were indecisive in terms of whether they agreed with the items, i.e., regarding their degree of satisfaction with the offered indicators of the quality of life in their settlements, without any greater deviations among the municipalities (the means range from 2.907 for the municipality of Vrbas to 3.169 for the municipality of Bečej).

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Based on the results presented in the previous table, we note that an SSD was found for the degree of satisfaction of the respondents from different municipalities in relation to all the indicators but two (A3—the quality of the roads within the settlements; A10—satisfaction with prices). Therefore, the location of the respondents was an important factor in the analysis of satisfaction with quality of life.

**Table 10.** The results of the Kruskal–Wallis test of differences in the degree of life satisfaction depending on municipality.

		A	rithmetic Me	ean		
Statement			p			
-	Sombor	Kula	Vrbas	Srbobran	Bečej	_
A1	2.828	3.296	2.759	3.279	3.014	0.001 *
A2	2.425	2.778	2.494	3.344	2.787	0.000 *
A3	2.874	2.914	2.848	3.180	2.816	0.444
A4	3.425	3.062	3.772	2.492	3.092	0.000 *
A5	3.601	3.043	2.690	2.951	3.348	0.000 *
A6	3.698	3.469	3.551	3.623	3.943	0.011 *
A7	3.362	3.074	3.316	3.000	3.752	0.001 *
A8	3.868	3.543	3.987	3.279	3.887	0.000 *
A9	3.376	3.284	3.753	3.289	3.404	0.000 *
A10	2.287	2.494	2.399	2.328	2.511	0.312
A11	2.960	2.858	2.722	2.820	3.426	0.000 *
A12	3.141	2.716	3.361	3.066	3.461	0.000 *
A13	2.833	2.636	2.886	3.000	3.156	0.016 *
A14	2.649	2.679	2.392	2.918	2.858	0.011 *
A15	1.474	2.414	2.000	2.607	2.617	0.000 *
A16	1.796	2.167	1.911	2.377	2.447	0.000 *
A17	3.601	3.111	2.582	2.967	3.362	0.000 *
A1-A17	2.953	2.914	2.907	2.972	3.169	
A18	2.626	2.642	2.310	2.656	2.972	0.000 *
A19	2.313	2.623	2.272	2.557	2.887	0.000 *
A20	2.816	2.617	2.348	3.525	2.830	0.000 *

Note: \* p < 0.05; the table shows only the results indicating statistical significance.

The inhabitants of the municipalities of Vrbas and Sombor were the least satisfied with the access roads to their settlements (A1); in their case, an SSD was determined in relation to the municipality of Kula (p = 0.000). The situation was somewhat similar in the case of traffic connections to their settlements (A2), where the inhabitants of Sombor and Vrbas were the least satisfied; meanwhile, the inhabitants of the municipality of Srbobran were the most satisfied (which was understandable due to their proximity to Novi Sad). Thus, the results of the post hoc analysis indicated an SSD between the respondents from the municipalities of Sombor and Srbobran (p = 0.000), as well as between the respondents from the municipalities of Vrbas and Srbobran (p = 0.001).

When it comes to the degree of satisfaction with the infrastructure (A4), significant differences can be noted between the municipality of Srbobran (2.492) and the municipalities of Vrbas (3.772) and Sombor; we found an SSD between the inhabitants of the municipality of Srbobran and the municipality of Sombor (p = 0.000), an SSD between the municipality of Srbobran and the municipality of Vrbas (p = 0.000), an SSD between the municipality of Kula (p = 0.000) and the municipality of Vrbas, and an SSD between the municipality of Bečej and the municipality of Vrbas.

The degree of satisfaction with the hygiene in their municipality (A5) also significantly differed based on the municipality in which the respondents were living. The inhabitants of the municipalities of Sombor and Bečej were the most satisfied with the level of hygiene, and the inhabitants of the municipalities of Vrbas and Srbobran were the least satisfied.

In the case of educational opportunities, the highest scores were noted in the municipality of Bečej; here, we found an SSD between the opinions shared by respondents in Bečej

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and the inhabitants of the municipality of Kula (p = 0.021) in the case of primary schools (A6), and between the opinions shared by respondents in Bečej and the inhabitants of the municipalities of Kula and Srbobran (p = 0.000) in the case of secondary schools (A7).

The respondents indicated that they agreed with the availability of the locations where they can make purchases (A8), but they were rather indecisive in terms of the quality of the offered products and services (A9) and were dissatisfied with the prices of the products. In the case of opinion statement A10, no SSDs were determined among the respondents from various municipalities. The respondents from the municipality of Srbobran were the least satisfied with the availability and offerings of locations for making purchases. The post hoc test determined that there were SSDs in the degree of satisfaction between the inhabitants of the municipality of Srbobran and the respondents from the municipalities of Bečej, Sombor, and Vrbas (p = 0.001).

The degree of satisfaction with the number and availability of cultural institutions differed in a statistically significant manner, primarily due to the high score noted for the municipality of Bečej; the post hoc test determined the presence of SSDs between the inhabitants of the municipality of Bečej and the inhabitants of the remaining municipalities (p = 0.000).

In the case of the degree of satisfaction with the number and availability of sports/recreational facilities (A12), SSDs were determined between the inhabitants of the municipality of Kula and the municipality of Vrbas (p = 0.000), as well as between the inhabitants of the municipality of Kula and the inhabitants of the municipality of Bečej (p = 0.000).

The degree of satisfaction with public services, analyzed in opinion statements A13–A16, was proven to be low. The respondents were indecisive in their assessment of their degree of satisfaction with the provided medical services (A13), with an SSD being found between the inhabitants of the municipalities of Bečej and Kula (p = 0.008). For opinion statement A14, the level was somewhat lower compared to opinion statement A13, with an SSD being found between the inhabitants of the municipality of Vrbas and the inhabitants of the municipality of Bečej (p = 0.015).

A disconcerting result of this survey was the low degree of satisfaction with the safety of life in their settlements (A15) and the current state of urban development (A16). The inhabitants of the municipality of Sombor were the least satisfied with the safety of life in their settlements; thus, the results of the post hoc test indicated the presence of SSDs between the inhabitants of this municipality and the inhabitants of the other municipalities (p = 0.000). This was expected considering that this municipality is located immediately along the state border with the EU countries of Croatia and Hungary; they are in closer proximity to the pressure caused by illegal immigrants attempting to cross the border who tend to stay in the vicinity of the settlements, endangering the safety of the inhabitants and their properties.

In the case of urban development, the greatest dissatisfaction was caused by illegal construction, as well as the presence of construction projects that do not adhere to the existing building plans. Noticeable differences were determined among individual local governments in the way issues were resolved. Thus, the post hoc test determined the presence of SSDs regarding the degree of satisfaction with the state of urban development and the construction efforts between the inhabitants of the municipalities of Sombor and Kula (p = 0.007), Sombor and Bečej (p = 0.000), as well as between the inhabitants of the municipalities of Vrbas and Bečej (p = 0.006).

An SSD was determined in the degree of satisfaction expressed by the respondents with the quality of the environment in their municipality (A17) among the inhabitants of different municipalities. The greatest satisfaction with the quality of the environment in their municipality was noted for the inhabitants of the municipalities of Sombor and Bečej; the lowest degree of satisfaction was noted for the inhabitants of the municipalities of Vrbas and Srbobran. The post hoc test determined an SSD in terms of the satisfaction with the quality of the environment in their municipality between the inhabitants of the municipality of Vrbas and Kula (p = 0.010), Vrbas and Bečej (p = 0.000), Vrbas and Sombor (p = 0.000),

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Srbobran and Sombor (p = 0.005), and Kula and Sombor (p = 0.002). This was a logical outcome of the perception of the state of the environment, primarily in the surroundings of the GBC in sections where revitalization is complete (Sombor and Kula) and in the sections where the state of the environment remains alarming (Vrbas and Srbobran).

Based on the results of the Kruskal–Wallis test, SSDs were determined in relation to satisfaction with the quality of life in their municipality among the inhabitants of various municipalities. The post hoc test determined that there were SSDs in the degree of satisfaction with the overall quality of life between the inhabitants of Vrbas and Bečej (p = 0.000), as well as between the inhabitants of the municipalities of Sombor and Bečej (p = 0.030).

Satisfaction with the standard of living (A19) was one of the opinion statements for which SSDs were determined among the respondents based on the municipality in which they lived. The inhabitants of the municipality of Bečej were the most satisfied with their standard of living; thus, the post hoc test determined the presence of SSDs between the respondents in this municipality and between the respondents in the municipalities of Sombor and Vrbas (p = 0.001).

Based on the results, SSDs were determined in relation to the municipality the respondents lived in and opinion item A20. Moving out of their municipality was most often considered by the respondents from the municipality of Srbobran, and it was considered the least by the respondents living in the municipality of Vrbas. The results of the post hoc test indicated the presence of SSDs related to thinking about moving out of their municipality for work or for any other reason between the respondents from the municipalities of Vrbas and Sombor (p = 0.022), between the respondents from Vrbas and Srbobran (p = 0.000), between the respondents from Kula and Srbobran (p = 0.001), between the respondents from Sombor and Srbobran (p = 0.003), and between the respondents from the municipalities of Bečej and Srbobran (p = 0.019).

A general conclusion would be that the results indicate significant differences in subjective well-being, depending on the community where the respondents live, which might be the starting point for proposing measures for the improvement of quality of life.

#### 6. Discussion

The answers of the respondents to the provided-opinion statements enabled us to view the current state of affairs in terms of their degree of satisfaction with their quality of life in the settlements belonging to the municipalities along the GBC. The mean value for satisfaction with individual indicators (AS = 2.951), the mean value for the quality of life in the municipalities in which the respondents lived (AS = 2.630), and especially the mean value for satisfaction with the standard of living (AS = 2.474) led to the conclusion that the results of the study indicated a medium or low degree of satisfaction with most of the indicators; additionally, the findings confirmed our hypothesis regarding differences in the perception and self-evaluation of subjective well-being based on the sociodemographic features of the studied population.

If we were to provide an overview based on the groups of indicators which make up a certain dimension, as was the focus of study, the results would be as follows:

The mean value for the first five statements used to analyze satisfaction with place of residence (access roads, traffic connections to their settlements, roads within the settlement, the infrastructure, and the level of hygiene in the settlement) was 3.005, which means that the respondents were indecisive in their assessment. Within this group of indicators, the lowest score was noted for the degree of satisfaction with traffic connections to their settlements (A2). This was expected considering that the study was carried out during the construction of the high-speed Belgrade–Subotica–Budapest railway line, due to which there was virtually no railway traffic in the region (all of the trains running the Novi Sad–Vrbas–Subotica and Vrbas–Sombor lines were cancelled). Currently, work is underway on the high-speed road Sombor–Kula–Vrbas–Srbobran–Bečej–Kikinda, which is why numerous changes have been made to the local roads, as well as to the usual public

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traffic. There are bus lines that run infrequently to numerous places, and citizens are being directed to alternative forms of transportation (bicycles, taxi cabs, or their own vehicles). A considerable dispersion was noted among the responses to this statement.

When assessing their degree of satisfaction with the available educational opportunities, the respondents were satisfied with the number and quality of the kindergartens and primary schools, but were indecisive when it came to assessing satisfaction (AC $_{\rm A7}$  = 3.338) with the number and quality of high and higher-education facilities (A7); this finding was expected, considering that the available secondary schools (which offer education for a limited number of jobs) are located only within the municipal centers, while there is only one higher-education institution, which is located in Sombor. Therefore, they are forced to continue their education outside the region. This could be the first step toward a permanent decrease in the number of inhabitants in the region.

Support for these conclusions can be found in a survey carried out in Eastern Slavonia (a region very similar to the GBC) among university students from Osijek and Zagreb. Of those studying in Osijek, only one-third stated that they intended to remain in the region, while more than half were indecisive. However, of those studying in Zagreb, only slightly more than a quarter stated that they intended to return (in as many as two-thirds of the cases, we have confirmed a significant difference among attitudes regarding returning to their hometowns) [9].

The respondents were highly satisfied with the availability and offer of locations where they could make purchases, but expressed considerable dissatisfaction with the prices of the products and services. The lowest mean was calculated for this opinion statement (2.16), with considerable agreement among most of the respondents (a standard deviation of 1.1389).

In the cases of culture and sport, nothing in particular stood out—on average, the respondents were undecided. A particular finding was the low degree of satisfaction with public services; for opinion statements A13–A16, the degree of satisfaction was 2.393 on average, with very low scores noted for safety, the state of urbanism, and building plans.

This was somewhat expected, considering the number of problems with illegal immigrants and their uncontrolled movement throughout the territory of individual municipalities, primarily in border areas towards Hungary and Croatia, which endanger the safety of the population and their properties to a considerable extent.

In the case of urbanism, the greatest problems pertain to illegal constructions and a lack of adherence to urban planning provisions.

The environment has a significant impact on quality of life, that is, a well-cared-for environment improves the health and well-being of a population [100].

This was confirmed by the case of the GBC region, which is an example of the impact of the environment on quality of life. Following a catastrophic situation involving the quality of water in the GBC, and the consequences it brought, a project known as the "Revitalization of the Great Bačka Canal" commenced [101,102], which was only partially realized. The parts of the project which included the city of Sombor and the municipality of Kula were completed, while those that included the municipalities of Vrbas and Srbobran are still in very poor shape. As a result, opinion statement A17 was given a mean score of 3.241 with a very high standard deviation.

Viewing the average evaluations of opinion statements A1–A17 (AS = 2.951, SD = 1.4055), given in Table 3, it is evident that the respondents were indecisive when indicating the degree of their satisfaction with the quality of life in their settlements: 40.92% mostly or strongly disagreed with the aforementioned opinion statements, while 41.49% mostly or strongly agreed.

For opinion statement A18, the respondents directly indicated their attitudes regarding the quality of life in their settlements, which in a way provided an evaluation of the summary of the previous 17 opinion statements. It can be concluded that the respondents were not very satisfied with their current quality of life in the territories of the municipalities in which they lived ( $AS_{A18} = 2.630$ ). More than 50% (52.07%) of the respondents either

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strongly or mostly disagreed with the aforementioned statement; if we were to exclude those who were undecided, only approximately 17% agreed with the aforementioned opinion statement.

For the specific opinion statement about the degree of satisfaction with their standard of living (A19), the majority of respondents (57.70%) stated that they did not agree with this opinion statement, while as many as 32.30% of respondents stated that they completely disagreed with the statement that they were satisfied with their standard of living.

This practically confirmed the hypothesis that the population of the region of Central Bačka is not satisfied with their quality of life in their settlements.

A point of interest arose in the analysis of the responses given to opinion statement A20, which enquired into whether the respondents had considered moving out of their municipality for work or for any other reason. They had divided attitudes on this issue  $(AS_{A20} = 2.746)$ , with pronounced heterogeneity in their attitudes  $(SD_{A20} = 1.482)$ .

Attention should also be given to the fact that as many as 35.86% of the respondents were thinking about (or had thought about) moving out of the municipality they were living in to improve their standard of living.

Statistically significant differences in the degree of satisfaction with quality of life depended on the sociodemographic characteristics of the respondents; this finding was most evident in relation to the municipality where the respondents live (in 18 opinion statements), while there were fewer instances of this dependency in relation to the age groups (in 8 opinion statements) and the level of education (in 7 opinion statements); these SSDs depended the least on the gender of the respondents (3 opinion statements) and the number of household members (4 opinion statements).

The results showed that the gender of the respondents did not have a significant impact on the assessment of the degree of satisfaction with quality of life.

The age of the respondents was proven to be a significant factor in the assessment of the degree of satisfaction in the case of eight opinion statements. For the opinion statements belonging to the group pertaining to the place of residence, we noted a difference in the degree of satisfaction between the group of respondents aged 25–65 and the group of respondents over the age of 65. In terms of satisfaction with the safety of life in their settlements, the younger population indicated a lower degree of satisfaction than the other age groups did.

In terms of moving out of the municipality they were residing in, statistically significant differences were noted in the responses between the first and second age categories compared to the third one, as well as between retired inhabitants and employees compared to secondary school/university students, and between agricultural workers and secondary school/university students. These results were fully expected considering that their shared denominator for moving out of the region is primarily of an objective nature—unemployment emerged as the most important push factor; however, there is also the subjective assessment that leaving the local environment could provide the respondents with greater opportunities for improving their standard of living and their lives in general.

Education and work status emerged as significant factors in the assessment of the degree of satisfaction with safety, the opportunities brought by urbanism, the prices of products and services, and the standard of living, primarily.

Among all the groups of respondents, when it comes to the level of income, a statistically significant difference was noted in the degree of satisfaction with the standard of living. The respondents with the highest earnings showed the highest degree of satisfaction with it. As a logical consequence of such an assessment, moving out of the municipality was most frequently considered by respondents with no income, and least of all by those whose income exceeded USD 500.

What stands out in particular are the numerous statistically significant differences in terms of assessing the degree of satisfaction among the inhabitants of various municipalities. Even though the means of agreement with opinion statements A1—A17 were very similar (ranging from 2.907 in Bečej to 3.169 in Vrbas), differences occurred in certain elements; this

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could be a good indicator for each of the local communities to identify where the problems lie and to determine what needs additional attention when planning and implementing suitable measures, as well as making decisions based on priorities.

Compared to the results of studies carried out in neighboring regions, in four municipalities in the north of Bačka, Srem, and Eastern Slavonia (Croatia), we can note numerous similarities, along with clear differences in certain elements.

By studying four municipalities in the north of Bačka in 2008, in an analysis carried out by Iren Gabrić–Molnar in 2009 [86], the Regional Science Society from Subotica determined that the attitudes of the respondents related to the quality of life in north Vojvodina were mostly impacted by their financial status and employment opportunities. Their positive or negative attitudes reflected how they experienced their standard of living, which significantly impacted their sense of satisfaction and happiness, as well as their attitude regarding the functioning of the organs of the state. The attitudes of the respondents relating to their personal standard of living were relativized, as they mostly compared their current standard of living with the opportunities that they had in the 1990s, while bearing in mind the expected standard (much like the one in EU countries, for example).

Many of the respondents were somewhat (33%) or slightly (29%) satisfied with their current standard of living (an average value of 2.53), while the means of the responses regarding their degree of satisfaction with social and living circumstances (AS = 2.53) in the north of Bačka [86] were similar to those of the middle region of Bačka; in contrast, in our study, we noted a value of AS = 2.47.

Like in the GBC region, the respondents in the rural areas of Srem—based on a study carried out in 2019—were found to be not quite satisfied with the current level of the quality of life in their settlements. In terms of the specific statement of whether they were satisfied with their life as a whole, one half of the respondents were not satisfied with their standard of living as a whole, while the other half believed their standard of living was satisfactory. The initial hypothesis of this study—that gender, age, occupation, level of education, monthly income, and number of household members have a significant impact on the attitudes of respondents regarding their quality of life—was confirmed to a considerable extent [93].

Numerous studies have been carried out in Croatia on the mutual dependence between regional and demographic development. Of these studies, the following one was singled out for its association with our topic of interest: a study of Matišić and Pejnović in Eastern Slavonia [85]. "The frequency of responses clearly indicates that most of the push and attraction motives for the future spatial mobility of the student population from Eastern Slavonia is causally most closely associated with the lagging of this area in terms of regional development in the country. The survey has clearly shown a planned existence in some other area of Croatia or abroad" [85] (p. 135).

Then, there is the "Quality of Life Perception and Intentions to Leave Rural Areas" study, which was carried out in Croatia during 2006 and 2007. This study indicated that approximately 20% of the respondents aged 25–45 have the intention of moving out of their settlements in the foreseeable future. "The common denominator behind the reason for their departure is primarily objective in nature—unemployment stands out as the most important factor, but there is also the subjective belief that the city could offer them greater opportunities for improving their standard of living and livelihood. A comparative analysis of the sociodemographic features of the respondents and the intentions to stay in rural areas or leave them indicated that younger, more educated, and unemployed individuals who had not yet started a family, and who do not have their own home, were more likely to leave rural communities. The number of household members and regional belonging were not proven to be selective variables of migration intention, even though the number of potential migrants was greater among three-member families, in households which have arable land, and in the Mediterranean region" [28] (p. 152).

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If we were to view the various studies and research into quality of life that have been carried out globally, we could conclude that there are numerous similarities, along with certain specificities, depending on the region in which the study was carried out.

A study which focused on the quality of life in Thailand in relation to the infrastructure and access roads indicated that differences need to be taken into consideration—not only in terms of the physical characteristics of the location but also those in terms of the social and economic characteristics of the people who live there. The socioeconomic characteristics addressed in the study indicated that differences in terms of income lead to varying perceptions of quality of life [103].

Certain studies have shown that material goods have a lower impact on quality of life than hygiene and educational opportunities do in towns; however, they have also shown that there has been a reduction in these differences between rural and urban areas [104].

What is interesting is that quality of life is also affected by an individual's readiness to change their profession; this has been indicated in a study focusing on rural areas in Indonesia, where the population relies on digitalization and information technologies in their work [105].

#### 7. Conclusions

The present study focused on determining the factors which impact the perceptions inhabitants of the region of the GBC have surrounding their quality of life. In order to obtain these results, the attitudes of the inhabitants were analyzed, along with their statements on the joint efforts related to the more significant problems of quality of life in their local communities, which were compiled by means of a survey. The results obtained are of a descriptive and exploratory nature. The contribution of this type of data analysis consists of attempts to analyze the different aspects of the problem of quality of life in settlements in a studied region based on the perceptions of the inhabitants.

The instrument used in the study was an altered version of a survey questionnaire that was previously used in studies carried out in the territory of Srem, one of the three regions in Vojvodina. The author of this questionnaire concluded that it was possible to expand and adapt the existing list of indicators to the studied area. Based on field work results, certain problems were noted which are specific to the region surrounding the GBC; based on these, questions were formed and included only for the purpose of this study, as required by the specific nature of this region of Serbia.

Similar studies could be carried out not only in Serbia but in neighboring countries in the region, and in other less-developed and developing countries in the world which are facing similar problems in both their demographic and economic development.

This region, along with the GBC, could be one of the regions of interest for the population migrating into Serbia, but it is also a region from which the present population show no desire to leave. That means that this is a region with a large potential for satisfaction with quality of life. If this study had been carried out half a century ago, the results would have been different. However, the current inhabitants of this region are not satisfied with their life in this area, and this lack of satisfaction exists to a significant extent.

For the geographical position of a particular location or region, traffic connections are extremely important. The existing roads do not provide the inhabitants of this region with an ideal connection to Novi Sad, the capital of Vojvodina. Public transport is very rare and irregular and there are no trains, so the population largely utilizes individual transport. Young people, when leaving to attend university, rarely return to their hometowns. They usually remain in larger city centers such as Novi Sad or Belgrade. The degree of satisfaction with the public services and the environment in the settlements is very low, which is one of the facts that prevents the population of this region from seeing it as an area where they could imagine their future. One-third of the population expressed an intention to move in order to find better jobs or for certain other reasons. The population is satisfied with the primary schools, but their degree of satisfaction decreases with the need for more higher-education institutions.

The sample included in this study reflects the structure of the overall population in the aforementioned area. However, for an analysis of the intentions of the respondents to stay or move out of their local community, and to determine the link between these intentions and the respondents' degree of satisfaction with the quality of their living conditions in the settlements where they currently live, a survey should be carried out among inhabitants aged 25–45. This age category is the social category with the highest quality of production and with reproductive potential, whose departure would decrease the already-diminished and vital portion of the population in the local environment. This is a population which, along with secondary school and university students, is most susceptible to migration.

Further studies on the territory of Serbia may produce similar results, in particular in regions which are further from the Belgrade–Novi Sad axis. There is a high concentration of the population along this axis, as well as there being a high concentration of numerous functions. Centralization leads to considerable regional differences in the relationship between the center and the periphery; a large part of Serbia finds itself a similar situation. There is a decrease in the population, and the lack of adequate human resources leads to a decrease in the number of functions needed for sustainable development.

Every unit of local self-government makes its own policies, which define the following: the priorities and the aims of local development; the roles of certain actors in the process of local development; the mechanisms of their cooperation in the implementation of measures of development; the improvement of the quality of life of the local population; changes in the mechanisms used to encourage development. Such policies can be founded on the exploitation of the resources available in the local community by identifying the capital of the area and ensuring the smart specialization of the regions.

This region requires further research by means of survey questionnaires or interviews with the population; these are the most adequate means of improving quality of life and determining the directions of regional development, so that the region can—at the least—revert to the state it was in half a century ago.

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