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Research Article

Assessing the Quality of Urban Life in New Algerian Cities: The Case of Sidi Abdellah

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Abstract:

This study assesses the level of urban quality of life in the new city of Sidi Abdellah, Algeria. It addresses the central research question: do modern urban communities represented by new cities meet the standards of quality urban life for their residents? The research investigates whether these emerging urban centres act as attractive hubs that fulfil residents' needs and foster both residential and spatial satisfaction. The theoretical framework identifies the essential human and environmental needs that enhance the overall quality of life. On the applied side, the study employs multiple contemporary urban design indicators and evaluation methods to measure and analyse urban quality of life. The objective is to establish a localised Algerian reference framework or code for assessing urban quality of life. The findings reveal that improving quality of life in new cities requires active community participation within sustainable regulatory frameworks and the adoption of a unified measurement approach capable of evaluating quality-of-life standards in high-density urban environments.

1. Introduction

The United Nations has projected that 2.5 billion people will live in urban areas by 2050. According to the *World Urbanisation Prospects 2014* report by the Population Division of the United Nations Department of Economic and Social Affairs, 54% of the world's population currently lives in urban areas, a figure expected to rise to 66% by 2050 (Nations, 1998).

This rapid urban expansion has resulted in "the production of urban environments that are, for the most part, far removed from understanding human behaviour, needs, social relations, and economic capacity" (Al-Zamil, 2024).

Such conditions underscore the pressing need to enhance the quality of urban life (UQOL) and serve as a powerful incentive to promote sustainable urban development that improves the well-being of residents.

Previous studies have demonstrated that high-density cities can still achieve a satisfactory quality of urban life when comprehensive development, encompassing environmental, economic, political, and social dimensions, is adequately addressed and when the factors that negatively affect urban quality are effectively managed (Elssaid, 2023).

It has therefore become increasingly necessary to develop a wide range of tools and criteria to assess the quality of life in cities worldwide, considering the diverse conditions and needs of each region and local population (Al Qawasmi, 2021).

Various environmental, social, and psychological factors interact to enhance residents' quality of life, fostering comfort, psychological security, and urban peace. These criteria and standards differ from one region and community to another and are interrelated across several key domains: environmental, social, material, mobility, economic, psychological, and political (Elssaid, 2023, p. 182).

This study aims to investigate the foundations and standards that underpin the assessment of quality of life within a selected urban environment. It addresses both theoretical and practical dimensions: the theoretical aspect identifies the essential human needs that improve quality of life, drawing on several previous studies to guide urban planners; the practical aspect assesses the quality of life in the new city of Sidi Abdellah on the basis of data from

a quantitative sample analysed through contemporary urban planning theories.

Problem Statement

Algeria has adopted a policy of establishing new cities as part of its urban strategy to address the housing crisis. The Algerian authorities have constructed thousands of housing units in new cities, such as Sidi Abdellah and Bouinan (Algiers), as well as Ali Mendjli (Constantine). However, these new urban centres face numerous challenges, including environmental, social, and infrastructural issues that must be carefully analysed to identify sustainable solutions and enhance the quality of life (QoL) of residents.

The general research problem addressed in this study is as follows:

- *What is the current level of urban quality of life (UQOL) within Algeria's new cities, specifically in the case of Sidi Abdellah?*

From this central question, two subproblems emerge:

1. To determine the key standards and foundations upon which the quality of urban life is based.
2. To quantitatively assess the level of urban quality of life within the selected study sample.

Research Objective

The primary objective of this research is to identify the most significant criteria that enable both theoretical and quantitative assessment of urban quality of life (UQOL) in new cities. These findings can be used to assist urban planners, policymakers, and researchers in enhancing living conditions and developing sustainable urban development strategies.

Research Methodology

This study employs two complementary approaches: theoretical and applied.

- The theoretical approach focuses on identifying the main criteria and conceptual foundations that help individuals understand and improve their quality of life in urban contexts.
- The applied approach involves quantifying the level and degree of urban quality of life (UQOL) in the new city of Sidi Abdellah via measurable indicators and analytical tools derived from contemporary urban planning theories.

2. Quality of Life as a Complex Concept

Quality of life is a multifaceted concept that reflects the degree of satisfaction individuals experience with their surrounding environment, the place where they live and conduct their daily activities. It expresses the extent to which people enjoy their lives and feel content with external living conditions (Toronto, 1991).

According to a study by Paraskevi Theofilou (2013), titled *"Quality of Life: Definition and Measurement,"* (Theofilou, 2013)the concept represents a complex interaction of diverse dimensions that require multidisciplinary approaches and multiple perspectives. The study concluded that measuring quality of life is inherently challenging due to variations in individual orientations, beliefs, preferences, and desires, for example, differences in religious values or socioeconomic conditions. A wealthy society does not necessarily enjoy a higher quality of life in urban areas.

In general, quality of life is assessed through several key indicators, including the following:

- Environmental quality and sustainability *(environmental)*
- Level of satisfaction, happiness, and well-being *(economic)*
- Educational and cultural level *(social)*
- Level of diversity and prosperity *(social)*
- Community security and safety *(social)*

The concept of quality of life in cities is often defined in relation to the general well-being of individuals and communities (L.Slavuj, 2011). Urban well-being varies across different environments and even between individuals. The World Health Organisation (WHO) defines quality of life as the physical, mental, and social well-being of a person. Indicators used to measure it may include *objective factors* that can be quantified, such as income, education, crime rates, and safety levels (R.Risser, 2006), as well as *subjective factors* that are difficult to measure numerically.

Most experts agree that urban quality of life (UQOL) is a complex and multidimensional construct influenced by numerous interrelated factors. Several researchers have contributed frameworks to conceptualise it more precisely:

- Kent and Thomson argued that the urban environment itself significantly enhances public health and well-being, thereby improving overall quality of life.
- Mouratidis (2018) proposed a conceptual framework emphasising four key dimensions for improving well-being: social relationships, recreation, health, and the physical environment (K.Mouratidis, 2018).
- Shekhar (2019) suggested that achieving quality of life in cities depends on four principles: community participation, strengthening social communication, reinforcing personal and environmental

identity, and enhancing public safety and security (W.Shekhar, 2019).

In conclusion, the quality of urban life can be understood as the intersection of two interrelated dimensions: objective measures (tangible, quantifiable indicators) and subjective measures (individual perceptions and experiences) (Mahmoud, 2022).

Objective Metrics

Livability refers to creating an urban environment that meets the living conditions and needs of its residents. It encompasses infrastructure, housing, urban design, environmental quality, health care, economic and educational opportunities, safety and security, social interaction, and political engagement. Together, these factors form the tangible and measurable dimensions of urban quality of life.

Subjective Measures

Lifestyle focuses on the individual and collective choices that enable people to enjoy life and foster well-being. It includes access to entertainment, preservation of cultural heritage, engagement in arts and sports, recreational activities, and participation in community life (Al-Zamil, 2024).

Geographers and urban scholars have made numerous attempts to define and measure the concept of quality of life from a quantitative perspective. Some have focused on providing basic infrastructure, such as water, electricity, and sewage systems, along with urban facilities, including health services, education, and green spaces (Mhana, 2017).

Others have broadened the scope of assessing urban life. For example, the French researcher Zanin Toblem (1995) studied internal urban disparities in quality of life across French cities and proposed three quantitative dimensions representing the core aspects of quality of life. Each dimension encompasses a set of essential human needs, as illustrated in the following figure.

According to (T.Garling, 2020), the criteria used to measure quality of life are divided into two complementary approaches: objective and subjective. The objective approach commonly used by urban geographers relies on measurable indicators, whereas the subjective approach, emphasised in the humanities, explores the unquantifiable aspects of human experience (Amira, 2021).

The term quality of life (QoL) is often synonymous with residents' satisfaction with the environmental, social, religious, health, and security services available in their surroundings. As (Ahmad, 2022) noted, the standard criteria for quality of life extend beyond wealth and employment to include the built environment, physical and mental health, education, and social relationships. Similarly, the World Health Organisation (WHO) defines quality of life as *"an individual's perception of their position in life within the context of the culture and value systems in which they live and in relation to their goals."*

Multiple scholars have offered varying yet complementary definitions of QoL:

- Koehler (2005) described it as the combination of material and nonmaterial resources that shape human life, reflected in aspects such as health, the environment, equality, and employment. (J, 2005)
- Khalaf Hussein Ali (Dilimri, 2018) emphasised that no single definition exists; rather, quality of life represents *"the degree to which an individual's well-being is achieved in their social and economic life,"* which varies across different neighbourhoods or cities.
- Bandari (Bandari, 2025) highlighted QoL as a multidimensional concept encompassing various aspects and connotations, unified by the idea of human satisfaction, the fulfilment of diverse needs, desires, and aspirations, both immediate and long-term.

In the context of new cities, such as Sidi Abdellah, it is important to note that relatively low population density provides favourable conditions for achieving high urban quality of life. As (S, 2016) reported, population density remains a central concern in urban planning, serving as a primary driver of urban development and a key factor in the localisation of development projects. Field observations at Sidi Abdellah revealed that neighbourhoods lacking complete infrastructure tend to remain uninhabited by their intended beneficiaries, leading to stagnation in local development efforts.

3. Theories of the Requirements of Urban Life

Researchers have long sought to identify the essential requirements for achieving high-quality urban life (UQOL) across multiple dimensions, including psychological, social, religious, economic, political, and environmental aspects. These dimensions collectively determine the overall vitality of a society, offering a comprehensive understanding of its living conditions. To assess these factors, scholars have developed various indicators and measurement tools that capture the complex nature of urban well-being.

Recent research on urban quality of life has focused primarily on two fundamental approaches to measurement

Subjective well-being (personal well-being):

This approach emphasises individual perceptions and emotional experiences such as happiness, satisfaction, and pleasure (Easterlin, 2003; Diener et al., 1999; Diener, 1984). It reflects how people personally evaluate their quality of life in relation to their expectations, values, and circumstances.

Objective measures of quality of life:

This method relies on quantifiable indicators, including social, economic, health, and environmental factors, that reflect the extent to which human needs are fulfilled (Nations) (Shabka, 2020). These measures offer a tangible and comparable way to assess living standards across diverse urban contexts.

In this study, the emphasis is placed primarily on objective indicators, given their significant role in illustrating the measurable dimensions of urban quality of life and their capacity to reveal disparities between urban environments.

Finally, on the basis of this theoretical foundation, we identified the key requirements of urban life that contribute to enhancing UQOL. These were used to design and distribute a questionnaire aimed at assessing the most important human needs of residents in the new city of Sidi Abdellah, thereby linking theoretical frameworks with empirical observations.

4. Tools for Measuring the Quality of Urban Life

In this section, we present the most significant tools and indicators used to measure the quality of urban life (UQOL), derived from the study of contemporary urban design and planning theories. These tools enable the quantitative evaluation of quality of life by assessing how individuals or communities perceive and experience their urban environment across multiple dimensions, namely, security, social relations, environmental quality, transportation, material well-being, and psychological comfort.

The core idea is to translate residents' evaluations of these aspects into quantifiable data that reflect their level of satisfaction with each indicator. This process allows for a systematic analysis of how urban environments meet human needs. As (Ahmad, 2022, p. 175) explained, this evaluation can later be developed into a "weighted satisfaction" model to ensure greater reliability and contextual relevance to the urban environment.

The concept of weighted satisfaction emphasises both the importance of each indicator and the degree of satisfaction residents associate with it. According to Cummins (Cummins, 2000), the weighted satisfaction value is calculated via an equation that integrates the importance of these two variables, i.e., satisfaction, to produce a more accurate reflection of the perceived quality of life within a specific urban context.

Application of Measurement Tools

The use of these tools enables researchers, urban planners, and policymakers to form an initial understanding of the quality of life among the studied population in Sidi Abdellah. By identifying both strengths and weaknesses, this approach facilitates sustainable planning and supports evidence-based decision-making in urban development.

In 1932, the American psychologist Rensis Likert scale, later known as the Likert scale (Mariah, 2020), introduced the first systematic method for assessing attitudes and behaviours. This scale allows respondents to express their level of agreement or satisfaction via a range of options typically organised into odd-numbered scales (e.g., 3-point, 5-point, or 7-point) or even-numbered scales (e.g., 4-point, 6-point, or 8-point).

Many researchers prefer odd-numbered scales because they include a neutral midpoint, allowing respondents to choose a balanced position when they neither agree nor disagree. This midpoint enhances the clarity, precision, and depth of the collected data (D, 2011)

For this study, a five-point Likert scale was employed, as it is one of the most widely used and reliable instruments in social science and urban research. It provides a clear structure for quantifying satisfaction levels across various urban indicators.

5. Study of the Sample

To calculate the weighted satisfaction score, this study applies Raphael's formula, as presented by (Raphael, 1996) (Ahmad, 2022, p. 178):

$$\text{Weighted Satisfaction} = \left(\frac{\text{Criticality Score}}{3}\right) \times (\text{Satisfaction Score} - 3)$$

This formula enables the quantification of satisfaction levels by integrating both the importance (criticality) of each indicator and the perceived satisfaction associated with it, thus producing a reliable metric for assessing the quality of urban life.

A. Presentation of the studied sample

The new city of Sidi Abdellah is the largest new city in Algeria and Africa, located approximately 25 km west of Algiers, within the province of

Algiers. Its establishment was initiated under Decree No. 20--296 of October 12, 2020, which amends and supplements Decree No. 16--215 of August 11, 2016, itself modifying Executive Decree No. 04--275 of September 5, 2004 (Gazette, 2004).

Sidi Abdellah covers a total area of 7,000 hectares, subdivided as follows:

- Three thousand one hundred fifty-eight hectares are designated as urban areas (representing 45.1% of the total area).
- Three thousand eight hundred forty-two hectares are classified as protected areas (representing 54.9%) (Ministry of Housing, 2025).

B. Statistical analysis of the sample

A total of 500 questionnaires were prepared and distributed randomly and informally, both through social media platforms and within several educational institutions located in the study area.

The characteristics of the surveyed population are summarised in table 2.

The questionnaire was simplified and structured into five levels of evaluation to ensure clarity and ease of response for the target participants. These five levels represent both the importance of each indicator and the degree of satisfaction with it, allowing respondents to assess each aspect of urban life in a straightforward manner.

Statistical processing

The collected data were processed via the Statistical Package for the Social Sciences (SPSS) through the following steps:

1. The frequency (f_i) of each indicator is calculated.
2. The arithmetic mean ($\bar{X}$) is calculated for each tool.
3. The weighted satisfaction score for each measurement tool was determined.

6. Analysis of Results

Achieving an advanced level of urban quality of life (UQOL) in the new city of Sidi Abdellah necessitates active community participation and collaboration between local authorities and residents. This involves both the governmental commitment to providing the necessary urban infrastructure and the population's awareness and responsibility in maintaining and enhancing it.

On the basis of the statistical analysis of the urban quality of life dimensions within the studied sample, several key findings have been identified, reflecting both strengths and areas that require further development.

6.1 Quality of Urban Security Life

The total weighted average satisfaction with the quality of urban security life in the new city of Sidi Abdellah was calculated as +0.02. According to the residents' evaluations, this score places the security dimension within the medium category, indicating a level of quality that is acceptable but requires attention and development.

One of the most significant indicators within this dimension, the availability of sufficient security measures to protect residents and maintain public safety, achieved a weighted satisfaction score of +0.93. If evaluated independently, this indicator falls into the "good" category, surpassing the overall arithmetic mean of the standard. This reflects the authorities' notable efforts and commitment to ensuring security and social stability, which remain among the primary drivers of human settlement and community confidence.

However, the availability of night lighting revealed a significant weakness, with a weighted satisfaction value of (–0.88). This score is below the overall standard average and falls within the "low-quality" category of urban life. Field observations confirmed this finding, as many neighbourhoods suffer from insufficient or absent nighttime lighting, which limits residents' movement after dark hours and increases the risk of security incidents or criminal activity.

This indicator, therefore, requires urgent and effective intervention to address the lighting deficit and to strengthen the sense of safety and mobility for the population during nighttime hours, thereby contributing to the overall improvement in urban security quality in Sidi Abdellah. See below Image 1, Poor night lighting in some neighbourhoods of the new city, and Curve 2, Quality of urban life – security.

6.2 Quality of Urban Environmental Life

The total weighted average satisfaction with the quality of urban environmental life reached –0.55, which places it within the medium category that requires more attention and improvement. The various evaluation tools presented to residents, including the availability of green spaces, access to urban parks, and the state of urban hygiene, yielded results close to the overall weighted average for this dimension.

Overall, the three proposed indicators require improvements in both the material quality and the human quality of the services provided. In particular, urban hygienists demand greater investments in the workforce, supervision, and equipment to increase the standards of environmental maintenance and cleanliness. See below Image 2, Urban cleanliness, and Curve 3, Quality of urban environmental life.

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6.3 Quality of Urban Transport

The total weighted average satisfaction with the quality of urban transport reached –0.03, which falls within the medium category that requires continuous improvement, attention, and development to ensure sustainable urban service. The standard tools proposed for evaluation are diverse because of the importance of urban transport in supporting the overall quality of urban life.

On the basis of the statistical analysis, it was concluded that there is an acceptable and relatively good level of urban quality in terms of the ease of movement within streets and sidewalks, where the weighted satisfaction reached the highest value within the studied criterion (+1.12). This reflects the spaciousness and openness of the urban environment, which allows smooth mobility for both residents and vehicles within and beyond residential areas. It also enhances the quality of interconnected pathways that facilitate access to services, religious facilities, and recreational areas, such as mosques, schools, healthcare centres, public spaces, and parks, in addition to providing significant and designated areas equipped for mass urban transport stations.

However, deficiencies were observed in some aspects of urban transport services, particularly regarding the absence of dedicated pathways for people of determination, where the weighted satisfaction recorded the lowest value within the studied standard (–1.47). This indicator requires rapid, effective, and immediate intervention to improve the quality of urban service for this specific segment of the population, as it necessitates specialised mobility infrastructure. Furthermore, the limited and insufficient transport options, including taxis, buses, and trains, do not adequately meet the daily mobility needs of residents for work, study, or other activities, underscoring the need for a comprehensive upgrade of the transport network in the new city. See below Image 3, Lack of public transportation, and Curve 4, Urban transport quality.

6.4 Quality of Urban Social Life

The total weighted average satisfaction with the quality of social urban life reached a value of **-0.01**, which falls within the category requiring urban attention to improve urban services and increase the quality of urban life in general, mainly by providing urban interstitial spaces that allow convergence and social interaction among the population. It also serves as an outlet for residents, particularly through the availability of seating areas and children's play spaces. Improving these urban areas, where they exist, through regular cleaning, maintenance, and the facilitation of access paths, enhances the quality of life for residents. See below Image 4, Urban spaces, and Curve 5, Quality of urban social life.

6.5 Quality of Physical Urban Life

Our interest increased with this criterion, and we included the most significant number of inquiries to the population, reaching ten (10), owing to the importance of the standard tools in improving the quality of urban life in general. The total weighted satisfaction of this studied criterion reached a value of (–0.88), which falls within the category that requires immediate and continuous intervention to ensure the quality of urban life for the population. Notably, the population expressed dissatisfaction with most of the standard tools adopted within this criterion. The weighted satisfaction of some of them was lower than the total weighted average satisfaction of the criterion, such as the presence of neglected and unused areas between buildings (–1.82), insufficient availability of parking lots (–1.66), connection to drinking water (–1.60), availability of garbage collection trucks (–0.87), and the spread of chaotic markets (–0.77). This situation requires urgent, immediate, and decisive intervention by higher authorities to improve the quality of life in the new city of Sidi Abdellah.

The standard tool that excludes the availability of public services and utilities (electricity, gas, and water companies) was expressed by the population with a weighted satisfaction value of (+0.83), which represents a reasonable and acceptable urban service and reflects the field presence of these national utility institutions. See below Image 5, The spread of chaotic markets, and Curve 6, Quality of physical urban life.

6.6 Quality of Psychological Urban Life

The total weighted average satisfaction with the quality of urban psychological life reached (+0.3), which falls within the medium category of acceptable urban quality, which requires more attention to increase the overall quality of urban life. Most of the population expressed satisfaction with the availability of calm and tranquillity within the dwellings and common areas (+1.1). This is attributed to the architectural separation between apartments and buildings, the spaciousness of building entrances, and the availability of electric lifts. In addition, urban and architectural clarity, along with the ease of orientation within urban units, recorded a weighted satisfaction value of (+0.71), reflecting the diversity of colours and external forms used in building façades.However, the population expressed some dissatisfaction with

the tool related to calmness and tranquillity outside the dwellings (–0.18). This is due to the lack of sufficient play areas for children near buildings and the limited architectural separation between building entrances and other structural or urban components, which leads to a certain degree of disorder, particularly at the entrances of buildings. See below Picture 6, The facade of the buildings, and Curve 6, Quality of psychological urban life.

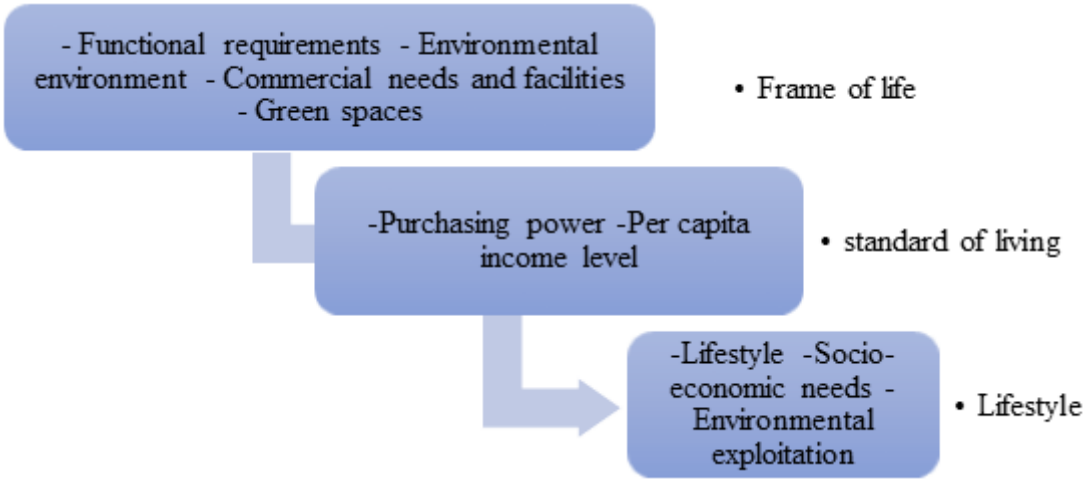


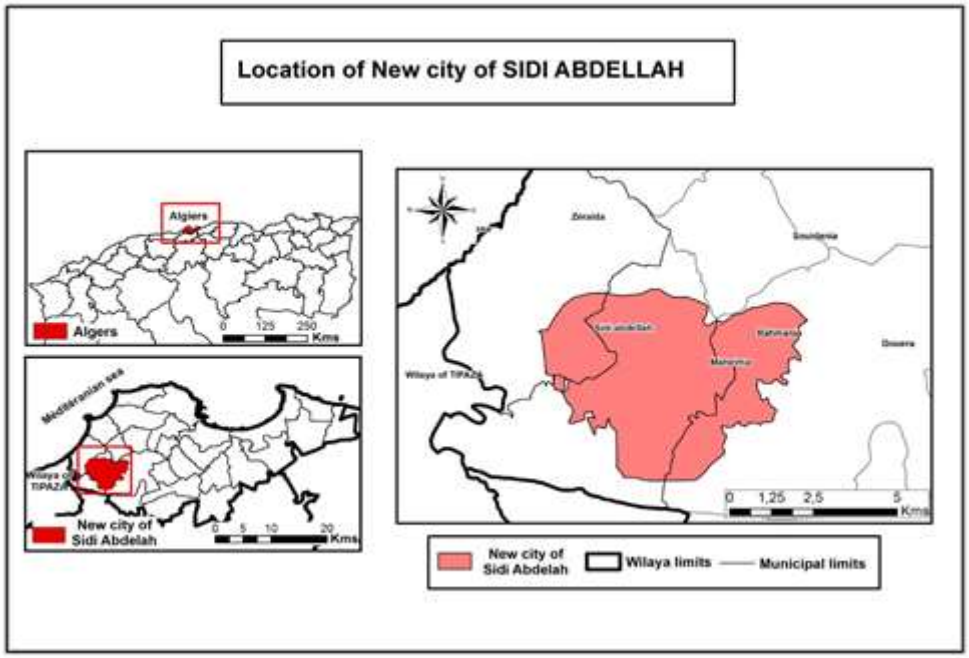
Figure 1. *Concept of Quality of Life According to Zanin Toblem (1995)*

Table 1. *Tools for Measuring the Quality of Urban Life*

Standard or requirement	Measurement tools distributed in the questionnaire	Importance	Satisfaction score
Quality of Urban Life Security	- Availability of adequate security capabilities to protect the population and provide security - Availability of night lighting		
Environmental Urban Quality of Life	- Availability of green spaces - Availability of green or other urban spaces - Urban Hygiene		
Quality of urban transport	- Easy navigation on streets and sidewalks - Presence of paths for pedestrians and cyclists - Easy access to public facilities such as mosques, schools and clinics - The existence of special paths for people of determination - Multiple transportation options (taxis, cars, buses, trains) - Provides specific stops for mass transit - Easy access to urban spaces (gardens, parks		
Social Urban Quality of Life	- Availability of urban spaces that allow convergence and social interaction - Fairness of the distribution of urban spaces between neighbourhoods		
Physical Urban Quality of Life	- Maintenance of urban and social facilities - Adequate Parking Availability - Chaotic Markets - Availability of public services and utilities (electricity, gas and water companies) - Bonding with drinking water - Power - Distribution of building density (appropriate or inappropriate) - The presence of neglected areas between buildings - Availability of garbage trucks - Density and overcrowding of buildings		

Psychological Urban Quality of Life (Psychological Comfort)	- Urban consistency of the façades of the buildings - The height of the buildings - The colours used are appropriate or inappropriate - Urban clarity and ease of inferring urban units - Provide tranquillity and tranquillity inside the dwelling - Provide calm and tranquillity outside the dwelling		

Figure 2 *Dimensions of Measuring the Quality of Urban Life*



Map 1 *Geographical location of the new city of Sidi Abdellah*

Table 2 *Distribution of the characteristics of the studied samples*

Apartment Type	Length of Stay in the Neighbourhood	School Level	Gender	Age	Family Size
F4 – 70%	10 years – 70%	Higher degrees – 60%	Males – 64%	40–50 years – 64%	3–4 members – 60%

Table 3. *Five-level evaluation of tools for measuring the quality of urban life*

Weighted Satisfaction Score	Quality of Life Measurement Tools	Requirement
Satisfaction Score	Importance	
Very good (5)	Very important (5)	Easy access to urban spaces and green areas – *Environmental Urban Quality of Life*
Good (4)	High importance (4)	
Acceptable (3)	Relative importance (3)	
Dissatisfied (2)	Low importance (2)	
Very dissatisfied (1)	Insignificant (1)	

		Assigned numerical value (x_i)

Table 4. *Applied Example of the Five-level Evaluation of Tools to Measure the Quality of Urban Life*

Weighted Satisfaction Score	Quality of Life Measurement Tools	Requirement
Satisfaction Score	Importance	
Very good – 210	Very important – 440	Easy access to urban spaces and green areas – *Environmental Urban Quality of Life*
Good – 90	High importance – 30	
Acceptable – 60	Relative importance – 20	
Dissatisfied – 60	Low importance – 10	
Very dissatisfied – 80	Insignificant – 0	
Arithmetic Mean: 3.58	Arithmetic Mean: 4.8	
Weighted Satisfaction: +0.93		

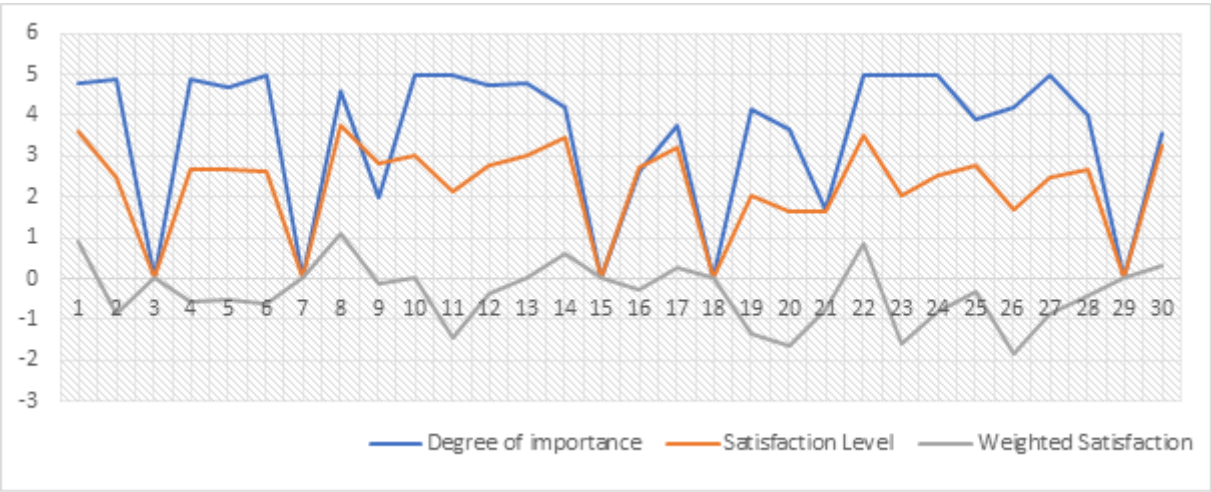
Table 5 *Weighted Satisfaction of the Tools for Measuring the Quality of Urban Life in the New City of Sidi Abdellah (2025)*

Requirement	Number	Measurement tools distributed in the questionnaire	Importance	Satisfaction Level	Weighted Satisfaction
Security Urban Quality of Life	1	- Availability of adequate security capabilities to protect the population and provide security	4.8	3.58	0.93
	2	- Availability of night lighting	4.9	2.46	-0.88
Total Average Satisfaction Weighted for Quality of Urban Life Security			0,02		
Environmental Urban Quality of Life	3	- Availability of green spaces	4.86	1.66	-0.55
	4	- Availability of green or other urban spaces	4.7	2.48	-0.50
	5	- Urban Hygiene	5	2.26	-0.60
Total Average Satisfaction Weighted for Quality of Urban Living Environmentally			-0.55		
Quality of urban transport	6	- Easy navigation on streets and sidewalks	4.56	3.18	1.12
	7	- Presence of paths for pedestrians and cyclists	1.98	2.84	-0.11
	8	- Easy access to public facilities such as mosques, schools and clinics	5	2.82	0.00
	9	- The existence of special paths for people of determination	5	2.12	-1.47
	10	- Multiple transportation options (taxis, cars, buses, trains)	4.72	1.68	-0.38
	11	- Provides specific stops for mass transit	4.8	1.94	0.03
	12	- Easy access to urban spaces (gardens, parks)	4.2	2.96	0.62
Total Average Satisfaction Weighted for Urban Transport Quality			-0.03		
Social Urban Quality of Life	13	- Availability of urban spaces that allow convergence and social interaction	2.62	2.7	-0.26
	14	- Fairness of the distribution of urban spaces between neighbourhoods	3.74	1.6	0.25
Total Average Satisfaction Weighted for Quality of Urban Social Life			-0.01		
Physical Urban Quality of Life	15	- Maintenance of urban and social facilities	4.16	2.84	-1.33
	16	- Adequate Parking Availability	3.66	3.66	-1.66
	17	- Chaotic Markets	1.7	1.7	-0.77
	18	- Availability of public services and	5	2.4	0.83

		utilities (electricity, gas and water companies)			
	19	- Bonding with drinking water	5	2.1	-1.60
	20	- The power of electricity	5	2.1	-0.80
	21	- Distribution of building density (appropriate or inappropriate)	3.88	2.76	-0.31
	22	- The presence of neglected areas between buildings	4.2	2.2	-1.82
	23	- Availability of garbage trucks	5	1.96	-0.87
	24	- Density and overcrowding of buildings	4.02	2.28	-0.43
Total Average Satisfaction Weighted for Physical Urban Quality of Life			-0.88		
Psychological Urban Quality of Life (Psychological Comfort)	25	- Urban consistency of the façades of the buildings	3.56	2.46	0.31
	26	- The height of the buildings	3	2.42	-0.14
	27	- The colours used are appropriate or inappropriate	2.74	2.74	0.02
	28	- Urban clarity and ease of inferring urban units	3.04	3.22	0.71
	29	- Provide tranquillity and tranquillity inside the dwelling	4.58	2.12	1.10
	30	- Provide calm and tranquillity outside the dwelling	4.58	1.64	-0.18
Total average satisfaction is weighted for the psychological quality of urban life			0.30		

Table 6. *Classification of weighted satisfaction categories according to Raphael's law (2025)*

Category	Range	Interpretation	Description
I	[+2 ; +3.33]	Very High Presence	The indicator is powerful and requires protection and preservation. The quality of urban life in this category is excellent and high.
II	[+0.7 ; +2]	Good Presence	The indicator performs well but needs further improvement. The quality of urban life is good.
III	[–0.7 ; +0.7]	Moderate Presence	The indicator is average and requires greater attention and development. The quality of urban life is medium and acceptable.
IV	[–2 ; –0.7]	Weak Presence	The indicator is weak, and urban life has a low quality, necessitating intervention.
V	[–3.33 ; –2]	Very Weak Presence	The indicator shows poor or nonexistent quality, requiring urgent and strict intervention.



Curve 1 *Evaluation of the Quality of Life in the New City of Sidi Abdellah (2025) – According to Raphael's Law*

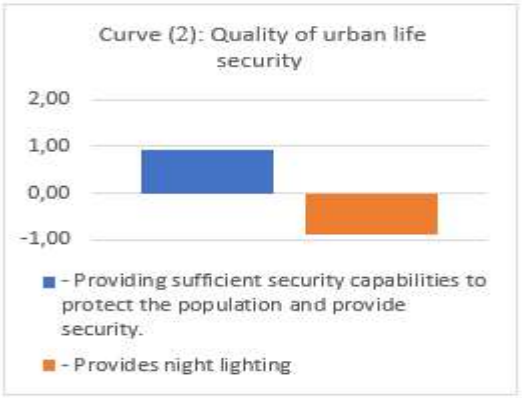


Image (1): Poor night lighting in some neighborhoods of the new city. Source: Prepared by the researcher 2025.

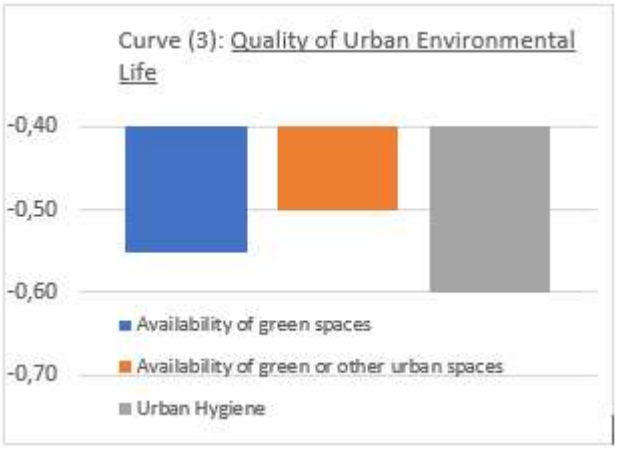


Image (2): Urban cleanliness Source: Prepared by the researcher 2025.

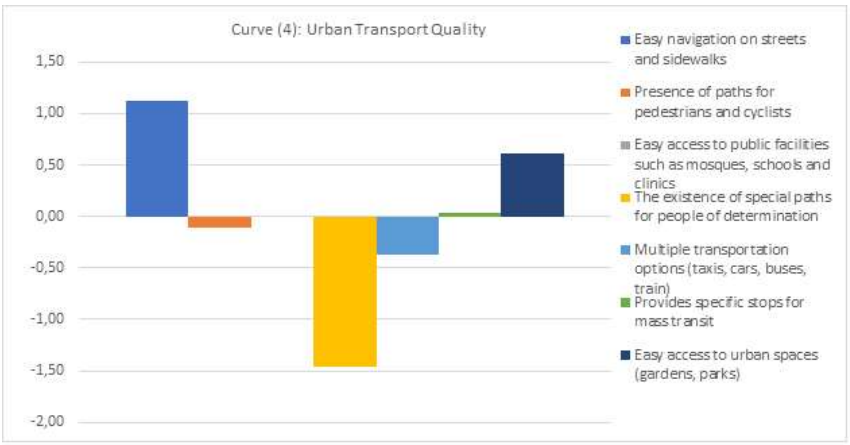


Image (3): Lack of public transportation . Source: Prepared by the researcher 2025.

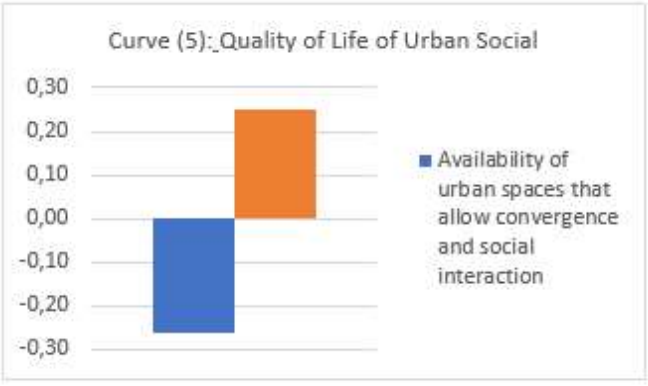


Image (4): Urban spaces Source:

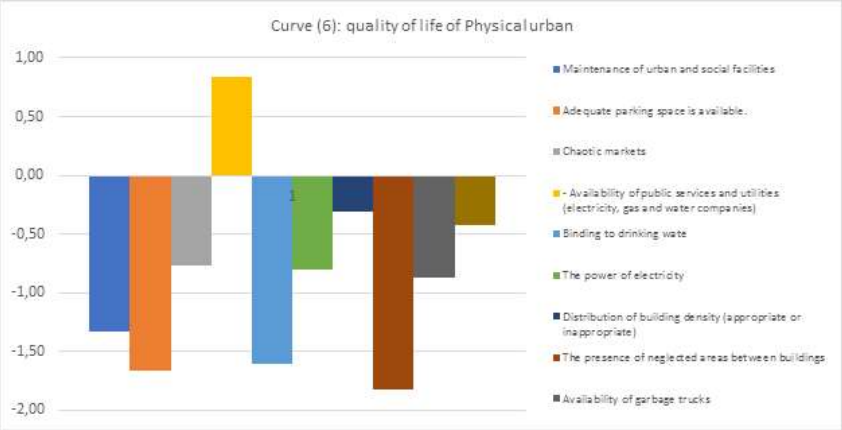
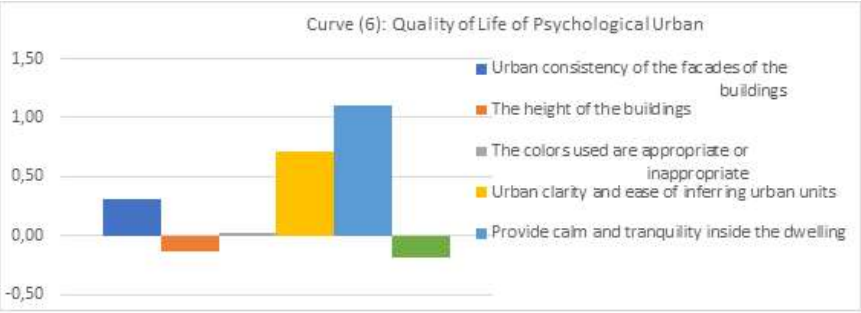


Image (5): The spread of chaotic markets. Source: Prepared by the researcher 2025.



Picture (6): The facade of the buildings Source: Prepared by the researcher 2025.

7. Conclusions

This study developed and applied a statistical assessment method to evaluate the quality of urban life (UQOL) in the new city of Sidi Abdellah via a comprehensive set of standardised measurement tools across multiple dimensions, namely, security, environment, transport, social, physical, and psychological aspects. The results enabled the identification of both strengths and deficiencies in the city's urban fabric, providing valuable insights for enhancing overall livability.

On the basis of these findings, the following recommendations are proposed to improve the quality of urban life in Sidi Abdellah and similar new urban developments in Algeria:

A. Quality of Urban Security Life

- Additional urban security centres should be established, and on-the-ground patrols should be strengthened to ensure continuous monitoring and rapid response.
- Public lighting should be enhanced at night to reinforce safety, reduce crime risk, and increase residents' sense of security and reassurance.

B. Environmental and Psychological Quality of Urban Life

- Rehabilitate and reclaim underutilised spaces between buildings, converting them into green areas, playgrounds, and social gathering spaces to promote interaction and well-being.
- Investment in urban hygiene services, both financially and operationally, should be increased to increase waste collection, cleanliness, and maintenance standards.
- Vacant lands should be transformed into recreational or landscaped areas to relieve congestion near building entrances and foster peaceful, outdoor relaxation zones.

C. Quality of Urban Transport

- Develop dedicated pedestrian and cycling paths to promote sustainable and active mobility.
- Implement specialised pathways for people of determination, ensuring inclusivity and accessibility in all public spaces.
- Diversify public transport options by improving the availability and efficiency of buses and taxis.
- Accelerate the construction of the tramway line connecting Sidi Abdellah with the western part of Algiers to enhance regional connectivity.

D. Social and physical quality of urban life

- Prioritise the maintenance and rehabilitation of urban social infrastructure, including parking areas, sidewalks, waste collection zones, and public facilities.
- A multilevel (decked) car park is constructed to optimise space and reduce surface congestion.

- Eliminate informal or chaotic markets and relocate vendors to organised, designated market areas nearby.
- Accelerate the connection to the Fouka–Sidi Abdellah drinking water network to ensure a consistent water supply.
- New electrical substations and generators should be built to strengthen the power distribution and reliability.
- Optimise urban and open spaces between buildings for community use, leisure, and aesthetic enhancement.

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- **Ethical approval:** The conducted research is not related to either human or animal use.
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- **Data availability statement:** The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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