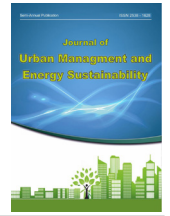


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## CASE STUDY RESEARCH PAPER

### Ethnic Diversity and Perception of Urban Environment Quality in the Metropolis of Tehran

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#### ABSTRACT

Metropolitan areas worldwide are experiencing increasing ethnic diversity, with profound implications for residents' experiences and perceptions of urban environments. This study investigates the relationship between ethnicity and perceived urban environmental quality (PUEQ) within the context of Tehran, Iran. Employing a mixed-methods approach, the research explores how different ethnic groups in Tehran construct and understand their urban surroundings. Qualitative data were collected through in-depth semi-structured interviews with residents from diverse ethnic backgrounds. Thematic analysis was used to identify key themes and patterns in participants' perceptions. Quantitative data were gathered using a structured questionnaire and analyzed using ANOVA to assess differences in PUEQ among ethnic groups.

Findings reveal significant variations in PUEQ across different ethnicities. Thematic analysis identified distinct dimensions of PUEQ, including Ecological Quality, Accessibility Quality, Visual-Physical Quality, Functional-Activity Quality, Social Quality, Management-Economic Pattern Quality, Perceptual-Symbolic Quality, and Interaction of Cultural Elements and Activities with Urban Design and Planning. Turk, Kurd, Gilak, and Mazani ethnic groups exhibited distinct priorities within these dimensions. Quantitative results corroborate these findings, demonstrating disparities in perceptions of accessibility, social quality, economic conditions, and cultural integration. This research contributes to a deeper understanding of the complex interplay between ethnicity and urban experience. By highlighting the diverse perspectives of Tehran's residents, this study provides valuable insights for urban planners and policymakers seeking to create more inclusive and equitable cities.

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## INTRODUCTION

According to the United Nations, it is projected that by 2050, 68% of the global population will be residing in urban areas (Tonne et al., 2021). This urbanization, a direct consequence of human activities (Bharath, et al., 2018), has instigated a rapid expansion of urban territories in recent years. As a result, many societies are experiencing accelerated social transformations due to factors such as migration, increased diversity, and the emergence of ethnic minority populations (Kearns & Whitley, 2018).

The escalating ethnic diversity in urban regions has led to a marked increase in cultural heterogeneity within metropolitan areas. This diversity, manifested in cities, encapsulates a variety of lifestyles, viewpoints, and activities (Tasan-Kok et al., 2014). The concept of diversity has attracted significant attention in both quantitative and qualitative research within the social sciences (Piekut & Valentine, 2016). Diversity is considered a valuable concept in the contemporary urban planning system, which is caused by the social, biological, and economic benefits, etc. (Ghalamro et al., 2023) Considering the influential role of diversity in shaping cities and their urban landscapes, it is crucial to contemplate its implications for the residents of these diverse environments. To address the challenges associated with urban life in diverse contexts and to facilitate the development of functional urban spaces, it is imperative for urban policymakers to gain a comprehensive understanding of the perspectives of various resident groups within metropolises (Bynner, 2019; Nielsen et al., 2017; Tasan-Kok et al., 2014). Research has uncovered considerable disparities in environmental attitudes and actions among different ethnic groups (e.g., Kerr et al., 2016; Yan et al., 2018). These disparities lead to variations in individuals' perceptions of the environment, which in turn influence their sense of belonging and overall quality of life (Guo et al., 2024). Consequently, understanding the perception of urban environmental quality has emerged as a critical concern

for urban designers and planners.

Tehran, a significant metropolis in Western Asia and Iran's capital, has witnessed the highest internal migration rate among Iranian cities in recent years. It is recognized as a megacity with unparalleled ethnic diversity (Ghazaie et al., 2020). Despite extensive research efforts aimed at measuring and analyzing factors that influence the quality of life in cities and regions (Ballas, 2013), there is a notable lack of comprehensive and aggregated data on the "differences in environmental quality perception among diverse ethnicities residing in the Tehran metropolis. Furthermore, there is an absence of a holistic perspective on how to integrate these concepts. A review of global studies reveals that previous research examining the existence and impact of differences in attitudes, behaviors, and environmental orientations among various ethnic groups has produced inconsistent findings, rendering the generalizability of results unclear (Kerr et al., 2016).

This research, pioneering in the context of the Tehran metropolis, investigates the differences in environmental perception among various ethnicities. It underscores the importance of considering this concept for urban architects and planners, thereby contributing to the body of knowledge in this field. This study aims to bridge the gap in the literature and provide valuable insights that can guide future urban planning and development strategies in Tehran and other similar metropolises.

A comprehensive review of relevant studies on urban diversity indicates that research on ethnic diversity has been undertaken utilizing both quantitative and qualitative methodologies (Eraydin et al., 2010; Mennis et al., 2013). This research aligns with this understanding and employs a mixed-methods approach. The primary objectives of this research are threefold. Firstly, it aims to explore the relationship between ethnic diversity and its effective criteria, as well as the understanding of environmental quality in the theoretical literature. Secondly, it seeks to

engage in a dialogue with residents of Tehran from various ethnic backgrounds. Lastly, it intends to measure and examine the relationship between the understanding of environmental quality in urban ethnicity in the Tehran metropolis and the difference in understanding of environmental quality based on the views and lived experiences of different ethnicities using a quantitative method.

The central concern of this research is to enhance awareness of ethnic diversity as a crucial criterion in the perception of the urban environment. It also aims to examine the relationship between the perception of environmental quality in relation to ethnicity. This study strives to contribute to the discourse on urban planning and development by shedding light on the intersection of ethnic diversity and environmental perception. It underscores the importance of considering ethnic diversity in urban planning and design to create inclusive and sustainable urban environments.

#### *Litrature Review*

Environmental perception is a multifaceted concept, comprising numerous interrelated constructs (Dlamini et al., 2020). It is the process by which individuals select necessary data from their surrounding environment, aligning with their needs (Rahimi and Karami, 2019). Perception can be viewed as a goal-oriented process where the individual receives environmental messages. It can also be seen as the outcome of the cultural and structural values that govern human societies, accompanied by humans' knowledge of their surrounding environment (Neisser, 2014). The perception of the quality of the environment in which individuals live or interact significantly influences the shaping of positive and negative perceptions (Sojasi Qidari, & Sadeghloo, 2016). Donald Appleyard delineates three primary modes of environmental perception: the responsive-reactive approach (centered on emotional responses to the environment), the operational approach (focused on human activities and functions in the city),

and the inferential approach (concentrated on information reception and support for the two previous approaches) (Carmona & Magalhães, 2009).

The literature on environmental perception also unveils three aspects in the evaluation of the environment, including spatial dimensions (representations of architectural and urban planning), human dimensions (representations of social relations), and functional dimensions (services and facilities). Ethnicity is identified as one of the socio-demographic criteria that influence environmental perception (Dlamini et al., 2020). This underscores the importance of considering ethnic diversity in studies of environmental perception and urban planning.

The differences in environmental perception across various ethnic groups can lead to a range of behaviors in relation to the environment. Research suggests that these perceptual differences remain even when demographic variables such as age, gender, and family size are controlled (Lazri, & Konisky, 2019). Existing evidence indicates that the subjective and perceptual environment of citizens plays a pivotal role in their perception of urban environmental quality (Rahimi, Karami, 2019). The study of human-place relationships from a cognitive perspective, which seeks to understand how places influence individuals' behavior, emerged in the 1970s in the field of human geography (Golledge and Rushton, 1976, Relph 1976, Tuan 1975), as well as in cognitive studies in environmental psychology (Canter 1977, Moore and Golledge 1976). This approach posits that the way individuals value places and their behavior in these places are the result of the human mind processing information about geographical settings (Yazdani & Lozanovska, 2014). Ecological psychologists realized that situations and everyday environment have a greater impact on behavior than individual characteristics (Farahani et al., 2023). Figure 1 illustrates the cognitive model of environmental perception, adapted from Brent (1976) and Canter (1977).

*Urban Environmental Quality*

Urban environmental quality is a multifaceted concept that refers to the social, cultural, economic, and physical-spatial conditions of the urban environment. It serves as an indicator of the level of satisfaction or dissatisfaction of citizens with their urban surroundings (Shamaee, Pourahmad, 2006). In this context, quality is defined by the ability to meet and fulfill the material and spiritual needs of residents. To improve the quality of life and living standards of citizens, urban planners and managers are striving to enhance the environmental quality for a diverse range of citizens residing in metropolitan areas (Mahmoudzadeh et al., 2024).

Urban environmental quality is a complex construct that encompasses a combination of subjective perceptions, characteristics, and values that vary across individuals, groups, and communities (Rafieian et al., 2012). It includes spatial, functional, social, and contextual dimensions that can individually or collectively influence human attitudes and feelings towards places. Individuals' evaluations of environmental quality can significantly impact their percep-

tions, experiences, and interactions with these places (Hadafi & Sarrafi Nik, 2022). As such, urban environmental quality serves as a critical indicator to assess the suitability of the environment for human habitation. It represents a multidimensional concept that emerges from the quality of various dimensions and the overall environmental perception (Moore et al., 2006). The quality of urban spaces Refers to the overall perception of a place(Koohi et al., 2024). It is often measured by the characteristics of its urban environments(Goodarzi, & Razavian Amiri, 2021). Citizens who have higher evaluations and satisfaction with urban environmental quality tend to perceive a higher level of quality of life (Chang et al., 2020).

*Ethnicity: A Multifaceted Concept*

Ethnicity, as defined by Ayyubi (1998), refers to a collective of individuals sharing common cultural elements, memories, and a connection to a specific geographical region (Mohammadi Iravanlu et al., 2019). This shared connection encompasses core elements of identity, beliefs, awareness, and culture(Rouhani et al., 2023). In the context of Iran, language and religion

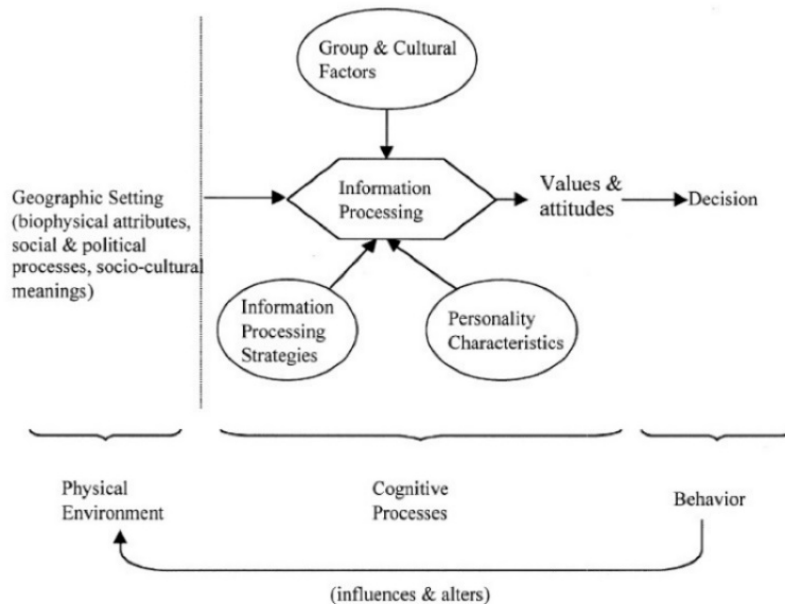


Fig.1: A cognitive model of geographic decision making, source: Yazdani & Lozanovska, 2014

play pivotal roles in the identification of ethnic groups. Sociologists posit that ethnicity encompasses both “subjective” and “objective” components. These include shared interests, objective cultural commonalities, a shared homeland (whether present or historical), and a subjective awareness of identity, shared interests, and a sense of belonging (Ramezanzadeh & Bahmani Ghajar, 2008). Differences among nationalities, cultures, and ethnic groups can lead to variations in behaviors (Kerr et al., 2016). Notably, significant differences have been observed in the environmental behaviors of different cultural and ethnic groups (e.g., Laroche et al., 1996; Pfeffer and Stycos 2002; Johnson et al., 2004; Milfont et al., 2006; Newman and Fernandes, 2016). These differences also extend to their attitudes, values, and environmental orientations (e.g., Kalof et al., 2002; Deng et al., 2006).

Ethnic diversity, as described by Zotova, Tarasova, Solodukhina, & Belousova (2019), refers to the presence of multiple ethnicities within a group of individuals residing together in a specific territory. The increasing diversity and population heterogeneity of ethnic minorities in metropolises has led Vertovec (2007) to introduce the term “super-diversity.” This term emphasizes the need for a multidimensional perspective in understanding the diversity arising from the migration of diverse ethnicities (Nielsen & Winther, 2020).figure 2 illustrate the theoretical framework of the research.

## MATERIALS AND METHODS

### Research Design

This research adopts a mixed-methods approach to investigate the cognitive interplay between ethnicity and perceived urban environmental quality (PUEQ) among Tehran’s diverse ethnic. By combining qualitative and quantitative methods, this study aims to elucidate the experiences, perceptions, and influential factors shaping PUEQ from the perspective of different ethnic groups.

Data collection was conducted in three sequential phases. Initially, a comprehensive literature review was undertaken to establish a theoretical framework encompassing PUEQ and ethnic diversity. Subsequently, in-depth semi-structured interviews were conducted with Tehran residents from various ethnic backgrounds to explore their subjective experiences and perceptions of the urban environment. Interview transcripts were subjected to thematic analysis to identify emergent themes and patterns. Building upon the qualitative findings, a structured questionnaire was developed to quantify PUEQ perceptions across different ethnic groups and assess the relative importance of identified qualities. Thematic analysis, a qualitative research method, was employed to analyze interview data. This approach involves identifying, analyzing, and interpreting patterns within the textual data (Elo and Kyngas 2008; Elo et al. 2014; Hashemnezhad 2015; Krippen-

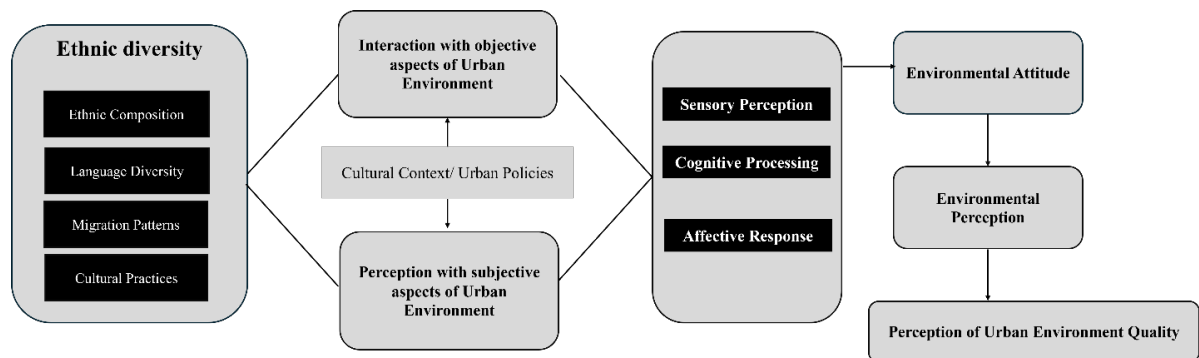


Fig 2: Theoretical Framework

dorff 2018). By categorizing the data into smaller, yet reliable units, thematic analysis enables a comprehensive understanding of participants' perspectives while preserving the richness and complexity of their experiences (Elo and Kyngas 2008; Hashemnezhad, 2015). This mixed-methods design offers a robust approach to investigate the multifaceted relationship between ethnicity and PUEQ. By combining qualitative and quantitative data, this study contributes to a deeper understanding of the issue, providing valuable insights for urban policymakers, urban planners and urban designers.

## DISCUSSION AND FINDINGS

### Case Study

Tehran, the capital city of Iran, is the nation's largest metropolis and ranks as the second largest in the Middle East. It is also among the world's most populous urban centers. Since its establishment as Iran's capital during the Qajar era, approximately 230 years ago, Tehran has undergone a significant transformation from a village to a sprawling metropolis (Madanipour, 2006).

Over the years, Tehran's population has experienced dramatic changes, primarily driven by a substantial influx of migrants from within Iran. This migration has resulted in Tehran becoming a vibrant mosaic of diverse cultures and ethnicities. As Madanipour (1999) notes, "the vast majority of today's Tehranis have their roots in other parts of the country." He further emphasizes that during the first census conducted in 1867, approximately 73% of Tehran's population originated from other regions. By 1966, this figure had decreased to 45%, and by 1986, nearly one-third of Tehranis were born in other parts of the country. Recent census data further highlight this trend, indicating that nearly 2 million people have migrated to Tehran in the past 20 years (Ghazaie, Rafieian, & Dadashpoor, 2020). This underscores the dynamic nature of Tehran's population and the city's ongoing evolution as a hub of cultural and ethnic diversity.



Fig3: Location of Tehran in Iran

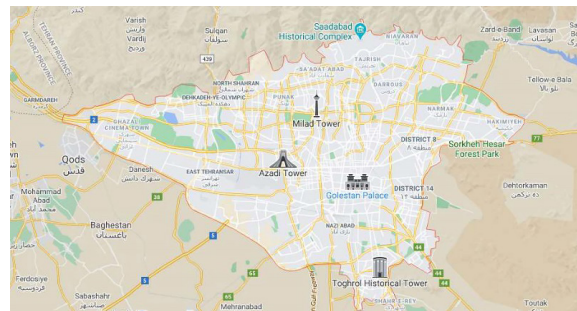


Fig4: Tehran map

### Qualitative Data Collection

A multitude of studies have underscored the efficacy of qualitative methodologies in addressing research problems and achieving research objectives (Opoku et al., 2022). Qualitative research offers a rich and nuanced understanding of human experiences, perceptions, and behaviors, thereby enabling researchers to delve into the intricacies of social phenomena. In this study, 40 comprehensive semi-structured interviews were conducted with individuals representing five ethnic groups: Turk (Azeri), Kurd, Lor, Mazani and Gilak. These groups constitute the largest population segments in Tehran. The interview process was continued until theoretical saturation was achieved, ensuring that the collected data adequately encapsulated the spectrum of perspectives and experiences within each ethnic group.

The interviews were conducted face-to-face using a semi-structured format, which allowed for flexibility and exploration of emergent themes. Participants were meticulously selected

to represent the diverse ethnic groups residing in the Tehran metropolis. To ensure the validity of the interview questions and procedures, the interview guide was reviewed by two experts in the field of environmental quality perception. The research process was initiated by surveying the demographic and background characteristics of the individuals. Subsequently, the citizens' perceptions regarding the perceived quality of the environment were investigated. This comprehensive approach ensures a holistic understanding of the environmental perceptions of various ethnic groups, thereby providing valuable insights for urban planning and development in ethnically diverse metropolises.

In this study, thematic analysis was utilized to scrutinize the data derived from the interviews. The aim was to explore the differences in environmental quality perception from the perspective of ethnic diversity in Tehran metropolis. Thematic analysis is a descriptive method that identifies recurring patterns in data, thereby facilitating a deeper understanding of the underlying concepts, ideas, and perspectives (Castleberry & Nolen, 2018; Vaismoradi et al., 2013). Thematic analysis, as a qualitative approach, examines research data to comprehend and represent individuals' experiences in encountering, engaging with, and living with those experiences (Denzin & Lincoln, 2005). As suggested by Agyekum et al. (2019), this analysis is employed to identify, analyze, and report patterns or themes within the data. Furthermore, thematic analysis provides researchers with considerable flexibility in interpreting and selecting themes from interview transcripts (Ampratwum et al., 2021).

Thematic analysis offers accessible and systematic methods for extracting codes and themes from qualitative data (Clarke & Braun, 2017). Codes, which are the building blocks of thematic analysis, are labels assigned to a coding unit with the aim of capturing the meaning of that unit (Wæraas, 2022). In this study, both the interview transcripts and field notes were meticulously examined to identify the differ-

ences in environmental perception among the diverse ethnic groups residing in Tehran metropolis. The selected method draws upon Braun and Clarke's (2006) six-step approach, which includes familiarization with the data through transcription, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the final written output. Throughout the analysis process, researchers ensured that the extraction and interpretation of findings were grounded in the raw data collected, rather than in their personal interpretations. The initial codes were derived from the context, interpretation, and fundamental essence of each response, and subsequently categorized as either words or phrases. These codes underwent individual scrutiny by the investigators and were collectively validated to enhance credibility and confirmability. During the subsequent coding phase, the labels, along with their corresponding data, were aggregated into more comprehensive thematic groupings. These were then reclassified as overarching themes and subthemes based on the recurrent patterns identified. The final themes were scrutinized against the data by the researchers and then refined to ensure they encapsulated the fundamental essence of the participants' responses. This rigorous process ensures a comprehensive and nuanced understanding of the environmental perceptions of various ethnic groups.

#### *Quantitative Data Collection*

In this study, statistical analysis using SPSS was utilized to evaluate the differences in environmental quality perception among the diverse ethnic groups residing in Tehran metropolis. The questions were designed based on the components identified from theoretical studies and qualitative interviews. The primary objective of designing and developing the questionnaire, which utilized a five-point Likert scale, was to measure the differences in environmental perception among the various ethnic groups residing in Tehran metropolis. Data collection took

place during the summer of 1401 (2022). The necessary information to measure the variables was collected, recorded, and classified from the sample group of the statistical population. The qualitative interview questions were open-ended, providing participants with the opportunity to express their views on the perception of urban environmental quality in Tehran metropolis.

To determine the sample size with a 95% confidence level, the Cochran formula was employed. Cluster sampling was used for data collection, and the link to the electronic questionnaire was randomly distributed within the clusters. This comprehensive approach ensures a nuanced understanding of the environmental perceptions of various ethnic groups, thereby providing valuable insights for urban planning and development in ethnically diverse metropolises.

## RESULT AND CONCLUSION

### Descriptive Findings

The statistical population of this study, specifically in the section assessing ethnic perception, encompasses all citizens residing in Tehran who are, in some capacity, perceivers of environmen-

tal quality in Tehran. To examine the population ratio of ethnic groups residing in Tehran, demographic data (prepared by the Supreme Council of Public Culture) was utilized to investigate the birthplace and origin of each migrant to Tehran. Based on these findings, the ethnic composition of Tehran's population is as follows: 67.4% Persian, 25.2% Azerbaijani, 6.2% Mazandarani, followed by Lur, Kurd, and Gilaki. Furthermore, a review of research related to quality of life conducted by the Tehran Urban Studies Center revealed that 62% of the individuals were Persian, 25% Azerbaijani, and 13% belonged to other ethnicities. This diverse ethnic composition underscores the importance of considering ethnic diversity in studies of environmental perception and urban planning in Tehran.

### Qualitative Findings

Following data collection, transcripts from interviews were systematically analyzed on a sentence-by-sentence basis. Phrases and concepts indicative of specific perceptions of urban environmental quality were extracted. After a thorough review of the transcripts and familiarization with the data, a coding process was initiated to identify meaningful themes. This process

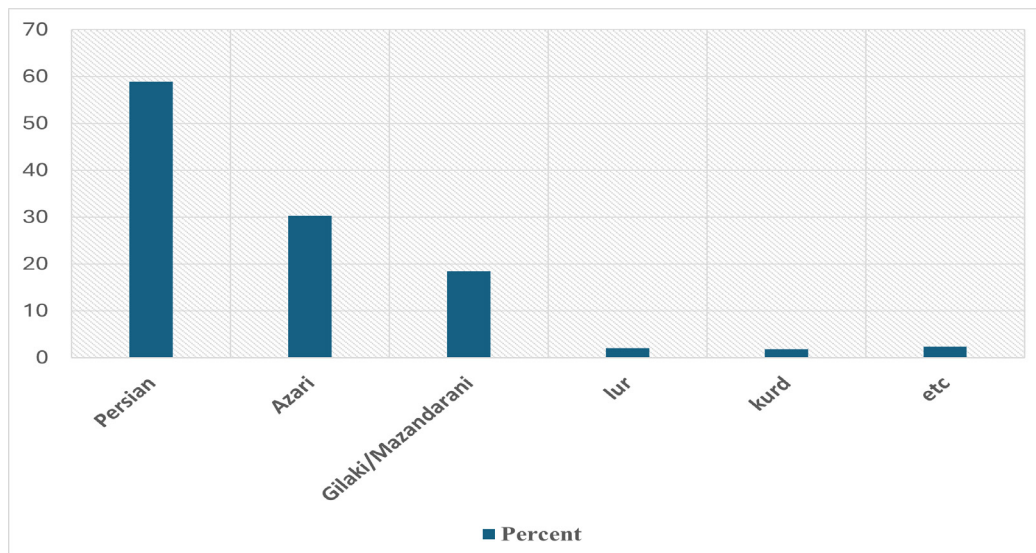


Fig. 5: Percentage Distribution of Ethnic Groups in Tehran Metropolis, source: The Cultural Heritage, Handicrafts and Tourism Organization of Tehran Province, 2010

was repeated for all transcripts, and the resulting codes were categorized to identify significant patterns and themes. In subsequent steps, the identified themes were iteratively merged and divided. Subthemes and primary themes were finalized after a consensus among all researchers. During the initial coding, the researcher identified 532 words, phrases, or sentences that signified a specific concept in the process of elucidating the perception of urban environmental quality based on lived experience and ethnic diversity in Tehran metropolis. These phrases were

subsequently coded through iterative processes and categorized into 8 distinct themes presented in table 1.

One participant expressed, “Urban environmental quality encompasses various factors and standards, and these indicators can have different priorities for different people. For me, the first and most important factor in urban life is the existence of visual beauty, which is important to me and creates a sense of peace. Beautiful and simple facades, flower arrangements, and no visual pollution, clean alleys and free from

**Table 1:** themes and sub-themes Affecting Environmental Quality Based on Qualitative Interviews with Diverse Ethnic Groups Residing in Tehran Metropolis

Sub-theme	Theme
<ul style="list-style-type: none"> <li>- Link to Natural Elements/Appropriate Access to Parks and Green Spaces</li> <li>- Adequate Green Space Per Capita</li> <li>- Favorable Climatic Conditions</li> <li>- Clean Air Quality</li> <li>- Pleasant Soundscape</li> <li>- Integrated Natural Landscape</li> <li>- Existence of Green Spaces at Appropriate Urban and Local Scales</li> </ul>	Ecological Quality
<ul style="list-style-type: none"> <li>- Rapid public transportation lines</li> <li>- Abundance of high-speed transportation routes</li> <li>- Suitable access to public transportation</li> <li>- Quality of road construction</li> <li>- Traffic management</li> <li>- Adequate bicycle infrastructure</li> <li>- Safety for vehicular traffic</li> <li>- Suitable access to other parts of the city</li> <li>- Urban space connectivity</li> <li>- Reduction of vehicular traffic</li> <li>- Suitable infrastructure for the mobility of physically disabled individuals</li> <li>- Smooth vehicular flow</li> <li>- Seamless pedestrian pathways</li> <li>- Proper bike infrastructure</li> <li>- Separation of vehicular and pedestrian routes</li> </ul>	Accessibility and Dynamism Quality
<ul style="list-style-type: none"> <li>- Visual beauty of the urban environment</li> <li>- Designing beautiful facades</li> <li>- Beautiful urban landscape</li> <li>- Beautiful floral arrangements</li> <li>- Modern physical design</li> <li>- Appropriate urban lighting</li> <li>- Use of color in environmental design</li> <li>- Visual beauty with a common theme</li> <li>- Unity in diversity in visual structure</li> <li>- Facilities for physical activity</li> <li>- Urban fabric design and planning patterns</li> <li>- Physical construction patterns</li> <li>- Adapting the urban environment for people with physical and mobility disabilities</li> </ul>	Visual-Physical Quality

Sub-theme	Theme
<ul style="list-style-type: none"> <li>- Access to leisure and recreational facilities</li> <li>- Proper access to parks and green spaces</li> <li>- Adequate access to sports facilities</li> <li>- Proximity to daily shopping amenities</li> <li>- Suitable healthcare and medical centers</li> <li>- Diverse and multi-functional land uses</li> <li>- Balanced distribution of facilities across the city</li> <li>- Amenities and facilities for the disabled</li> </ul>	<p>Functional-Activity Quality</p>
<ul style="list-style-type: none"> <li>- Embracing Diversity of Individuals</li> <li>- Adapting Spaces for Different Abilities</li> <li>- Welcoming Spaces for Women and Children</li> <li>- Cultural Diversity in Urban Spaces</li> <li>- Adapting Spaces for Diverse Activities and Behaviors</li> <li>- A Thriving Economy: The Cornerstone of Prosperity</li> <li>- Social Security: A Safety Net for All</li> <li>- Equitable Opportunity: Leveling the Playing Field</li> <li>- Respecting Fundamental Rights and Dignity</li> <li>- Enhancing Urban Comfort and Tranquility</li> <li>- Prioritizing Women's and Children's Safety</li> <li>- Embracing Cultural Diversity</li> <li>- Providing Ample Play Spaces for Children</li> <li>- Social interactions among citizens</li> <li>- Vibrancy</li> <li>- Welcoming public spaces</li> </ul>	<p>Social Quality</p>
<ul style="list-style-type: none"> <li>- Cleanliness of the Environment/Cleanliness of Streets</li> <li>- Free Municipal Services</li> <li>- Availability of Safe Drinking Water for Citizens</li> <li>- Efficient Waste Collection from the City</li> <li>- Integrated Urban Management</li> <li>- Optimal Functioning of Government Organizations and Proper Municipal Management</li> <li>- Suitable Asphalt</li> <li>- Electronic Services in the City/Smart City</li> <li>- Attention of Urban Management to the Issues and Concerns of Citizens</li> </ul>	<p>Management-Economic Pattern Quality</p>
<ul style="list-style-type: none"> <li>- Sense of Belonging</li> <li>- Prioritizing Physical and Mental Well-being</li> <li>- Enhancing Citizen Satisfaction with the Urban Environment</li> <li>- Promoting Legibility in the Urban Landscape</li> <li>- Intangible qualities of the urban environment</li> <li>- Authenticity and identity of the urban environment</li> <li>- Preservation of historical and cultural monuments and buildings of the city</li> </ul>	<p>Perceptual-Symbolic Quality</p>
<ul style="list-style-type: none"> <li>- Cultivating a Thriving Culture of Citizenship</li> <li>- Public and Free Cultural Events</li> <li>- Open Access to Cultural Institutions</li> <li>- Adequate Cultural Infrastructure</li> <li>- Accessibility of Cultural Infrastructure</li> <li>- Access to Recreational and Leisure Facilities</li> <li>- Fostering Cross-Cultural Dialogue</li> <li>- Embracing Cultural Differences</li> </ul>	<p>Interaction of Cultural Elements and Activities with Urban Design and Planning</p>

garbage, etc. The second is the need for security, which is less seen in Tehran today. And finally, the existence of places like parks and stadiums near the living environment is more important to me than bakeries and supermarkets.”

Another participant noted, “Each of the factors that contribute to improving the quality of the urban environment certainly has a direct impact on improving the quality of life. If the situation of air and noise pollution is controlled, it will prevent diseases and ensure health and quality of life.”

- Theme 1: Ecological Quality

Ecological dimensions express the relationship between urban environment and the surrounding ecological and natural environment. This theme include sub-theme qualities such as the link to natural elements, appropriate access to parks and green spaces, adequate green space per capita, favorable climatic conditions, clean air quality, a pleasant soundscape, an integrated natural landscape, and the existence of green spaces at appropriate urban and local scales.

- Theme 2: Accessibility and Dynamism Quality

Accessibility and Dynamism dimensions represent the degree to which an urban environment is connected to other locations. They enable people to fulfill their travel needs and goals. These dimensions encompass: rapid public transportation lines, abundant high-speed transportation routes, suitable access to public transportation, quality road construction, effective traffic management, adequate bicycle infrastructure, safety for vehicular traffic, suitable access to other parts of the city, urban space connectivity, reduced vehicular traffic, suitable infrastructure for the mobility of physically disabled individuals, smooth vehicular flow, seamless pedestrian pathways, proper bike infrastructure, and separation of vehicular and pedestrian routes.

- Theme 3: Visual-Physical Quality

Visual-Physical Quality encompasses the physical, structural, and aesthetic attributes of the urban environment. Based on citizen

interviews, this dimension comprises the following qualities: visual appeal of the urban environment, aesthetically pleasing facades, attractive urban landscapes, beautiful floral arrangements, contemporary physical design, appropriate urban lighting, effective use of color in environmental design, cohesive visual themes, visual unity amidst diversity, facilities for physical activity, urban fabric design and planning patterns, physical construction patterns, and accommodations for individuals with physical and mobility disabilities.

- Theme 4: Functional-Activity Quality

The functional dimension underscores the role of urban public spaces in facilitating the daily activities, behaviors, and needs of citizens. Findings indicate that various functional aspects influence perceptions of environmental quality in metropolitan Tehran, including access to leisure and recreational facilities, adequate access to parks and green spaces, sufficient access to sports facilities, proximity to daily shopping amenities, suitable healthcare and medical centers, diverse and multifunctional land uses, balanced distribution of amenities across the city, and amenities and facilities for individuals with disabilities.

- Theme 5: Social Quality

The social dimensions of urban public spaces pertain to those aspects of the urban environment that influence social interactions, human relationships, and the overall quality of social life. This quality encompasses several sub-themes, such as embracing diversity of individuals, adapting spaces for different abilities, creating welcoming spaces for women and children, fostering cultural diversity in urban spaces, adapting spaces for diverse activities and behaviors, and enhancing urban comfort and tranquility.

- Theme 6: Management-Economic Pattern Quality

The management-economic aspect of urban environment perception refers to the extent to which citizens perceive municipal services and

economic factors as influencing the overall quality of their urban surroundings. This dimension encompasses: cleanliness of the environment and streets, accessibility to free municipal services, availability of safe drinking water, efficient waste collection, integrated urban management, optimal functioning of government organizations, proper municipal management, suitable infrastructure, electronic services, and responsiveness to citizen concerns.

- Theme 7: Perceptual-Symbolic Quality

The Perceptual-Symbolic Quality of the urban environment refers to those aspects of the urban environment that influence individuals' perceptions and subjective meanings associated with these spaces. This theme encompasses several qualities, including a sense of belonging, prioritizing physical and mental well-being, enhancing citizen satisfaction with the urban environment, promoting legibility in the urban landscape, intangible qualities of the urban environment, authenticity and identity of the urban environment, and preservation of historical and cultural monuments and buildings of the city.

- Theme 8: Interaction of Cultural Elements and Activities with Urban Design and Planning

The interaction of cultural elements and activities with urban design and planning reflects the extent to which cultural life is integrated into the fabric of the city and influences residents' perceptions. This dimension encompasses cultivating a thriving culture of citizenship, providing public and free cultural events, ensuring open access to cultural institutions, developing adequate cultural infrastructure, enhancing accessibility to cultural amenities, promoting recreational and leisure opportunities, fostering cross-cultural dialogue, and embracing cultural differences.

The overall findings of this study reveal distinct priorities among different ethnic groups residing in Tehran metropolis. For the Turk ethnic groups, the primary concerns were centered around the provision of good air quality and

adequate urban infrastructure. These elements were seen as crucial for their quality of life in the urban environment. In contrast, the Kurd ethnic groups placed a high priority on social security and tranquility. These factors were perceived as essential for their well-being and satisfaction with their urban surroundings. For the Gilak and Mazani ethnic groups, a recurring theme was the importance of communal bonding and connection to surrounding green spaces. Additionally, the visual aesthetics of their environment emerged as a significant factor in their perception of urban environmental quality.

*Empirical Findings*

Based on the data collected, a total of 854 valid questionnaires were obtained. The demographic breakdown of the respondents revealed that 45.4% identified as Persian, the predominant ethnicity in Tehran. This was followed by 15.8% Turk (Azeri), 10.4% Mazani, 8.2% Kurd, 7.7% Lor, 6.4% Gilak, and 6% belonging to other ethnicities or originating from cities in Isfahan, Khorasan, Hamedan, Kerman, and other provinces. These findings align with the ethnic composition of Tehran as documented in previous studies. A quantitative analysis was conducted to explore the perceived environmental quality among diverse ethnic groups residing in Tehran. This analysis was based on the findings from qualitative interviews, content analysis of theoretical studies, and the administration of questionnaires. Statistical tests were performed using SPSS software. To assess the reliability of the questionnaire, the Cronbach's alpha coefficient was calculated. This method measures the internal consistency of the questionnaire, evaluating the extent to which the items measure the same underlying construct. A Cronbach's alpha value greater than 0.7 indicates high reliability, suggesting that the items within a scale or index exhibit a strong correlation in measuring the intended concept (Habibpour Gatabi, & Safari Shali, 2012). In this study, the Cronbach's alpha value for the research questionnaire was 0.975, demonstrating adequate reliability and

supporting the trustworthiness of the findings. After establishing the reliability of the research instrument, the data was analyzed and evaluated. This rigorous process ensures the validity of the findings and contributes to the robustness of the research.

*F-test, One-way Analysis of Variance (ANOVA)*

The F-test, also known as one-way analysis of variance (ANOVA), is a statistical method employed to compare the means of more than two groups. This test serves as a generalization of the two-sample t-test, facilitating a more straightforward comparison of means and homogeneity

among multiple populations compared to the t-test. In the F-test, the total variance of the population is decomposed into its primary factors, hence its alternative name, the analysis of variance (ANOVA) test. This test is particularly useful for performing multiple comparisons between groups ([Habibpour Gatabi & Safari Shali, 2012](#)).

In this study, the ANOVA test was utilized to compare the perceived environmental quality among different ethnic groups residing in Tehran. This approach allows for a nuanced understanding of the variations in environmental perceptions across diverse ethnic groups, thereby providing valuable insights for urban planning

**Table 2:** ANOVA Test: Comparing Differences in Urban Environmental Perception among Ethnic Groups in Tehran

Factors Influencing Environmental Perception from the Perspective of Diverse Ethnic Groups in Tehran		Sum of Squares	Mean Square	F	Sig.
Ecological Quality	Between Groups	4.877	.813	1.544	.161
	Within Groups	445.946	.527		
	Total	450.823			
Accessibility and Dynamism	Between Groups	9.428	1.571	2.616	.016
	Within Groups	508.756	.601		
	Total	518.184			
Visual-Physical Quality	Between Groups	4.067	.678	1.193	.308
	Within Groups	481.278	.568		
	Total	485.345			
Functional-Activity Quality	Between Groups	6.833	1.139	1.285	.262
	Within Groups	750.790	.886		
	Total	757.624			
Social Quality	Between Groups	6.926	1.154	2.378	.028
	Within Groups	411.126	.485		
	Total	418.052			
Management-Economic Pattern	Between Groups	8.629	1.438	2.936	.008
	Within Groups	414.934	.490		
	Total	423.563			
Perceptual-Symbolic Quality	Between Groups	3.521	.587	.928	.474
	Within Groups	535.619	.632		
	Total	539.140			
Interaction of Cultural Elements and Activities with Urban Design and Planning	Between Groups	10.424	1.737	2.667	.014
	Within Groups	551.739	.651		
	Total	562.162			

and development in ethnically diverse metropolises like Tehran. It underscores the importance of considering these varied perspectives in urban planning and development to create inclusive and sustainable urban environments that cater to the diverse needs and perceptions of their inhabitants. It also emphasizes the need for a nuanced and context-specific approach in addressing urban environmental issues in ethnically diverse metropolises like Tehran.

Table 2 presents a comparative analysis of environmental quality perceptions among different ethnic groups residing in Tehran. Results indicate statistically significant disparities ( $p < 0.05$ )

in perceptions across specific indicators. Conversely, for indicators where  $p > 0.05$ , no significant differences were observed. A closer examination of sigma values and significance levels reveals substantial variations in environmental quality perceptions among Tehran's diverse ethnic populations. These differences are particularly pronounced in the dimensions of accessibility and dynamism, social quality, economic and managerial patterns, and the interplay between cultural factors and urban design. To further elucidate these disparities, mean and standard deviation values for each dimension and ethnic group are detailed in table 3.

**Table 3:** Mean Scores for Each Dimension Influencing Environmental Quality Perception from the Perspective of Diverse Ethnic Groups in Tehran

Dimensions Influencing Environmental Quality Perception from the Perspective of Diverse Ethnic Groups in Tehran	Diverse ethnic groups residing in the Tehran metropolitan area	Mean	Std. Deviation
Ecological Quality	Persian	2.03	.741
	Turk (Azeri)	2.11	.670
	Kurd	2.21	.744
	Lor	2.17	.733
	Gilak	2.11	.622
	Mazani	2.14	.705
	Other ethnic groups residing in the Tehran metropolitan area	2.29	.844
Accessibility and Dynamism	Persian	2.23	.773
	Turk (Azeri)	2.36	.691
	Kurd	2.36	.817
	Lor	2.54	.853
	Gilak	2.40	.681
	Mazani	2.45	.860
	Other ethnic groups residing in the Tehran metropolitan area	2.45	.774
Visual-Physical Quality	Persian	2.08	.773
	Turk (Azeri)	2.11	.711
	Kurd	2.27	.792
	Lor	2.24	.731
	Gilak	2.10	.755
	Mazani	2.17	.712
	Other ethnic groups residing in the Tehran metropolitan area	2.26	.759

Dimensions Influencing Environmental Quality Perception from the Perspective of Diverse Ethnic Groups in Tehran	Diverse ethnic groups residing in the Tehran metropolitan area	Mean	Std. Deviation
Functional-Activity Quality	Persian	2.71	.941
	Turk (Azeri)	2.74	.944
	Kurd	2.71	.861
	Lor	2.81	.913
	Gilak	2.81	.931
	Mazani	2.96	.980
	Other ethnic groups residing in the Tehran metropolitan area	2.95	1.016
Social Quality	Persian	2.31	.718
	Turk (Azeri)	2.39	.651
	Kurd	2.50	.660
	Lor	2.51	.749
	Gilak	2.30	.712
	Mazani	2.44	.673
	Other ethnic groups residing in the Tehran metropolitan area	2.58	.646
Management-Economic Pattern	Persian	1.97	.681
	Turk (Azeri)	2.04	.699
	Kurd	2.18	.751
	Lor	2.21	.726
	Gilak	2.10	.705
	Mazani	2.19	.727
	Other ethnic groups residing in the Tehran metropolitan area	2.22	.685
Perceptual-Symbolic Quality	Persian	2.07	.812
	Turk (Azeri)	2.11	.771
	Kurd	2.18	.884
	Lor	2.20	.780
	Gilak	2.06	.749
	Mazani	2.20	.788
	Other ethnic groups residing in the Tehran metropolitan area	2.27	.669
Interaction of Cultural Elements and Activities with Urban Design and Planning	Persian	2.18	.807
	Turk (Azeri)	2.24	.796
	Kurd	2.35	.795
	Lor	2.51	.870
	Gilak	2.29	.811
	Mazani	2.33	.795
	Other ethnic groups residing in the Tehran metropolitan area	2.50	.784

This quantitative analysis provides a comprehensive overview of the complex relationship between ethnicity and environmental perception. These findings underscore the critical importance of incorporating diverse perspectives into urban planning and development processes. To create equitable and sustainable urban environments, policymakers must acknowledge and address the specific needs and priorities of different ethnic communities. Tehran serves as a case study exemplifying the necessity of a nuanced, context-specific approach to urban environmental challenges in ethnically heterogeneous metropolises.

As discernible from the findings presented in Table 3, there exists a significant difference in the theoretical perspectives of different ethnic groups concerning the dimensions of accessibility and dynamism, social quality, economic status-urban management pattern, and interaction with cultural elements and activities. Based on the findings, the Lor ethnic group, with an average score of 2.54, exhibits the highest perception and understanding of the quality of accessibility and dynamism in Tehran city. Furthermore, with an average rank of 2.51, they also demonstrate the highest perception of the social quality of Tehran metropolis. Other ethnic groups residing in Tehran city also have an average rank of 2.58 in this regard. Additionally, the Kurd ethnic group, with an average score of 2.50, expresses the second-highest level of satisfaction with the level of social relations and concepts in Tehran city.

In the realm of economic-management dimensions, other ethnic groups residing in Tehran city, with an average rank of 2.22, the Lor ethnic group with an average score of 2.21, and subsequently, the Mazani ethnic group with an average rank of 2.19, have articulated the highest environmental perception of economic quality and urban management pattern. In the dimension of interaction with cultural elements and activities, the Lor ethnic group, with an average rank of 2.51, has expressed the highest average rank compared to other ethnic groups and subcultures residing in Tehran city.

Subsequently, the difference in the level of satisfaction with environmental quality and quality of life among the diverse ethnicities residing in Tehran was evaluated. The findings indicate that there is no significant difference in the level of satisfaction with environmental quality and the level of quality of life among the diverse ethnicities residing in Tehran. This underscores the importance of considering these varied perspectives in urban planning and development to create inclusive and sustainable urban environments that cater to the diverse needs and perceptions of their inhabitants. It also emphasizes the need for a nuanced and context-specific approach in addressing urban environmental issues in ethnically diverse metropolises like Tehran. Table 4 presents the differences of quality of life and Environmental Satisfaction among Ethnic Groups in Tehran Metropolis.

**Table 4:** Examining Differences in Quality of Life and Environmental Satisfaction among Ethnic Groups in Tehran Metropolis

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Satisfaction with Environmental Quality	Between Groups	5.473	6	.912	.721	.633
	Within Groups	1071.395	847	1.265		
	Total	1076.868	853			
Satisfaction with Quality of Life	Between Groups	10.199	6	1.700	1.394	.214
	Within Groups	1032.561	847	1.219		
	Total	1042.760	853			

## **CONCLUSION**

This research has illuminated the complex interplay between ethnicity and perceptions of urban environmental quality in Tehran. By examining the lived experiences of diverse ethnic groups, we have unveiled a nuanced understanding of how cultural backgrounds shape individuals' interactions with the urban realm. Our findings underscore the critical role of ethnicity in shaping perceptions of urban environmental quality, particularly in dimensions such as accessibility, dynamism, and social quality.

While overall satisfaction with quality of life appeared relatively consistent across ethnic groups, a nuanced examination revealed distinct preferences and priorities. For instance, the Lor ethnic group demonstrated a pronounced appreciation for accessibility and dynamism, as well as a strong sense of social cohesion within the urban fabric. These findings emphasize the importance of place-based approaches to urban planning and design, tailored to the specific needs and aspirations of different ethnic communities. It is essential to acknowledge the limitations of this study. The focus on specific ethnic groups in Tehran may limit the generalizability of findings to other urban contexts. Additionally, the cross-sectional nature of the data precludes causal inferences about the relationship between ethnicity and perceptions of urban environmental quality. Future research could explore these issues through longitudinal studies or comparative analyses across different cities. To enhance urban environmental quality and foster a more equitable city, it is imperative to adopt a culturally sensitive and inclusive approach. By tailoring urban interventions to the specific needs and preferences of different ethnic groups, policymakers can create more vibrant, resilient, and just cities. Our research provides a foundational understanding of these ethnic-based disparities, offering a roadmap for future research and urban planning initiatives aimed at creating a Tehran that truly serves the needs of all its residents.

Furthermore, this study highlights the necessity for urban planners and policymakers to engage with diverse communities actively. By incorporating the voices and experiences of various ethnic groups into the planning process, cities can better address the unique challenges and opportunities presented by ethnic diversity. This inclusive approach not only enhances the quality of urban environments but also promotes social cohesion and cultural integration, ultimately contributing to the overall well-being of urban residents. In conclusion, the findings of this research underscore the importance of recognizing and valuing ethnic diversity in urban planning. By understanding the distinct needs and preferences of different ethnic groups, cities can develop more effective strategies to improve urban environmental quality. This approach will help create urban spaces that are not only functional and aesthetically pleasing but also equitable and inclusive, ensuring that all residents can thrive in a harmonious urban environment.

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