

The Impact of Public Services on Quality of Life Among Citizens in Médéa City

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Abstract:

This study investigated the predictive effect of public services on the quality of life (QoL) among citizens in Médéa City, Algeria. Utilizing a descriptive-analytical approach, data were collected from a random sample of 98 citizens using a newly developed Public Services Scale (PSS) and a Quality of Life Scale. Data were analyzed using simple linear regression via SPSS. The findings revealed a significant predictive power of public services on citizens' quality of life, accounting for 8% of the variance, $F(1,96)=17.12, p<.01$. These results underscore the critical role of urban infrastructure and public utility development in enhancing subjective quality of life within the local community.

Keywords: Public Services, Quality of Life (QoL), Citizen Satisfaction, urban infrastructure, Médéa City.

1.Introduction:

Citizens in cities address their living conditions in diverse ways, depending on their available resources and infrastructural context. Public services significantly influence their decisions, attitudes, and interactions with the urban environment, making the effective management and provision of these services critically important. Quality of life plays a vital role, as it impacts their ability to adapt to demographic and social challenges and to attain psychological stability and mental well-being. Access to and utilization of public services affect not only social relationships but also social functioning and individual satisfaction. Satisfaction with these services—defined as the capacity to recognize and evaluate institutional responses in various contexts—is strongly correlated with quality of life. In environments where citizens encounter infrastructural, social, and personal pressures, the development of public service standards enables them to cope more effectively with the challenges of urban life.

2. Problem

Ibn Khaldun posited that humans are inherently social beings, a characteristic that fosters community security and provides essential life necessities. Historically, this intrinsic social nature has driven a demographic shift: urban populations have steadily grown, while rural and desert populations have declined due to limited access to these necessities. Following the Industrial Revolution in the 19th century and the technological advancements of the 20th century, this urban expansion accelerated significantly. A United Nations report projects that by 2025, 81% of the global

population will reside in urban areas, with 45% in cities and 36% in towns. This growth is largely attributable to advancements in public services.

Public services constitute a fundamental advantage of urban areas by facilitating residents' daily lives, promoting social stability, and enhancing overall living standards. These services contribute to advanced urbanization levels, where the cost of living is comparatively lower, and they underpin the prospect of a prosperous future characterized by reduced socio-economic hardships.

The accessibility and quality of public services—including educational, healthcare, recreational, and social support facilities—play a critical role in shaping the quality of life within urban environments and reflect the degree of societal advancement. Enhanced availability and superior quality of these services are positively correlated with improved living conditions, whereas their scarcity and inadequacy detrimentally impact the overall quality of life.

Adequate housing equipped with a reliable daily water supply, electricity, and gas for lighting and domestic use, along with proper connection to sewage systems, significantly contributes to residents' comfort and sense of security. Additionally, the availability of essential educational, healthcare, and administrative facilities that meet acceptable standards, combined with a comprehensive network of roads and transportation options facilitating residents' mobility to fulfill their fundamental needs, substantially enhances satisfaction with living conditions. The presence of recreational spaces and amenities, including diverse natural and artificial parks, further elevates residents' quality of life. Access to basic utilities such as electricity and water reinforces a sense of safety and well-being within the urban environment.

Public services represent critical foundations upon which the state depends to improve citizens' living standards and overall quality of life, encompassing vital sectors such as health, education, transportation, housing, and urban sanitation. Nonetheless, the quality and availability of these services vary across different cities, correspondingly influencing the levels of citizen satisfaction.

Numerous studies investigated the provision of public services and the quality of life in urban areas, recognizing their crucial role in shaping citizens' well-being. Within this framework, Hossam (2017) asserted that quality of life constitutes a fundamental human right, a basic need, and a legitimate aspiration for every individual. The study's findings indicated that the realization of this right depends on the availability of an appropriate environment, grounded in a genuine democratic system that ensures human security and prioritizes human development. Such conditions are indispensable for individuals to fully exercise their right to an enhanced quality of life.

Nawari (2017) underscored the critical role of public facilities and services in fostering an integrated urban environment as an essential component of the urbanization process. These facilities significantly contribute to economic growth and cultural development by establishing the fundamental conditions required to elevate the population's standard of living.

In a related vein, Benkhoudir & Karkouch (2019) explored the role of green infrastructure in promoting environmentally sustainable urban municipalities. The study highlighted that green infrastructure functions synergistically with traditional grey infrastructure to enhance the quality of life in urban areas. This integration positively impacts the health and social well-being of residents who inhabit, work, and recreate within these green urban spaces.

Regarding the significance of subjective perception in assessing quality of life, Bouamama (2019) emphasized that an individual's self-perception is the most crucial indicator for measuring and

determining quality of life, as it reflects a realistic evaluation of their life experiences and daily circumstances.

Concerning the indicators of quality of life, Al-Enezi (2023) found that these indicators are categorized into physical indicators, which rank highest, followed by psychological and social indicators, and finally occupational indicators. This hierarchy reflects the multidimensional nature of the quality of life concept.

Bakhaled (2024) conducted an applied study on the performance of public services in the province of Ouargla, Algeria, revealing that service performance was limited. The study recommended that public authorities intensify their efforts to meet citizens' expectations and enhance the quality of services delivered.

In a related investigation, Hamoud & Labni (2025) examined the relationship between governance principles and the effectiveness of public oversight. Their findings indicated a direct correlation, whereby effective oversight significantly contributes to the improvement of public service standards within governmental institutions.

In summary, previous studies have highlighted the vital importance of quality of life as a multidimensional concept, emphasized the pivotal role of public services in its enhancement, and underscored the centrality of citizens' perspectives in evaluating both quality of life and service delivery. However, despite their significant scientific contributions, the existing literature reveals that relatively few studies have examined the impact of public services on quality of life from the viewpoint of citizens. This study gap is particularly noteworthy given the critical role of public services in individuals' overall mental health and their psychological and social well-being, as these factors are closely linked to emotional stability within the urban areas. Quality of life is widely recognized as a key determinant of social stability and sustainable development, a notion strongly supported by contemporary urban development models, which suggest that infrastructure and public facilities account for over 70% of the variance in citizens' satisfaction and life stability. As the efficiency and accessibility of these essential services improve, they contribute significantly to enhanced social stability and elevated levels of human security.

This context underscores the urgent need for this study, especially in urban areas undergoing demographic shifts. The city of Médéa is currently experiencing rapid urban expansion alongside significant population growth, raising critical concerns about the adequacy, efficiency, and equity of public services provided. This pressing urban reality necessitates a field-based research study to evaluate whether these public services effectively meet the evolving needs of the population and, consequently, how they influence the quality of life of the city's residents.

In light of this, the need for this study arises, which can be summarized in the following questions:

- To what extent are public services available in the city of Médéa from the Citizens perspective?
- Do public services affect the quality of life of Citizens in Médéa City?

3. Hypothesis:

- Public services affects quality of life of Citizens in Médéa City.

4. Objectives of the study:

- To evaluate the availability of public services in the city of Médéa from the perspective of its citizens.
- To identify the effect of public services on quality of life of Citizens in Médéa City.

5. Importance of the Study: The significance of this study resides in two key dimensions: its theoretical contributions to the fields of environmental psychology and urban sociology, and its practical implications for advancing knowledge and practice within these disciplines:

- Theoretical Significance:

This study contributes to the contemporary literature in psychology and sociology by establishing a predictive relationship between external structural factors—specifically public services standards—and subjective psychological outcomes, such as quality of life. While quality of life has been extensively examined, the direct investigation of its variations in relation to public service provision within expanding urban contexts in Algeria, particularly in the city of Médéa, remains underexplored. Consequently, this study addresses a notable conceptual gap and offers valuable insights to inform and guide future studies in this domain.

- Practical Significance:

The practical value of this study lies in its provision of evidence-based insights that are directly applicable for city planners and municipal authorities in the city of Médéa. By analyzing citizens' perceptions and satisfaction levels, the study offers a diagnostic framework for identifying critical shortcomings in the public service delivery system. As a result, the findings serve as an empirical foundation for strategic decision-making aimed at optimizing public resource allocation, enhancing citizens' well-being, and fostering sustainable urban development.

6. Determinants:

6.1. Public services:

The conceptualization of public services varies depending on the disciplinary perspective of researchers. From a legal perspective, public services are defined as collective-interest activities administered by local authorities to meet social needs beyond market mechanisms, guided by the principles of continuity and equality (Boukhalfa & Abish, 2021; Garib, 2006). However, public services extend beyond institutional contexts to constitute the essential foundation of urban life, enabling human society to function in a sustainable manner. As highlighted by Al-Dulmi (2009), these services are indispensable provisions aimed at facilitating daily life and fulfilling fundamental human needs without profit motives. Importantly, they deliver concrete educational, healthcare, psychological, and environmental benefits that enhance human adaptation, safety, and overall well-being within the urban context. In the current study, public services are defined as the multisectoral municipal facilities available in the city of Médéa, which are evaluated through self-reported satisfaction scores provided by citizens using a public services scale developed by the researchers.

6.2. Quality of life:

the concept of a quality life is associated with the extent to which an individual perceives opportunities for learning, employment, and physical and psychological stability free from disorders. As Habitah and Hamza (2020) articulated, the essence of quality of life resides in an individual's cognitive structure and self-awareness; their perception of, and satisfaction with, available opportunities serves as a key indicator of their capacity to fulfill both primary and secondary needs.

In a related context, the World Health Organization (2012) defines quality of life as “an individual’s perception of their position in life within the cultural and value systems in which they live, and in relation to their goals, expectations, standards, and concerns.” This holistic perspective underscores that quality of life extends beyond the narrow medical focus on physical health to encompass other critical dimensions, including mental well-being, autonomy, social relationships, and connections to the surrounding environment. Moreover, quality of life is closely linked to living conditions, viewed as a complex process integrating basic material needs—such as food, shelter, and access to water and energy—with non-material necessities like education, environmental sanitation, and logistical services. This system is dynamic and continuously evolving in response to the developmental trajectory of society. In the current study, quality of life is defined as the level of psychological and social well-being, along with subjective environmental satisfaction, experienced by citizens of the city of El Médéa. It is assessed through the total scores reported by citizens on a quality of life scale developed by the researchers.

7. Theoretical Framework of the Study

7.1. Public services:

Public services represent a multidimensional sectoral system that manifests in the urban environment through the following strategic axes:

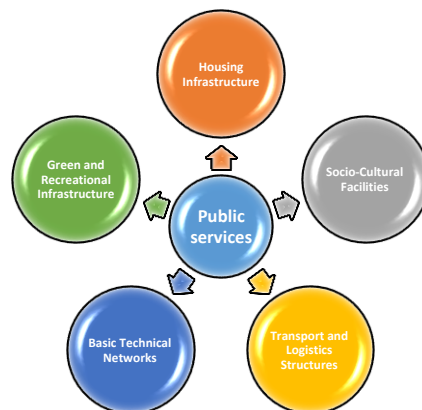


Figure (1): multidimensional sectoral system of Public services

- **Housing Infrastructure:** This involves providing housing that ensures comfort, safety, and stable living conditions for families (Nawari, 2017; Hossam, 2017).
- **Socio-Cultural Facilities:** These include educational institutions, healthcare structures, and administrative and cultural facilities (such as libraries and cultural centers) aimed at meeting collective needs and promoting human development (Nawari, 2017).
- **Transport and Logistics Structures:** Encompassing road networks, mobility systems, and public transportation means that facilitate population movement and support economic activity (Al-Enezi, 2023).
- **Basic Technical Networks:** These consist of drinking water distribution systems, sewage networks, and energy supplies such as electricity and gas, which are vital sectors to ensure the safety of the urban environment (Nawari, 2017).

- **Green and Recreational Infrastructure:** Including green spaces, public parks, and recreational areas that enhance environmental sustainability and contribute to the psychological and aesthetic well-being of the city (Al-Bustanji, 2024)

Functional integration among these sectors—especially when facilitated by digital transformation—is a crucial determinant of quality of life and social well-being. Its psychological, environmental, and social importance is manifested in the following areas:

- **Population Adaptation:** High population density in cities necessitates an integrated network of educational, healthcare, and recreational facilities to support residents' adaptation, promote their stability, and enhance their quality of urban life (Nawari, 2017).
- **Social Cohesion:** Well-planned sports and cultural facilities contribute to strengthening social integration mechanisms and reinforcing bonds among urban residents.
- **Economic Dynamism:** The availability of transportation and communication services plays a pivotal role in facilitating individuals' mobility, stimulating economic sectors, reducing unemployment rates, and underpinning sustainable development (Diman & Barbu, 2012).
- **Psychological Stability:** The absence of basic infrastructure in urban areas is associated with general instability, leading to increased tensions and deviant behaviors that adversely affect community safety.
- **Psychological Security:** There is a reciprocal relationship between service efficiency and psychological well-being; high-quality services enhance residents' sense of safety and psychological stability, which in turn encourages them to maintain these facilities (Bognan & Ansad, 2025).
- **Urban Aesthetics and Environmental Health:** Effective management of the urban environment and sanitation safeguards public health and contributes to the overall aesthetic quality of the city.

7.2. Quality of life:

The concept of quality of life is a dynamic system that transcends the mere absence of disease to encompass an individual's perception of their position in life within the cultural context in which they live, and how this relates to their personal goals, expectations, and standards. This quality is shaped by the continuous interaction between economic, environmental, and psychosocial conditions (Gandoure, 1999; Al Dabsi, 2006; Schalock, 2002) across the following domains:

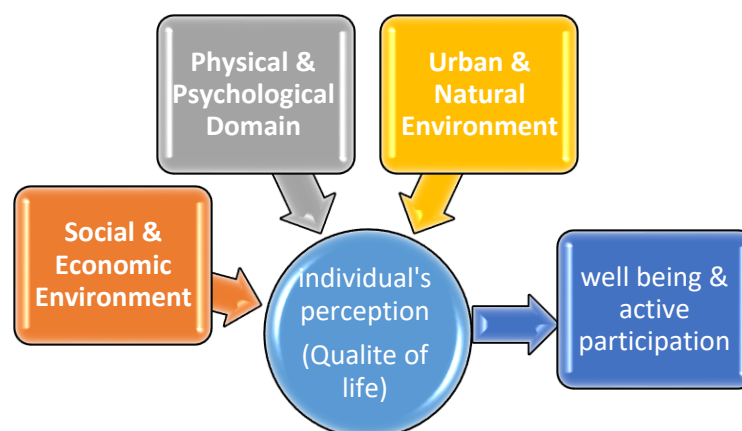


Figure (02): The Dynamic system of Quality of life

- **The Physical and Psychological Domain:** This includes the body's functional capacity, the ability to perform daily activities, and freedom from pain and stress. It also encompasses emotional stability, reflecting an individual's sense of purpose, self-esteem, and confidence in the future.
- **Social and Economic Environment:** This domain involves a stable income that ensures material well-being, access to fair employment opportunities that support work-life balance, and the quality of education, which is a crucial driver of personal growth and skill development.
- **The Urban and Natural Environment (Environmental Domain):** This encompasses the quality of public facilities, the enhancement of infrastructure and transportation networks, and residing in a safe and sustainable physical environment. The per capita availability of public spaces and green areas serves as a vital indicator of the quality of the urban landscape and social well-being

Since quality of life reflects the gap between an individual's expectations and the fulfillment of their actual needs, any deficiency in these areas directly influences their overall well-being assessment. This underscores a strategic responsibility for local authorities and regulatory bodies to continuously evaluate development needs and enhance the efficiency of public services, thereby fostering an environment that supports citizens' choices and promotes their active participation in shaping their own lifestyles.

7.3. city:

In linguistic terms, the word "city" is derived from the Arabic term "madin," which denotes an urban settlement surpassing the size and capacity of a village. Its etymological roots are connected to the concept of "din," meaning law, symbolizing organization and social order (Bin Saut, 2022). The Basic Arabic Dictionary further distinguishes the city by associating it with the material and infrastructural components of civilization—such as urban development, communication networks, and entertainment.

From a sociological perspective, Ibn Khaldun conceptualizes the city as "amsar"—grand structures and monumental buildings realized only through collective cooperation and the collaborative efforts of human hands in planning and construction. Architect Le Corbusier (1925) described the city as a "living organism," whose structure integrates the dimensions of population, economy, transportation, and basic infrastructure, reflecting the culture and development of nations. Contemporary urban sociology, however, defines the city as a complex spatial social system characterized by high population density (Kataf, 2013). In the psycho-environmental context, the city evolves from a mere geographical space delineated by decrees and official documents (Gharib, 2006) into a vital center and perceptual realm designed to fulfill and harmonize the material and psychological needs of its inhabitants (Khalaf Allah, 2005).

7.3.1. The Geographic and Demographic Context of the City of Mida

The city of Mida stands as a significant example of Algeria's ancient urban centers, with historical origins tracing back to the Roman period. It was reconstructed by Prince Belkin ibn Ziri al-Sanhaji in 350 AH, contemporaneously with the founding of the cities of Algiers and Miliana (Al DJilali, 1971). Strategically situated within the Tell Atlas Mountains, Mida serves as a critical nexus connecting the northern and southern regions of Algeria. The city spans an area of 8,700 km², located at an elevation between 920 and 950 meters above sea level, approximately 88 kilometers south of the capital (Saleh, 2024).

The city comprises 64 municipalities distributed across 19 districts and is distinguished by its agricultural and pastoral character, alongside a diverse range of economic, industrial, and tourism activities. El Médéa serves as the state capital, with its urban and social fabric currently divided into two principal components:

The Historic Urban Core: This area encompasses the traditional Ottoman urban layout, including the historic Kasbah district, notable for its ancient mosques, bathhouses, and the old city wall. The wall is punctuated by five historic gates that historically served as the city's entrances—Bab al-Qurt, Bab al-Hada'iq, Bab al-Aqsa, Bab al-Barkani, and Bab Sidi al-Sahrawi.

Modern Urban Neighborhoods: These neighborhoods represent urban expansions established and developed post-independence, driven by population growth and inward migration. Currently, the city comprises 28 organized neighborhoods (Drees, 2021). This rapid urban expansion forms the primary impetus for the present study, which investigates the adequacy of newly established public services in meeting citizens' expectations and the consequent impact on their quality of life.

8. Materials and Methods:

8.1. Design: This study adopts a descriptive approach, which is most appropriate for investigating the extent to which the independent variable (public services) contributes to the dependent variable (quality of life).

8.2. Participants: The main study sample consisted of 98 citizens from Médéa city, with an average age of 38 years. This sample was selected using a cluster random sampling method.

The sample group is characterized by the following features.

Table 01: Distribution of the Sample's Socio-Demographic Characteristics .

Variables	Categories	Frequency (f)	Percentage (%)	Mean (M)	Standard Deviation (SD)
Gender	Male	55	56.10	1.42	0.49
	Female	43	43.87		
Age	20–30 years	14	14.30	2.65	1.009
	31–40 years	33	33.67		
	41–50 years	31	31.60		
	More than 50 years	20	20.40		
Educational Level	Secondary	19	19.40	4.50	5.04
	University (Bachelor's)	62	63.26		
	Postgraduate	17	17.30		
Marital Status	Single	36	36.70	1.68	0.63
	Married	62	63.26		

Table 1 presents the results of the descriptive statistical analysis, which reveal important socio-demographic patterns across the different components of the sample.

The data indicates that males constitute the majority of the research sample, accounting for 56.10% ($f = 55$), whereas females represent 43.87% ($f = 43$). The calculated mean for this variable is 1.42 ($M = 1.42$) with a standard deviation of 0.49 ($SD = 0.49$). This low standard deviation reflects

minimal dispersion around the mean, demonstrating that the gender distribution data is highly homogeneous.

Regarding the age cohorts, the highest percentage is concentrated within the 31–40 years category, representing 33.67% ($f = 33$), closely followed by the 41–50 years cohort at 31.60% ($f = 31$). Citizens older than 50 years account for 20.40% ($f = 20$), while the youngest cohort (20–30 years) exhibits the lowest representation at 14.30% ($f = 14$). The overall mean age index stands at 2.65 ($M = 2.65$) with a standard deviation of 1.009 ($SD = 1.009$), which statistically confirms the homogeneity of the participants' age distribution.

In terms of educational background, university graduates (Bachelor's degree holders) represent the dominant segment of the sample at 63.26% ($f = 62$). Secondary education graduates account for 19.40% ($f = 19$), while postgraduate qualification holders constitute 17.30% ($f = 17$). The mean value for educational level is 4.50 ($M = 4.50$) with a standard deviation of 5.04 ($SD = 5.04$), establishing internal consistency and homogeneity across the sampled institutional cohorts.

Finally, the statistical feedback for marital status indicates that married individuals comprise the largest proportion of the sample, matching the educational level peak at 63.26% ($f = 62$). Conversely, single participants represent 36.70% ($f = 36$) of the evaluated cohort. This distribution yields a mean of 1.68 ($M = 1.68$) and a standard deviation of 0.63 ($SD = 0.63$), which mathematically indicates that the marital status data points are clustered robustly around the central tendency, reinforcing data homogeneity.

8.3. Instruments:

8.3.1. Public Services Availability Checklist :

The Public Services Availability Checklist developed by the researchers is designed to audit the objective presence, accessibility, and spatial proximity of essential public utilities within the municipal area of Médéa. It includes a detailed, itemized assessment covering cultural facilities (binary: Yes/No), educational proximity (categorical: Near/Far), healthcare availability, administrative services, technical infrastructure such as water, sanitation, electricity, and gas, as well as public lighting and green spaces.

8.3.1.1. The Public Services Satisfaction Scale (the PSSS)

The PSS scale developed by the researchers (2026) is designed to assess citizens' subjective satisfaction with urban infrastructure across five core structural dimensions: Housing Infrastructure, Socio-Cultural Facilities, Transport and Logistics Structures, Basic Technical Networks, and Green and Recreational Infrastructure.

The PSSS is a 20-item self-report measure rated on a standard 5-point Likert scale, ranging from 1 ("Strongly Disagree") to 5 ("Strongly Agree"). The scoring system assigns values from 1 to 5, where 1 indicates the lowest level of satisfaction regarding public service delivery and 5 represents the highest level of satisfaction. The scale's total score is calculated by summing up the item responses, with higher aggregate scores reflecting superior perceived public service quality.

Table 02: PSS scale dimensions along with the item number.

PSS Dimensions	item number
Housing Infrastructure	1-4
Socio-Cultural Facilities	5-8

Transport and Logistics Structures	9-12
Basic Technical Networks	13-16
Green and Recreational Infrastructure	17-20

8.3.1.2. Psychometric Properties of the Public Services Satisfaction Scale (PSSS)

To ensure the structural validity and reliability of the Public Services Satisfaction (PSS) scale, its psychometric properties were thoroughly assessed using measures of internal consistency and Cronbach's alpha reliability coefficients.

8.3.1.3. Internal Consistency Validity

The structural validity of the PSS scale was evaluated by calculating the Pearson correlation coefficients (r) between each individual dimension and the overall composite score. This analysis assesses the extent to which each dimensions aligns with **the overall score** of public service satisfaction. The findings are presented in Table 3.

Table 03: Pearson Correlation Coefficients between PSS Dimensions and the Total Score

Dimensions	the overall score (r)
Housing Infrastructure	0.65**
Socio-Cultural Facilities	0.61**
Transport and Logistics Structures	0.71**
Basic Technical Networks	0.73**
Green and Recreational Infrastructure	0.62**

Note. **Correlation is significant at the 0.01 level (2-tailed).

Table 3 shows that the correlation coefficients between the dimensions and the overall score of the scale ranged from 0.61 to 0.73, all of which are statistically significant at the 0.01 level. These are strong correlation coefficients, indicating consistency between the dimensions and the total score, which serves as an indicator of validity.

8.3.1.4. Reliability Analysis

To assess the instrument's stability and internal consistency, Cronbach's alpha (α) coefficients were calculated for all dimensions. The reliability coefficients for each dimensions are summarized in Table 4.

Table 04: Cronbach's Alpha Reliability Coefficients for the PSS Scale Dimensions (N = 98)

Dimensions	Number of items	Cronbach's alpha (α)
Housing Infrastructure	4	0.85
Socio-Cultural Facilities	4	0.78
Transport and Logistics Structures	4	0.75
Basic Technical Networks	4	0.81

Green and Recreational Infrastructure	4	0.76
Total scale value	20	0.84

Table 4 shows that the values of the Cronbach's alpha reliability coefficient for the PSS scale and its dimensions ranged from 0.75 to 0.85, which are considered high values. This indicates that the scale has a high degree of reliability and can be effectively applied.

8.3.2. The Subjective Quality of Life Scale (QoLS)

The Subjective Quality of Life Scale (QoLS), developed by the researchers (2026), is designed to assess citizens' multi-dimensional well-being and perceived life satisfaction within the urban environment of Médéa City. This instrument captures subjective well-being across three core structural domains: The Physical and Psychological Domain, The Social and Economic Environment, and The Urban and Natural Environment.

The QoLS is a 12-item self-report measure rated on a standard 5-point Likert scale, ranging from 1 ("Strongly Disagree") to 5 ("Strongly Agree"). The scoring system assigns values from 1 to 5, where 1 indicates the lowest level of subjective quality of life and 5 represents the highest perception of personal well-being. The scale's total score is calculated by summing up the responses across all twelve items, with higher aggregate scores reflecting a superior level of overall perceived quality of life.

Table 05: QoL scale dimensions along with the item number

QoL Dimensions	item number
The Physical and Psychological Domain	1-4
Social and Economic Environment	5-8
Urban and Natural Environment	9-12

8.3.2.1. Psychometric Properties of The Subjective Quality of Life Scale (QoLS)

To ensure the structural validity and reliability of The Subjective Quality of Life Scale (QoLS), its psychometric properties were thoroughly assessed using measures of internal consistency and Cronbach's alpha reliability coefficients.

6.2.2.2. Internal Consistency Validity

The structural validity of the QoL scale was evaluated by calculating the Pearson correlation coefficients (r) between each individual dimension and the overall composite score. This analysis assesses the extent to which each dimensions aligns with **the overall score** of public service satisfaction. The findings are presented in Table 6.

Table 06: Pearson Correlation Coefficients between QoL Dimensions and the Total Score.

Dimensions	the overall score (r)
The Physical and Psychological Domain	0.76**
Social and Economic Environment	0.81**
Urban and Natural Environment	0.69**

Note. **Correlation is significant at the 0.01 level (2-tailed).

Table 6 shows that the correlation coefficients between the dimensions and the overall score of the scale ranged from 0.69 to 0.81, all of which are statistically significant at the 0.01 level. These are strong correlation coefficients, indicating consistency between the dimensions and the total score, which serves as an indicator of validity.

8.3.2.3. Reliability Analysis

To assess the instrument's stability and internal consistency, Cronbach's alpha (α) coefficients were calculated for all dimensions. The reliability coefficients for each dimensions are summarized in Table 4.

Table 07: Cronbach's Alpha Reliability Coefficients for the QoL Scale Dimensions (N = 98).

Dimensions	Number of items	Cronbach's alpha (α)
The Physical and Psychological Domain	4	0.85
Social and Economic Environment	4	0.79
Urban and Natural Environment	4	0.76
Total scale value	12	0.82

Table 7 shows that the values of the Cronbach's alpha reliability coefficient for the QoL scale and its dimensions ranged from 0.76 to 0.85, which are considered high values. This indicates that the scale has a high degree of reliability and can be effectively applied.

9. Data analysis :

9.1. Analysis of the Exploratory Research Question

To address the primary exploratory research question: "To what extent are public services available in the city of Médéa from the citizens' perspective?" descriptive statistical analyses were conducted using SPSS (Version 25.0). Frequencies (f), percentages (%), mean scores (M), and standard deviations (SD) were calculated based on the citizens' evaluations. The findings are compiled in Table 8.

Table 8 Descriptive Statistics for the Public Services (N = 98)

Sectoral Domain	Specific Facility / Category	Yes / Close (%)	No / Far (%)	Mean (M)	Standard Deviation (SD)
Socio-Cultural	Cultural Center	43.90	52.00	1.54	0.50
	Public Library	64.30	33.70	1.34	0.47
Educational & Health	Primary School	81.60	13.30	1.86	0.34
	Middle School	74.50	20.40	1.78	0.41
	High School	58.20	38.80	1.80	2.03
	Healthcare Center	60.20	34.70	1.46	1.10
Sports & Recreational	Sports Field / Stadium	55.10	41.80	1.43	0.49
	Gymnasium / Sports Hall	43.90	53.10	1.54	0.50

	Amusement Park	6.10	88.80	1.93	0.24
	Zoo	4.10	90.80	1.95	0.20
Administrative	city Branch Office	71.40	26.50	1.27	0.44
Transport	Public Transportation	76.50	22.40	1.22	0.42
Public Utilities	Public Street Lighting	84.70	14.30	1.14	0.35
Technical Networks	Drinking Water Supply	87.80	11.20	1.11	0.31
	Sewage & Sanitation Network	89.80	6.10	1.27	1.44
	Electricity and Gas Utilities	88.80	10.20	1.10	0.30
Environmental	Urban Green Spaces	20.40	77.60	1.79	0.40
	Public Parks	12.20	85.70	1.87	0.33
Sanitation	Designated Waste Disposal Sites	70.40	26.50	1.27	0.44

Note. Percentages represent valid responses. Missing data for specific items (e.g., Drinking Water, $n = 1$) were excluded from the percentage verification to maintain a cumulative valid baseline of 100%.

The findings presented in Table 8 reveal an uneven spatial distribution of public services throughout Médéa City, characterized by the coexistence of relatively well-established facilities alongside notable infrastructural deficiencies. Regarding socio-cultural infrastructure, the availability of cultural amenities exhibits a clear disparity. Public libraries show relatively extensive urban coverage, with 64.30% of respondents reporting their presence. In contrast, cultural centers are markedly insufficient, as 52.00% of participants reported that such facilities are entirely absent in their neighborhoods ($M=1.54, SD=0.50$). These results highlight a significant structural gap in community-based socio-cultural infrastructure, which constrains opportunities for social interaction, cultural participation, and community development.

Basic educational facilities exhibit optimal proximity, particularly primary schools, with 81.60% of respondents indicating close access ($M=1.86, SD=0.34$), followed by middle schools at 74.50%. However, high schools (58.20%) and healthcare centers (60.20%) display markedly higher variability, reflected in increased standard deviations ($SD=2.03$ and $SD=1.10$, respectively). This significant dispersion statistically underscores pronounced spatial disparities and geographical polarization in the distribution of secondary education and public healthcare services within the city.

While basic sports fields exhibit moderate availability (55.10%), essential recreational infrastructure is virtually nonexistent. A vast majority of respondents confirmed the complete absence of amusement parks (88.80%) and zoos (90.80%). The exceptionally low standard deviations ($SD=0.24$ and $SD=0.20$, respectively) statistically validate a strong consensus among citizens regarding the city's recreational deficiencies.

Administrative, Transport, and Core Technical Networks: These sectors represent the most optimized services in Médéa City. High availability rates were observed for municipal administrative offices (71.40%), public transportation (76.50%), and street lighting (84.70%). Similarly, technical networks demonstrate extensive operational coverage, with sewage systems (89.80%), electricity and

gas (88.80%), and drinking water supply (87.80%) all showing strong presence. The structural stability of these networks is further confirmed by minimal data dispersion, reflecting consistent city performance.

the environmental domain reveals a significant structural deficiency. Urban green spaces are critically underrepresented, with 77.60% of respondents reporting their absence, and public parks are similarly lacking, with 85.70% indicating unavailability. These findings confirm a profound ecological deficit within Médéa's urban core ($M=1.87, SD=0.33$).

In summary, the results indicate that while the city of Médéa possesses adequate technical and administrative facilities as well as primary education services, it experiences a significant structural deficit in green spaces and recreational infrastructure. This imbalance reflects a clear spatial disparity that could adversely impact the quality of life for its citizens.

9.2. Hypothesis Testing:

To test the foundational hypothesis: "Public services affects quality of life of Citizens in Médéa City.", a simple linear regression analysis was conducted using SPSS (Version 25.0), to assess Public services as a predictor of quality of life. Preliminary analyses were performed to ensure normality and homoscedasticity

Normality of Residuals

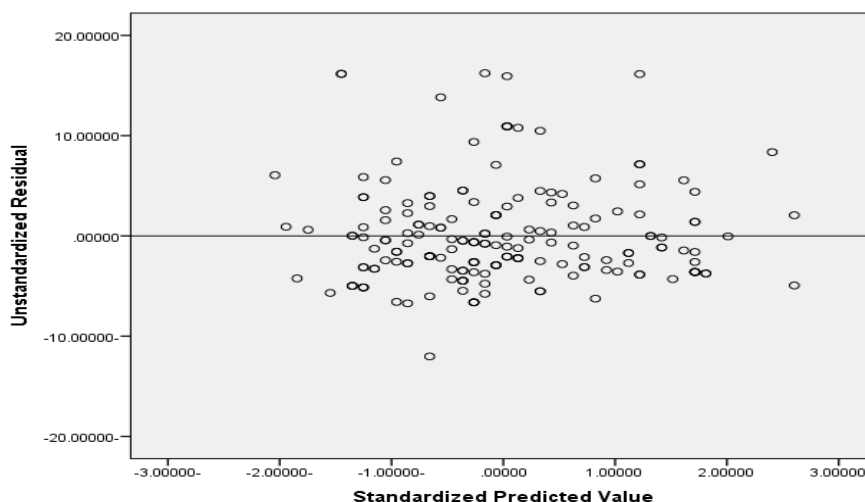


Figure (3): Scatter Plot

The distribution of points appears random and evenly spread around the horizontal axis (zero), with no discernible pattern or funnel shape. This indicates that the variance of residuals remains constant across all levels of predicted values, thereby satisfying the assumption of homoscedasticity. In other words, the regression model does not suffer from heteroscedasticity, which supports the validity of the linear regression estimates.

Homoscedasticity

Over 95% of the standardized residuals fell within the range of -2 to +2, which further supports the assumption of normality. Meeting this assumption strengthens the reliability of statistical inference derived from the regression analysis.

Pearson correlation (r) and simple linear regression analyses were concurrently modeled. **Table 9** summarizes the model specifications, analysis of variance (F-test), and regression coefficients.

Table 9 Simple Linear Regression: Public Service Satisfaction Predicting Quality of Life ($N = 98$)

Variables	B	SE	β	t	p
Constant	16.22	1.68		9.64**	< .001
Public Services Satisfaction (X)	0.14	0.03	0.29	4.13**	.012
N= 98; R=.29; R ² =.08 (Adjusted R ² =.07); F (1,96)=17.12, p<.01.					

Note: **Significant at the 0.01 level (2-tailed).

As displayed in Table 9, Pearson's correlation coefficient indicates a statistically significant, positive relationship between public service satisfaction and citizens' quality of life ($r = .29$, $p < .05$), indicating a 95% confidence interval for a positive association. The model summary reveals a coefficient of determination of $R^2 = .08$. This indicates that public service satisfaction possesses a statistically significant predictive capacity, accounting for 8.0% of the variance in the subjective quality of life among citizens. The remaining 92.0% of the variance is attributed to extraneous variables not accounted for in this model.

The analysis of variance (ANOVA) confirms the significance of the regression model, $F(1, 96) = 17.12$, $p < .01$. Consequently, the null hypothesis is rejected, and the alternative hypothesis is accepted. The independent (public service satisfaction) variable significantly contributes to the prediction of the dependent variable (quality of life). The predictive structural relationship can be mathematically expressed via the following regression equation:

$$\hat{y} = 16.22 + 0.14 X$$

Where:

$\hat{Y}$: Predicted Subjective Quality of Life score.

X: Perceived Public Services Satisfaction score.

The regression coefficient ($B = 0.14$, $t = 4.13$, $p < .01$) indicates that for every one-unit increase in citizen satisfaction with public services, the quality of life is expected to increase by 0.14 units.

10. Results and Discussion

10.1. Discussion of the First Exploratory Question:

The primary aim of this study was to assess the extent to which satisfaction with public services predicts the subjective quality of life among citizens in Médéa City, while also examining the functional availability of essential city infrastructure. The descriptive data provided foundational insights that illuminate the relationship between the urban utility environment and citizen well-being.

To validate these assessments, it is essential to analyze the social and demographic characteristics of the sample. The study included 98 participants from active socio-professional sectors (such as Youth and Sports, State Property, Tax, and Post/Telecommunications directorates). The demographic profile reveals a slight male predominance (56.10%), with the majority of participants aged between 31 and 50 years (65.27%). This concentration suggests that the sample primarily represents the socially and economically active core of Médéa's population—individuals who continuously engage with city services, grounding their evaluations in everyday practical experience.

Furthermore, the high proportion of university-educated individuals (63.26%) significantly shapes the evaluative outcomes. Methodological studies indicate that higher educational attainment equips citizens with the cognitive and critical skills necessary to assess public service delivery objectively and analytically (Lamsal & Gupta, 2022; Thi Hong et al., 2025). Additionally, since the majority of respondents are married (63.26%), their quality-of-life perceptions are closely linked to

domestic and family needs—such as local schooling, healthcare access, and neighborhood transportation networks (Xie et al., 2022). This demographic composition reduces response bias and reinforces the validity and realism of the diagnostic feedback.

The inventory of public services in Médéa City reveals a stratified distribution that can be categorized into three distinct operational tiers, the technical networks—including electricity, natural gas, drinking water supply, and public sewage systems—along with public street lighting and transportation networks, demonstrated exceptionally high proximity and availability. This optimal coverage reflects localized development strategies that prioritize primary physical infrastructure as a foundation for social stability and basic urban livability.

Furthermore, the high perceived availability of administrative branches (71.40%) is directly linked to the national e-governance transition. As noted by Benlahcène (2024), the digitization of civic documents and public administrative platforms has significantly reduced institutional barriers, streamlined user access, and consequently enhanced public satisfaction regarding the accessibility of core administrative services.

In addition, Basic educational infrastructure, including primary and middle schools, demonstrated solid availability indices, consistent with institutional efforts to minimize student commuting distances. However, healthcare centers, public libraries, and secondary schools received moderate and highly dispersed ratings. This variability highlights an uneven geographic distribution of social infrastructure across Médéa's city neighborhoods, resulting in localized disparities where certain administrative zones remain underserved.

In stark contrast to the optimized technical utilities, green spaces, amusement parks (6.10% availability), and zoos (4.10%) face critical shortages. This environmental deficit reflects a common imbalance in urban planning, in which city resources prioritize tangible economic and engineering infrastructure while marginalizing ecological and recreational assets.

literature emphasizes that green infrastructure and recreational spaces are not mere luxuries but essential for maintaining public mental health and alleviating urban stressors. Studies demonstrate that social interactions within natural public environments significantly strengthen social cohesion, reduce systemic anxiety in adults, and promote psychological balance in children (Khelifi, 2025). This perspective aligns with the theoretical framework of Feloussiya, Hadji, and Maatouk (2021), who contend that environmental integration is a psychological imperative for fulfilling human socio-emotional needs, regulating behavior, and fostering emotional stability.

Consequently, these findings reveal a misalignment within Médéa City's urban environment, where technical saturation coexists with ecological scarcity. Sustaining subjective quality of life requires more than physical infrastructure; it demands an urban landscape that addresses higher-order human needs such as leisure, community interaction, and connection with nature. When city planning prioritizes commercial and technical functionality while overlooking the experiential needs of individuals, the urban environment risks becoming a chronic source of psychological stress (Houmidat & Djelloud, 2024).

10.2. Discussion of the Main Hypothesis:

The results provide strong validation of the central hypothesis, demonstrating that citizens' satisfaction with public services serves as a statistically significant predictor of their quality of life. This relationship is robustly supported by simple linear regression analyses.

The initial Pearson correlation revealed a significant positive association between public service satisfaction and quality of life ($r=.29, p<.05$). This directional covariance indicates that as citizens' qualitative evaluations of city service delivery improve, their cognitive appraisal of well-being and overall life satisfaction correspondingly increase.

From a socio-psychological perspective, public utilities form the foundation of daily human experience. By addressing essential health, administrative, environmental, and security needs, these services directly enhance individuals' perceptions of well-being. As Hedili (2021) emphasizes, institutional competence in fulfilling public healthcare demands serves as a central driver of social safety nets, supporting the preservation and growth of human capital. Simultaneously, stabilizing civic safety networks meets fundamental security needs, fostering structural stability and protective cohesion among citizens (Elaid & Ichbouden, 2021).

Moreover, the modern shift toward digitized public administration (e-governance) acts as a crucial catalyst in accelerating service delivery, effectively reducing bureaucratic friction, time delays, and administrative anxiety. This systemic improvement strengthens the citizen-state relationship, bolsters institutional trust, and reinforces the perceived legitimacy of public governance frameworks.

The regression summary indicated a coefficient of determination of $R^2=.08$, showing that public service satisfaction explains 8.0% of the variance in citizens' quality of life. Although this proportion may seem modest, it holds significant explanatory value within behavioral and psychophysical research. Quality of life is a multidimensional construct influenced by a complex interplay of socio-economic factors, psychological characteristics, family dynamics, and income stability. Therefore, the remaining 92.0% of the variance is logically attributed to these unmodeled external variables, such as psychological resilience, household income, and interpersonal stability.

The overall validity of the predictive model is statistically confirmed by the analysis of variance,

$F(1,96)=17.12, p<.01$. Additionally, the highly significant regression slope coefficient, $t=4.13, p<.01$, verifies that the effect of public service satisfaction on quality of life is statistically robust, supporting the rejection of the null hypothesis.

These findings align closely with recent urban literature, which conceptualizes quality of life as a dual construct integrating objective material fulfillment with subjective well-being. Enhancing foundational infrastructure—particularly regional healthcare, public transportation networks, and municipal administrative accessibility—emerges as a key mechanism for fostering social anchoring and psychological balance (Sáenz Barros et al., 2025).

When citizens perceive city service delivery as equitable and efficient, it inherently enhances institutional credibility and transparency (Benlahcène, 2024). Ultimately, the strategic use of digitization to streamline public services not only optimizes operational workflows but also serves as a intervention that reduces systemic stressors, lowers anxiety levels, and elevates the collective quality of life within the urban environment.

In sum, this study reinforces the idea that satisfaction with public services transcends mere infrastructure, constituting a vital socio-environmental asset that significantly enhances citizens' quality of life. Through the optimization of service delivery, equitable allocation of resources, and the strategic adoption of digital innovations, an efficient urban environment empowers individuals to

mitigate the adverse effects of urban stressors and foster psychological well-being. These findings underscore the importance of aligning urban development policies with the psychological needs of citizens, thereby positioning high-quality public services as a foundational element in cultivating community resilience, institutional trust, and sustained civic satisfaction.

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