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Quality of Life in a Historic Urban Core and periphery: A Case of Shahjahanabad (Delhi)

Shivani Goel*
Indira Gandhi Delhi Technical University for Women (IGDTUW), Delhi, shivani004phd22@igdtuw.ac.in
Dr. Monali Wankar
Indira Gandhi Delhi Technical University for Women (IGDTUW), Delhi, monaliwankar@igdtuw.ac.in
Prof. (Dr.) Rashmi Ashtt
Indira Gandhi Delhi Technical University for Women (IGDTUW), Delhi, rashmiashtt@igdtuw.ac.in

Abstract

India is characterized by a rich legacy of historic cities where layered built environments and cultural heritage significantly shape everyday life. Delhi stands out as one of the oldest continuously inhabited cities in the world. Within it, Shahjahanabad—commonly known today as Old Delhi represents a significant historic core, shaped by centuries of development and transformation. This area is characterized by high population density, mixed land use, and increasing urban pressures, making it an important setting for understanding Quality of Life (QoL) in historic environments. This study explores QoL in Shahjahanabad by comparing two distinct areas: Chandni Chowk, which forms the dense urban core, and Daryaganj, located at the periphery. It focuses on the physical built environment, including housing conditions, the quality of surrounding spaces, and access to essential urban services.The findings from the study highlight clear differences in how residents perceive their quality of life in these two areas. These variations are closely linked to the condition and characteristics of the built environment. Overall, the study demonstrates the value of perception-based assessments in capturing lived experiences and emphasizes the importance of planning strategies that are sensitive to the unique challenges of dense, historic urban areas.

Keywords: Quality of Life (QoL); Historic Urban Environment; Physical Built Environment; Shahjahanabad (Old Delhi)

1. Introduction

1.1 Background

Historic cities are not merely repositories of cultural heritage but function as dynamic living environments that continue to accommodate residential, commercial, and social activities. Unlike preserved monuments or isolated heritage precincts, historic urban cores such as Shahjahanabad represent complex socio-spatial systems where everyday life unfolds within layers of historical development (Bandarin & van Oers, 2012; Dupont, 2004). These areas are characterized by dense built fabric, mixed land use, and continuous adaptation over time, reflecting both continuity and transformation in urban life (UN-Habitat, 2020; Roders & van Oers, 2011).

However, the dual role of historic cities as cultural assets and living environments creates an inherent tension between conservation and livability. Conservation efforts often prioritize the protection of architectural character, urban morphology, and heritage value, sometimes restricting physical alterations and infrastructure upgrades (Pendlebury, 2013; Jokilehto, 1999). In contrast, residents' Quality of Life (QoL) depends on adequate housing conditions, access to services, infrastructure efficiency, and environmental comfort, which require continuous adaptation of the built environment (Veldpaus et al., 2013; Pacione, 2003). Planning frameworks such as the Master Plan for Delhi emphasize infrastructure provision and redevelopment; however, implementation challenges persist in historic areas due to their complex morphology and regulatory constraints (Delhi Development Authority [DDA], 2021).

Quality of Life is widely understood as a multidimensional concept comprising both objective conditions (housing, infrastructure, services) and subjective perceptions (individual satisfaction and lived experiences) (Marans & Stimson, 2011; Sirgy et al., 2006). While objective indicators are commonly prioritized in planning policies, subjective assessments are often overlooked, despite their importance in capturing residents' everyday experiences (Veenhoven, 2000; Marans, 2012).

This conflict becomes more pronounced in high-density historic cores, where increasing population pressure, commercialization, and tourism intensify the demand on limited infrastructure. In such contexts, strict conservation approaches may inadvertently lead to deteriorating living conditions, overcrowding, and infrastructural stress (Steinberg, 1996). Reports and redevelopment proposals for Shahjahanabad have similarly highlighted issues of congestion, inadequate services, and pressure on infrastructure systems (Shahjahanabad Redevelopment Corporation [SRDC], 2008; Delhi Urban Arts Commission [DUAC], 2004). Conversely, unregulated development aimed at improving livability can compromise heritage value and urban character (Tweed & Sutherland, 2007). Therefore, balancing conservation and livability remains a critical challenge in historic urban areas (Orbaşlı, 2000; Larkham, 1996).

In Shahjahanabad, this tension is evident in the contrast between organically developed core areas such as Chandni Chowk and relatively planned peripheral areas like Daryaganj. Shahjahanabad, established in the 17th century as the Mughal capital, continues to function as a dense mixed-use urban area with significant commercial and residential activity (Dupont, 2004; Nayar, 2011; SRDC, 2008). While Chandni Chowk retains its historic character and intense urban activity, it faces challenges related to congestion, inadequate housing, and infrastructure overload. In contrast, Daryaganj, developed during the colonial period, exhibits relatively better spatial organization, wider streets, and improved service provision, consistent with planning interventions in the area (DUAC, 2004; DDA, 2021). This contrast highlights the need to examine historic cities not only as heritage sites but as lived environments where Quality of Life becomes a crucial parameter for sustainable urban management.

1.2 Study Context and Case Selection

Historic urban areas evolve over time through successive phases of development, resulting in variations in built form, density, and infrastructure within the same city (Bandarin & van Oers, 2012; UN-Habitat, 2020). These variations significantly influence living conditions, access to services, and overall residential experience. In Shahjahanabad (Delhi), such differences are evident between older organically developed areas and those shaped by later planning interventions. Chandni Chowk represents one of the oldest parts of the city, characterized by dense built fabric, narrow streets, mixed land use, and intense commercial activity, contributing to congestion and pressure on infrastructure (Steinberg, 1996; Dupont, 2004; SRDC, 2008). In contrast, Daryaganj developed during the British period as an extension of the historic city and exhibits relatively wider streets, a more organized layout, and comparatively lower density. The planned nature of its development has enabled better spatial organization and infrastructure provision, influencing residential conditions and environmental quality (Nayar, 2011; DUAC, 2004). These two areas are selected as case study locations to examine variations in Quality of Life within Shahjahanabad, reflecting differences in historical development patterns and their impact on present-day living conditions.

1.3 Problem Statement

Historic urban areas, despite their cultural and economic significance, often face challenges related to declining living conditions and infrastructure stress. Quality of Life (QoL) in such areas remains insufficiently explored, particularly from the perspective of residents lived experiences. Planning and redevelopment initiatives tend to focus on physical improvements, heritage conservation, and tourism development,

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while everyday residential concerns receive comparatively less attention (Pendlebury, 2013; UN-Habitat, 2020). Consequently, issues such as overcrowding, congestion, inadequate housing conditions, and inefficient service delivery persist even in areas undergoing redevelopment. This indicates a gap between physical interventions and actual user experience, highlighting the need to assess QoL through residents' perceptions.

1.4 Research Gap

In Shahjahanabad, existing planning frameworks and redevelopment initiatives have largely focused on commercial revitalization and heritage conservation, supported by its role as a major economic hub (DDA, 2021; SRDC, 2008). While social infrastructure and economic activity are relatively well-established, reports indicate that the upgradation of physical infrastructure—particularly housing conditions, basic services, and street-level environments—remains inadequate (SRDC, 2008; DUAC, 2004). This highlights a critical gap where the physical built environment does not sufficiently support residents' everyday living conditions despite the area's economic vitality. Consequently, there is a need to examine Quality of Life through the lens of physical infrastructure, which remains underexplored, particularly from a perception-based perspective in historic urban contexts.

1.5 Aim

The aim of this study is to assess the perceived Quality of Life in selected areas of Shahjahanabad (Delhi).

1.6 Objectives

- To identify Quality of Life indicators relevant to historic urban environments through literature review and expert validation
- To understand residents perception of housing conditions, infrastructure, and accessibility
- To examine variations in perceived Quality of Life across the case study areas

2. Literature Review

2.1 Quality of Life

Quality of Life (QoL) is a multidimensional concept that encompasses individuals overall well-being in relation to their physical, social, economic, and environmental conditions. It extends beyond material living standards to include satisfaction with living conditions, access to services, and environmental quality (Veenhoven, 2000). The World Health Organization defines QoL as individuals' perception of their position in life within the context of their culture, value systems, and expectations, emphasizing its inherently subjective nature (WHOQOL Group, 1998). Urban QoL studies have increasingly focused on the relationship between the built environment and human well-being, recognizing that housing conditions, infrastructure, and accessibility significantly influence everyday life (Marans, 2012). In dense urban settings, particularly historic areas, QoL becomes closely linked to spatial constraints, environmental comfort, and service efficiency.QoL assessment is broadly categorized into objective and subjective approaches. Objective measures rely on quantifiable indicators such as income levels, housing size, infrastructure provision, and access to services. These indicators are useful for comparison and policy evaluation but may not fully capture how individuals experience their environment (UN-Habitat, 2020).In contrast, subjective approaches focus on individuals' perceptions, satisfaction levels, and lived experiences. Studies have shown that perception-based assessments provide deeper insights into urban livability, as they reflect how residents interpret and respond to their surroundings (Veenhoven, 2000; Marans, 2012). Particularly in complex urban environments, subjective evaluations help reveal issues that may not be evident through objective measurements alone. However, subjective assessments are often structured around physical indicators of the built environment, such as housing conditions, infrastructure, and accessibility. This integration allows for a more comprehensive understanding of QoL by linking measurable conditions with user experience.

2.2 Quality of Life in Historic Urban Areas

Historic urban areas present distinct challenges for QoL assessment due to their compact morphology, mixed land use, and layered development patterns. The concentration of residential, commercial, and cultural functions within limited space often leads to competing demands on infrastructure and public space (Bandarin & van Oers, 2012; Orbaşlı, 2000). Empirical studies indicate that residents in historic areas frequently experience issues such as overcrowding, inadequate housing conditions, limited open spaces, and pressure on basic services (Veldpaus et al., 2013; Steinberg, 1996). At the same time, these areas offer advantages such as proximity to economic opportunities and strong socio-cultural identity, creating a complex relationship between livability and heritage value (Tweed & Sutherland, 2007).In rapidly urbanizing contexts, these challenges are further intensified by population growth and increasing commercialization, which strain existing infrastructure systems (Nijkamp & Perrels, 2014). As a result, discrepancies often emerge between the availability of services and their effective usability, influencing residents' perception of Quality of Life.

2.3 Built Environment and Quality of Life

The built environment plays a fundamental role in shaping Quality of Life, as it forms the physical setting within which daily activities, social interactions, and access to opportunities occur. It includes urban form, land use patterns, infrastructure systems, and spatial organization, all of which influence how individuals interact with their surroundings (Pacione, 2003; Marans & Stimson, 2011). The relationship between the built environment and QoL is well established in urban studies, with evidence suggesting that the quality, efficiency, and organization of physical spaces directly affect well-being and daily functioning (Gehl, 2011; Kent & Thompson, 2014). Within this broader framework, the physical aspects of the built environment become particularly significant in determining living conditions. Housing conditions—such as adequacy of space, ventilation, lighting, and structural quality—have a direct impact on health, comfort, and overall well-being (Brkanić, 2017; Wimalasena et al., 2022). Similarly, the provision and performance of basic urban services, including water supply, sanitation, waste management, and electricity, are critical to maintaining acceptable living standards (UN-Habitat, 2020). Accessibility to essential services such as healthcare, education, markets, and public transport further influences Quality of Life by determining the ease with which residents can meet their daily needs. However, accessibility is not solely a function of proximity; factors such as congestion, travel time, and ease of movement significantly affect its effectiveness (Geurs & van Wee, 2004; Higgs et al., 2019). In dense urban environments, particularly historic areas, the interaction between compact built form and aging infrastructure often reduces the efficiency of services and limits the functionality of space. This highlights the importance of examining physical aspects of the built environment to better understand variations in Quality of Life.

3.3 Methodology

This study adopts a systematic approach to assess Quality of Life in Shahjahanabad, focusing on the physical built environment. The methodology is structured in multiple stages, integrating literature-based analysis with empirical investigation. The research begins with an extensive review of academic literature, policy documents, and government reports to understand existing approaches and identify gaps in the assessment of Quality of Life in historic urban areas. This is followed by the examination of national and international livability indices and relevant studies to identify key parameters associated with the physical built environment. Subsequently, these parameters are refined and prioritized through expert-based methods, including the Delphi technique and Analytical Hierarchy Process (AHP), to derive a final set of indicators. Based on these indicators, a structured questionnaire is developed to capture residents' responses. The primary survey is conducted across selected case study areas, and the collected data is analyzed to examine variations in Quality of Life. The results are further subjected to reliability and validation tests to ensure consistency and robustness of the findings.

The following section details the development of the indicator framework used in the study.

3.3.1 Indicator Framework

An initial set of Quality of Life (QoL) indicators was identified through an extensive review of international frameworks (WHOQOL, UN-Habitat, OECD, ISO 37120), national indices (Ease of Living Index, National Urban Livability Framework), and empirical studies related to housing, infrastructure, and accessibility. This resulted in a broad pool of indicators capturing multiple dimensions of the built environment.

The indicators were provisionally grouped into three domains:

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Table 1: Parameters and Indicators for Quality of Life Assessment

Parameter (Domain)	Indicators	Description	Key References
Dwelling Attributes	Adequacy of space	Availability of sufficient living area per household	Wimalasena et al. (2022); Marans (2012)
	Ventilation	Air circulation and indoor environmental quality	Brkanić (2017); Frontczak et al.
	Access to daylight	Availability of natural light within dwelling	Wimalasena et al. (2022)
	Internal condition	Quality of interior finishes and maintenance	Brkanić (2017)
	External condition	Condition of building façade and envelope	Veldpaus et al. (2013)
	Structural condition	Stability and safety of building structure	Wimalasena et al. (2022)
	Toilet availability	Access to private sanitation facilities	UN-Habitat (2020)
	Kitchen availability	Presence of functional cooking space	MoHUA (2019)
	Water supply reliability	Consistency of water availability within dwelling	Rao et al. (2017)
	Electricity stability	Reliability of power supply	Lee & Ahn (2018)
	Feasibility of repair	Ease of maintenance and repair	Brkanić (2017)
Utility & Surrounding Qualities	Water supply	Adequacy and quality of drinking water	UN-Habitat (2020); MoHUA (2019)
	Drainage	Effectiveness of stormwater and wastewater systems	Rao et al. (2017)
	Sanitation	Overall hygiene and sanitation conditions	WHOQOL (1998)
	Sewerage	Coverage and efficiency of sewer network	UN-Habitat (2020)
	Solid waste management	Collection and disposal efficiency	OECD (2018)
	Electricity infrastructure	Availability and reliability of electricity	ISO 37120
	Neighborhood cleanliness	Cleanliness of streets and public spaces	Marans (2012)
	Neighborhood congestion	Level of crowding and traffic pressure	Steinberg (1996)
	Street lighting	Adequacy of lighting in public spaces	UN-Habitat (2020)
	Neighborhood safety	Perceived safety and security	Veenhoven (2000)
Accessibility to Essential Services	Convenience stores	Access to daily retail and food services	Higgs et al. (2019)
	Public transport	Access to bus/metro systems	MoHUA (2019)
	Healthcare facilities	Access to hospitals and clinics	WHOQOL (1998)
	Educational facilities	Access to schools and institutions	OECD (2018)
	Workplace	Accessibility to employment locations	Higgs et al. (2019)
	Bank/ATM	Access to financial services	OECD (2018)
	Religious places	Access to cultural and social spaces	Veldpaus et al. (2013)
	Parking facilities	Availability of parking spaces	UN-Habitat (2020)
	Police station	Access to law enforcement services	WHOQOL (1998)
	Post office	Access to communication services	OECD (2018)
	Railway station	Connectivity to regional transport	MoHUA (2019)

In addition to these, certain environmental indicators such as thermal comfort, noise, air pollution, and availability of open spaces were also initially considered. To refine and prioritize the indicators, a combined Delphi Analytic Hierarchy Process (AHP) approach was adopted.

A panel of 30 experts was consulted, including: Academicians, Architects, Conservationists, Urban planners and researchers, Government officials. Experts were asked to evaluate each indicator based on: Relevance to Quality of Life in historic areas, Applicability in dense urban fabric, Suitability for perception-based assessment. A three-point scale was used:1 = Not relevant , 2 = Moderately relevant, 3 = Highly relevant

Indicators with ≥70% agreement (rated as "highly relevant") were retained, while those with lower consensus were either modified or removed.

AHP-Based Weighting

The retained indicators were further evaluated using the Analytic Hierarchy Process (AHP) (Saaty, 1980), where experts performed pairwise comparisons to determine the relative importance of each domain and its indicators.

The AHP method enabled:

- Assignment of relative weights to each domain
- Prioritization of indicators based on expert judgment
- Reduction of subjectivity through structured comparison

Consistency of responses was checked using the Consistency Ratio (CR < 0.1), ensuring reliability of expert judgments.

3.3.3 Delphi Survey Outcome

The Delphi process resulted in a refined set of indicators across three domains. The level of agreement among experts for key indicators is summarized below:

Retained Indicators (High Consensus ≥70%)

- **Dwelling Attributes:** Adequacy of space (93%), Ventilation (96%), Daylight (88%), Internal condition (85%), External condition (82%), Structural condition (90%), Toilet availability (95%), Kitchen availability (91%), Water supply reliability (89%), Electricity stability (87%), Repair feasibility (74%)
- **Utility and Surroundings:** Water supply (92%), Drainage (90%), Sanitation (94%), Sewerage (86%), Solid waste management (91%), Electricity (88%), Street lighting (84%), Cleanliness (89%), Congestion (97%), Safety (83%)
- **Accessibility:**
  Convenience stores (85%), Public transport (93%), Healthcare (95%), Education (90%), Workplace (88%), Banking (82%), Religious places (80%), Parking (96%), Police station (78%), Post office (72%), Railway station (84%)

Removed Indicators (Low Consensus <70%)

- Thermal comfort (52%) – considered difficult to assess reliably without environmental measurements
- Air pollution (48%) – requires objective monitoring rather than perception alone
- Noise pollution (61%) – overlapping with congestion-related perception
- Indoor noise (57%) – redundancy with external conditions
- Green/open spaces (63%) – limited presence in study area, reducing comparability

These indicators were excluded as they were either not directly perceivable, redundant, or contextually less applicable to the selected study areas.

AHP Weighting Results

The AHP analysis provided relative importance of each domain:

- Dwelling Attributes 0.42
- Utility & Surroundings 0.36
- Accessibility 0.22

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The AHP results indicate that housing conditions are the most significant determinant of perceived Quality of Life, followed by infrastructure and urban services, while accessibility has a relatively lower influence. Among individual indicators, congestion (0.11) has the highest impact, followed by ventilation (0.10) and adequacy of space (0.09), highlighting the importance of spatial and environmental comfort. Basic services such as water supply (0.08) and sanitation (0.08) also play a crucial role, suggesting that immediate living conditions have a stronger influence on residents' perception than accessibility alone. The final indicators, along with their relative importance derived through AHP, were translated into using a five-point Likert scale (1 = very poor to 5 = very good). Each indicator was framed as a perception-based question to capture residents' evaluation of their living conditions across the three domains.The Delphi method ensured that the final indicators were both theoretically grounded and contextually relevant to the historic urban environment of Shahjahanabad. The process refined a broad set of variables into a focused group of indicators that could be effectively assessed through residents' perception. The finalized indicators formed the basis for the primary survey conducted in Chandni Chowk and Daryaganj.

4. Survey Analysis and Results

4.1 Sample Design and Selection: The study focuses on two areas within Shahjahanabad—Chandni Chowk and Daryaganj—to enable a comparative analysis of differing urban conditions. The sample size was determined using the Taro Yamane formula, based on a combined population of approximately 1,20,000. A margin of error (approximately 6%) was adopted, resulting in a sample size of 250 respondents. The samples were distributed proportionately, with a higher representation from Chandni Chowk (180) due to its larger spatial extent and population, and a comparatively smaller share from Daryaganj(70).

Sampling Method: A stratified random sampling approach was adopted: Each area was divided into residential clusters (mohallas/streets). Additionally, purposive sampling was used in congested areas where access was limited, ensuring inclusion of dense inner streets as well as edge conditions.

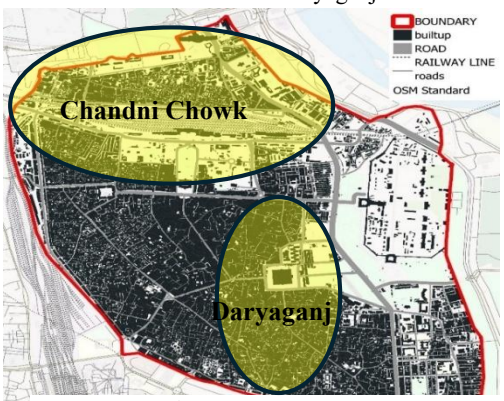

Figure 1: Map of Shahjahanabad

4.2 Respondent Sample and Demographic Profile: The study is based on primary survey data collected from selected areas of Shahjahanabad-Chandni Chowk and Daryaganj. A total of 250 valid resident responses were considered, comprising 180 respondents from Chandni Chowk and 70 from Daryaganj.The sampling was derived from a larger survey framework and implemented using a stratified approach, ensuring representation across different residential clusters, housing typologies, and street conditions within each ward.

Table 2: Demographic Profile of Respondents

Characteristic	Category	Chandni Chowk (%)	Daryaganj (%)
Gender	Male	58	55
	Female	42	45
Occupancy	Owners	62	71
	Tenants	38	29
Household Size	≤4 persons	36	52
	>5 persons	64	48

The demographic profile reflects higher household density and tenancy pressure in Chandni Chowk, indicating more constrained living conditions compared to Daryaganj. The presence of larger households further contributes to spatial stress in the historic core.

4.3 Descriptive Analysis of QoL Dimensions: Respondents rated their satisfaction with various aspects of the built environment using a five-point Likert scale (1 = Very Poor, 5 = Very Good). The indicators were grouped into three domains: dwelling attributes, utility and surrounding qualities, and accessibility to essential services.

4.3.1 Dwelling Attributes: This section evaluates residents perception of housing conditions, including spatial adequacy, environmental comfort, and structural quality.

Table 3: Dwelling Attributes

Indicator(Satisfaction)	Chandni Chowk	Daryaganj
Adequacy of space	42%	76%
Ventilation	52%	80%
Access to daylight	56%	78%
Internal condition	50%	70%
External condition	48%	74%
Structural condition	46%	72%
Toilet availability	64%	84%
Kitchen availability	62%	82%
Water supply reliability	58%	80%
Electricity stability	70%	84%
Feasibility of repair	52%	68%

The results indicate significantly lower satisfaction with dwelling conditions in Chandni Chowk, particularly in terms of space adequacy and structural quality. Overcrowding and aging building stock contribute to poor living conditions. In contrast, Daryaganj demonstrates higher satisfaction across most indicators, reflecting better housing quality and maintenance conditions.

4.3.2 Utility and Surrounding Qualities: This section assesses infrastructure performance and environmental conditions within the neighborhood.

Table 4: Utility and Surroundings

Indicator (Satisfaction)	Chandni Chowk	Daryaganj
Water supply	56%	86%
Drainage	48%	80%
Sanitation	46%	84%
Sewerage	50%	82%
Solid waste management	44%	84%
Electricity	72%	90%
Neighbourhood cleanliness	46%	86%
Neighbourhood congestion	36%	64%
Street lighting	58%	80%
Neighbourhood safety	50%	84%

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Utility conditions in Chandni Chowk are perceived poorly, with particularly low scores for sanitation, waste management, and congestion. Congestion emerges as the most critical issue, affecting multiple aspects of environmental quality. Daryaganj performs significantly better due to improved infrastructure and lower density, resulting in higher satisfaction levels.

4.3.3 Accessibility to Essential Services

This section evaluates perceived accessibility to key services and facilities.

Table 5: Accessibility to Services

Indicator	Chandni Chowk	Daryaganj
Convenience stores	76%	84%
Public transport	66%	82%
Healthcare facilities	55%	80%
Schools	65%	82%
Workplace	55%	76%
Bank/ATM	55%	80%
Religious places	75%	86%
Parking facilities	60%	60%
Police station	65%	78%
Post office	55%	76%
Railway station	75%	74%

The results show that Daryaganj has consistently higher accessibility compared to Chandni Chowk. While both areas have good access to convenience stores and religious places, Chandni Chowk records lower scores for essential services such as healthcare, workplace, and banking. Public transport is also less efficient in Chandni Chowk, likely due to congestion. Parking remains a common issue in both areas. Overall, despite high proximity to services, accessibility in Chandni Chowk is less effective, whereas Daryaganj demonstrates relatively better accessibility conditions.

4.4 Overall Observations

The analysis highlights clear differences in perceived Quality of Life between the two areas:

- Chandni Chowk records lower satisfaction in dwelling and utility indicators due to overcrowding, congestion, and infrastructure stress.
- Daryaganj shows consistently higher satisfaction, supported by better spatial organization and service delivery.
- Accessibility is high in both areas, but less effective in Chandni Chowk due to movement constraints and congestion.
- Quality of Life is more strongly influenced by housing conditions and infrastructure performance than by proximity to services.
- Immediate living conditions play a key role in shaping residents' perceptions in dense historic environments.

The findings suggest that while historic areas benefit from strong locational advantages, their Quality of Life is significantly influenced by housing conditions and infrastructure performance. Immediate living conditions, rather than mere proximity to services, play a decisive role in shaping residents' perception.

5. Validation and Reliability Analysis

5.1 Reliability of Survey Instrument

To assess the internal consistency of the questionnaire, Cronbach's Alpha (α) was computed for each domain of indicators. Cronbach's Alpha evaluates the extent to which items within a group measure the same underlying construct, ensuring the reliability of perception-based data.

Table 6: Cronbach's Alpha Values

Domain	No. of Items	Cronbach's Alpha (α)	Reliability Level
Dwelling Attributes	11	0.88	Good
Utility & Surroundings	11	0.86	Good
Accessibility	11	0.82	Good

All domains exhibit Cronbach's Alpha values above 0.80, indicating a high level of internal consistency. This confirms that the selected indicators reliably measure the respective dimensions of Quality of Life. Among the domains, dwelling attributes show the highest reliability, suggesting strong coherence among housing-related variables.

5.2 Descriptive Validation (Mean and Standard Deviation)

To further validate the dataset, mean and standard deviation (SD) were analyzed to assess the level of agreement and variability in responses.

Table 7: Mean and Standard Deviation

Domain	Mean Range	Standard Deviation Range	Interpretation
Dwelling Attributes	2.89 – 2.94	1.15 – 1.22	High variability
Accessibility	2.75 – 2.77	0.82 – 0.85	Moderate consistency
Utility & Surroundings	2.89 – 2.91	1.14 – 1.20	Uneven service delivery

The mean values indicate that most indicators fall within the average to below-average range, reflecting moderate living conditions. However, relatively high standard deviation values in dwelling and utility domains indicate spatial inequality and variation in living conditions across the study area. In contrast, accessibility shows lower variability, suggesting more uniform perception of service proximity.

5.3 Correlation Analysis

Pearson correlation analysis was conducted to examine the relationship between different QoL domains and overall Quality of Life.

The results indicate:

- Dwelling Attributes → Strong positive correlation with QoL
- Utility & Surroundings → Strong positive correlation
- Congestion → Negative correlation with QoL

These findings suggest that improvements in housing conditions and infrastructure directly enhance Quality of Life, whereas congestion significantly reduces it. The results reinforce the importance of physical living conditions in shaping residents' perception.

5.4 Regression Analysis

A multiple regression model was used to evaluate the relative influence of each domain on overall Quality of Life.

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Table 8:Regression Results

Predictor	Beta (β)	Influence Level
Dwelling Attributes	0.42	Highest
Utility & Surroundings	0.38	High
Accessibility	0.28	Moderate

The regression results indicate that dwelling conditions are the most significant determinant of Quality of Life, followed closely by infrastructure and utility services. Accessibility, although important, has a comparatively lower influence. Together, dwelling and utility domains account for a substantial proportion of the variation in perceived QoL.

The combined results from reliability testing, descriptive statistics, correlation, and regression analysis confirm the robustness of the dataset. The high internal consistency, along with meaningful statistical relationships between variables, demonstrates that the selected indicators effectively capture the dimensions of Quality of Life in the study area.

6. Discussion

The findings of the study highlight that Quality of Life in Shahjahanabad is strongly influenced by the condition of the built environment, particularly in dense historic settings. The results indicate that despite the cultural and economic significance of such areas, everyday living conditions remain constrained by spatial limitations and infrastructural stress. This aligns with earlier studies which suggest that historic urban cores often face a trade-off between heritage preservation and residential livability (Bandarin & van Oers, 2012; Veldpaus et al., 2013).

The relatively lower satisfaction levels observed in Chandni Chowk demonstrate how organic urban development, characterized by high density and mixed land use, can negatively impact living conditions. In contrast, Daryaganj, with its relatively planned layout, shows better performance across most indicators, reinforcing the role of urban form in shaping Quality of Life.

6.1 Role of Housing Conditions

The analysis clearly establishes that housing conditions are the most significant determinant of Quality of Life, as supported by both descriptive and regression results. Indicators such as adequacy of space, ventilation, and structural condition received lower satisfaction scores in Chandni Chowk, reflecting the challenges of overcrowding and aging building stock.

These findings are consistent with existing research emphasizing the importance of housing quality in urban well-being (Wimalasena et al., 2022; Brkanić, 2017). In high-density historic areas, limited space and poor environmental conditions directly affect comfort, health, and overall satisfaction. The higher performance of Daryaganj in these indicators further highlights how planned development contributes to improved residential conditions.

6.2 Infrastructure and Environmental Conditions

Infrastructure-related indicators, including sanitation, waste management, drainage, and cleanliness, were identified as critical factors affecting Quality of Life. The study reveals that Chandni Chowk experiences significant infrastructural stress, leading to lower satisfaction levels across utility-related parameters.

Congestion emerges as a dominant issue, influencing multiple aspects of the urban environment, including cleanliness, safety, and mobility. This supports findings from previous studies which indicate that congestion in historic areas reduces environmental quality and livability (UN-Habitat, 2020). In contrast, Daryaganj benefits from better infrastructure provision and lower density, resulting in higher satisfaction levels.

6.3 Accessibility: Proximity vs Efficiency

One of the key insights of the study is the distinction between physical proximity and functional accessibility. While both Chandni Chowk and Daryaganj demonstrate high proximity to essential services, residents in Chandni Chowk report lower satisfaction with accessibility due to congestion, narrow streets, and movement constraints.

This finding reinforces the argument that accessibility is not solely determined by distance but also by ease of movement and travel efficiency (Higgs et al., 2019). In dense historic environments, high accessibility in terms of location does not necessarily translate into improved Quality of Life if mobility is restricted.

6.4 Perception-Based Understanding of QoL

The study confirms that perception-based assessment provides deeper insights into urban livability, particularly in complex environments such as historic cities. Although objective conditions such as service availability may be similar, residents' experiences vary significantly based on how these conditions are perceived and utilized.

The results demonstrate that physical parameters—when evaluated through residents' perception—offer a more realistic understanding of Quality of Life. This supports the argument that subjective approaches are essential for capturing lived experiences in urban studies (Veenhoven, 2000; Marans, 2012).

6.5 Implications for Historic Urban Planning

The findings have important implications for planning and policy in historic urban areas. The study suggests that improving Quality of Life requires a shift in focus from purely physical or heritage-oriented interventions to people-centered planning approaches.

Key priorities should include:

- Improving housing conditions in dense areas
- Upgrading infrastructure and service delivery
- Managing congestion and enhancing mobility
- Integrating livability considerations into conservation strategies

Without addressing these aspects, redevelopment efforts may fail to improve residents' everyday experiences.

7. Conclusion

The study assessed the perceived Quality of Life in Shahjahanabad, with a focus on Chandni Chowk and Daryaganj, using a perception-based approach grounded in physical indicators. The findings reveal significant variation in living conditions within the historic city, driven primarily by differences in housing quality, infrastructure performance, and urban form. Chandni Chowk, characterized by high density and organic development, demonstrates lower levels of satisfaction due to overcrowding, congestion, and infrastructure stress. In contrast, Daryaganj exhibits comparatively better Quality of Life, supported by a more organized layout, improved housing conditions, and better service provision.

The study highlights that housing and infrastructure are the most critical determinants of Quality of Life, while accessibility, although important, is influenced by mobility constraints rather than proximity alone. The results emphasize that in historic urban environments, improving Quality of Life requires addressing immediate living conditions rather than relying solely on locational advantages. Overall, the research demonstrates that perception-based evaluation of physical conditions provides valuable insights into urban livability and can inform more effective and context-sensitive planning interventions in historic cities.

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8. Future Scope of Work

Future research may adopt a hybrid approach by integrating objective measurements such as environmental data and spatial analysis with perception-based assessment. Longitudinal studies can examine changes in Quality of Life over time, particularly in response to redevelopment initiatives. Additionally, a more comprehensive stakeholder-based analysis can be undertaken by including groups such as shopkeepers, tourists, and service providers to capture diverse user perspectives. The application of advanced tools such as GIS can further enhance spatial understanding. Future studies can also explore how historic areas perform within a contemporary urban context, enabling comparison between traditional urban fabric and modern planned developments to inform more balanced and context-sensitive planning strategies.

References

1. Bandarin, F., & van Oers, R. (2012). *The historic urban landscape: Managing heritage in an urban century*. Wiley-Blackwell.
2. Brkanić, I. (2017). Quality of urban life in cities: Influence of housing conditions. *Tehnički Vjesnik, 24*(5), 1517–1524.
3. Diener, E., & Suh, E. (1997). Measuring quality of life: Economic, social, and subjective indicators. *Social Indicators Research, 40*(1–2), 189–216. https://doi.org/10.1023/A:1006859511756
4. Dupont, V. (2004). Socio-spatial differentiation and residential segregation in Delhi: A question of scale? *Geoforum, 35*(2), 157–175. https://doi.org/10.1016/S0016-7185(03)00048-5
5. Gehl, J. (2011). *Life between buildings: Using public space*. Island Press.
6. Geurs, K. T., & van Wee, B. (2004). Accessibility evaluation of land-use and transport strategies: Review and research directions. *Journal of Transport Geography, 12*(2), 127–140. https://doi.org/10.1016/j.jtrangeo.2003.10.005
7. Higgs, G., Fry, R., & Langford, M. (2019). Investigating the implications of using alternative GIS-based techniques to measure accessibility to health care services. *Environment and Planning B: Urban Analytics and City Science, 46*(3), 461–477. https://doi.org/10.1177/2399808317735418
8. ISO. (2018). *ISO 37120: Sustainable cities and communities—Indicators for city services and quality of life*. International Organization for Standardization.
9. Jokilehto, J. (1999). *A history of architectural conservation*. Butterworth-Heinemann.
10. Kent, J., & Thompson, S. (2014). The three domains of urban planning for health and well-being. *Journal of Planning Literature, 29*(3), 239–256. https://doi.org/10.1177/0885412214520712
11. Lee, S., & Ahn, K. (2018). Analyzing the relationship between urban infrastructure and quality of life. *Sustainability, 10*(4), 1–15. https://doi.org/10.3390/su10041234
12. Lotfi, S., & Koohsari, M. J. (2009). Measuring objective accessibility to neighborhood facilities in the city. *Cities, 26*(3), 133–140. https://doi.org/10.1016/j.cities.2009.02.006
13. Larkham, P. J. (1996). *Conservation and the city*. Routledge.
14. Marans, R. W. (2012). Quality of urban life studies: An overview and implications for environment-behavior research. *Procedia - Social and Behavioral Sciences, 35*, 9–22. https://doi.org/10.1016/j.sbspro.2012.02.062
15. Marans, R. W., & Stimson, R. (2011). *Investigating quality of urban life: Theory, methods, and empirical research*. Springer.
16. Ministry of Housing and Urban Affairs (MoHUA). (2019). *Ease of living index 2019*. Government of India.
17. Nayar, B. R. (2011). *The myth of the shrinking state: Globalization and the state in India*. Oxford University Press.
18. Nijkamp, P., & Perrels, A. (2014). *Sustainable cities in Europe*. Routledge.
19. OECD. (2018). *OECD better life index: Measuring well-being and progress*. Organisation for Economic Co-operation and Development. https://www.oecdbetterlifeindex.org
20. Okoli, C., & Pawlowski, S. D. (2004). The Delphi method as a research tool: Design considerations and applications. *Information & Management, 42*(1), 15–29. https://doi.org/10.1016/j.im.2003.11.002
21. Orbaşlı, A. (2000). *Tourists in historic towns: Urban conservation and heritage management*. E & FN Spon.
22. Pacione, M. (2003). Urban environmental quality and human wellbeing—A social geographical perspective. *Landscape and Urban Planning, 65*(1–2), 19–30. https://doi.org/10.1016/S0169-2046(02)00234-7
23. Pendlebury, J. (2013). Conservation values and the authorised heritage discourse. *International Journal of Heritage Studies, 19*(7), 709–727. https://doi.org/10.1080/13527258.2012.700282
24. Rao, P., Singh, A., & Singh, S. (2017). Urban infrastructure and service delivery in Indian cities. *Journal of Urban Affairs, 39*(6), 800–817. https://doi.org/10.1080/07352166.2016.1255528
25. Roders, A. P., & van Oers, R. (2011). Bridging cultural heritage and sustainable development. *Journal of Cultural Heritage Management and Sustainable Development, 1*(1), 5–14.
26. Saaty, T. L. (1980). *The analytic hierarchy process*. McGraw-Hill.
27. Shahjahanabad Redevelopment Corporation (SRDC). (2008). *Shahjahanabad redevelopment plan*. Government of Delhi.
28. Sirgy, M. J., Michalos, A. C., Ferriss, A. L., Easterlin, R. A., Patrick, D., & Pavot, W. (2006). The quality-of-life (QOL) research movement. *Social Indicators Research, 76*(3), 343–466. https://doi.org/10.1007/s11205-005-2877-8
29. Steinberg, F. (1996). Conservation and rehabilitation of urban heritage in developing countries. *Habitat International, 20*(3), 463–475. https://doi.org/10.1016/0197-3975(96)00003-4
30. Tweed, C., & Sutherland, M. (2007). Built cultural heritage and sustainable urban development. *Landscape and Urban Planning, 83*(1), 62–69. https://doi.org/10.1016/j.landurbplan.2007.05.008
31. UN-Habitat. (2020). *World cities report 2020: The value of sustainable urbanization*. United Nations.
32. Veenhoven, R. (2000). The four qualities of life. *Journal of Happiness Studies, 1*(1), 1–39. https://doi.org/10.1023/A:1010072010360
33. Veldpaus, L., Pereira Roders, A., & Colenbrander, B. (2013). Urban heritage: Putting the past into the future. *The Historic Environment, 4*(1), 3–18. https://doi.org/10.1179/1756750513Z.00000000022
34. WHOQOL Group. (1998). Development of the WHOQOL-BREF quality of life assessment. *Psychological Medicine, 28*(3), 551–558. https://doi.org/10.1017/S0033291798006667
35. Wimalasena, N., Chang-Richards, A., Wang, K. I.-K., & Dirks, K. (2022). Housing conditions and quality of life. *International Journal of Environmental Research and Public Health, 19*(9), 1–23. https://doi.org/10.3390/ijerph19095389.
36. Delhi Development Authority (DDA). (2021). Master plan for Delhi 2041. Government of India.
37. Delhi Urban Arts Commission (DUAC). (2004). Shahjahanabad: Walled city of Delhi—Urban renewal and heritage conservation. Government of India.