

Article

An Investigation of the Perception of Neoclassical, Eclectic, Modernist, and Postmodern Architecture within Different Urban Landscapes: Athens vs. Paris

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Abstract: The public perception of buildings belonging to different architectural movements is a largely unexplored area from a quantitative scientific perspective. However, a better scientific understanding of perceptions of architectural movements is important for the formation of improved planning and design policies. In this work, we carry out an initial exploration of the public preferences of the architectural movements of Neoclassicism, Eclecticism, Modernism, and Postmodernism. To this aim, a total of 103 citizens from Athens (Greece) and Paris (France) were presented with the same questions regarding their opinions on buildings belonging to those movements. In the analysis and interpretation of the collected data, the different cultural, professional, and demographic characteristics of participants were then considered, as well as the role of the urban landscapes of Athens and Paris as the historical, societal, and aesthetic contexts that influence and shape perceptions. The results demonstrated a clear and uniform prevalence of Neoclassical architecture in terms of positive public perception in both cities. Similarly, in both cities, Eclecticism followed with a relatively more positive perception than Modern and Postmodern architectural styles, which were rated the lowest. However, a significant difference between the two cities was that when participants singled out their primary favorite style, Modernism enjoyed higher favorability in Athens than in Paris. These findings and their theoretical exploration provide inferences into the complexities of public perceptions of architectural styles, with potential implications for the integration of citizen preferences into future research on architectural/urban design and planning.

Keywords: public perception; architecture; landscape; architectural styles; urban landscape; Paris; Athens; Modernism; Neoclassicism; Postmodernism; Eclecticism



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1. Introduction

1.1. Architecture, Landscapes, and Public Perception

Better quantifications of people's perceptions of architecture and landscapes are important for a transition to more sustainable living environments. Since cities and their infrastructure are designed for the people who are living within them, people's understanding of architecture should be considered when defining their character. Research on public perceptions of living environments, however, has largely omitted the impact of architectural movements, an omission that might also be intertwined with the broader lack of relevant perception data [1–3]. The impact of this lack of data has manifested itself, so far, in the difficulty that researchers face when trying to assess and compare the effect of architectural works in terms of receiving positive or negative public perception [4–6]. This has eventually obstructed efforts to evaluate the efficacy of investments in such works carried out by public or private bodies [7,8], as well as efforts to integrate relevant considerations in urban planning and spatial design and planning practices. In the end, the problem of unknown/unquantified public opinions over works leads to a general lack of

institutional will to strive for high quality in architectural and urban design. Since there can be no differentiation made between positively and negatively perceived architectural or urban works in terms of preference by citizens, there is little incentive to ensure high quality of architectural and urban design, eventually leading to the degradation of relevant policies and frameworks.

Another area in which the matter of landscape perception has been of great importance is the renewable energy transition. During the first decades of this transition, it has been very challenging to predict and mitigate the impact of renewable energy structures and equipment on landscapes [9,10], and the lack of detailed perception has been one of the causes of this. Eventually, this has led to increased risks for projects during their planning and construction phases, originating from potential public opposition movements motivated by negative perceptions from a landscape impact context [11]. Thus, renewable energy projects have been facing challenges and opposition with landscape-related motivation [12,13], which have been associated with significant economic damages (on the scale of \$billions) [11,14] and developmental issues associated with delays in the implementation of renewable energy goals, e.g., in the EU of the Renewable Energy Directives and the European Green Deal [15]. A better understanding of both the perception of such infrastructure per se and of the perceived quality of living environments of citizens is crucial in order to be able to optimize the design and planning [16,17] of such works [9,18], avoiding problematic locations and protecting highly perceived ones.

In summary, the quantification of public perceptions regarding architecture and architectural movements stands as an integral but largely unexplored [19] research direction for advancing the formation of sustainable living environments. Existing approaches to research questions on the perception of landscapes range from questionnaires [19–21] to analyses of social media uploads [22,23] to various types of analyses of georeferenced photographs [2,6,24], image analysis methods [25], and even crowdsourcing [26]. However, there is still much potential for further analyses as the field is characterized by a scarcity of original data. The lack of relevant analyses and their utilization in planning and design practices contributes to communities often feeling a general disregard for the quality of their living environments. Furthermore, that lack of comprehensive assessment of architectural and landscape projects not only complicates the evaluation of investments made by the government or by private entities in those areas [3] but also obstructs the integration of feedback from current practices into formulating future urban planning and spatial design practices for improved living conditions [6,27].

1.2. The History of the Urban Landscapes: Paris and Athens

This work seeks to investigate how the buildings belonging to different architectural movements are perceived by the public within the urban spaces of Athens and Paris, as well as the reasons for those perceptions. Even though both the perceptions per se, as well as the reported origins of the perceptions, were studied in this work, an analysis of the historical and cultural contexts that arguably contribute to these perceptions is also necessary for the interpretation of the results. Therefore, in this part of the introduction, we present a brief historical overview of the urban development of Paris and Athens.

The urban development of Paris and Athens is vastly distinct. On the one hand, the building, planning, and urbanization techniques developed during the golden age of ancient Greece have influenced the rest of Western civilizations for centuries [28,29], but on the other hand, the urban life and development of Athens have not been historically continuous. Meanwhile, Parisian urban development has been relatively unhindered throughout history, with architectural and structural innovations being integrated more harmoniously through time, gradually giving the city its current urban character.

Since its creation, Paris has been a major political center, starting with its local influence in France and gradually expanding to a European scale. Even though Paris was not always the city in which political powers were centralized, it can be argued that, for the most part, its role has been prevalent continuously from the 16th century until today [30]. This relative

importance throughout history is also what has enabled it to become an architectural center as we recognize it today.

The first testimony of human presence in the current Parisian area is a trace of Neolithic boats and habitations along the riverside dated around 4500 BC [31]. Nevertheless, the history of Paris as we know it nowadays began with Lutetia at the beginning of the third century BC [32]. Initially, the capital of the Gallic tribe, called the Parisii, the oppidum of Lutetia, fell under Roman domination after the battle of Alesia in 52 BC. The Roman invasion marked the start of urbanization and the premises of the city of Paris as we know it today [32]. The fall of the Roman Empire, defeated by the Merovingian dynasty in 476, plunged Paris into the Middle Ages for almost ten centuries. The grid plan introduced by the Roman Empire was abandoned for narrow, winding medieval streets. In this era, the infatuation with religion and the abundance of cheap, highly skilled labor made it possible to build the Romanesque then Gothic architectural masterpieces that have endured for centuries, while the people themselves lived in dark, dilapidated, and insalubrious houses made of half-timber and cob [33]. The French Renaissance introduced Classicism, Baroque, and Neoclassicism with the construction of most of the famous administrative or political buildings in Paris [33,34]. This era ended with the French Revolution, where a drastic break was made; architecture would no longer be reserved for the elite and for administrative or public buildings, but also for the inhabitants of Paris; the city should now also be pleasant and modern for them as well. Modernization work began under Louis XIV. Each of his successors undertook to modernize Paris a little more, but the boom in the modernization of Paris was marked by the arrival of the Emperor Napoleon to power [34]. His work was taken up by the Count of Rambuteau, then Jean-Jacques Berger, and finally, the man who transformed the face of Paris, Baron Haussmann [33]. The greatest changes were made during the Haussmann era, although the city continues to modernize and innovate architecturally to this day.

Like Paris, the premises of Athens date to the Neolithic era; nevertheless, the creation of Athens took place in 800 BC [35]. During the archaic period, Athens was a place of power, even before its golden age started in 480 BC after the naval battle of Salamina, where the Athenians, the Spartans, and other Greeks jointly defeated the Persian empire [36]. The alliance of Delos, which faced the Peloponnesian alliance, made Athens the most powerful city in Greece until 404 BC when the Peloponnesian War was concluded with defeat against the Spartans [35]. The end of this war marked not only the end of Athens' golden age but also that of ancient Greece. This and other wars weakened the older Greek cities and facilitated the rise of the city-state of Macedonia in the second part of the 4th century BC. Athens remained a rich city with a strong cultural life, but it gradually ceased to be independent. Macedonia, which remained a dominant Hellenistic power in Greece for the largest part of the 3rd century BC, was eventually annexed by Rome in the mid-2nd century BC. In this new Roman–Greek age, Athens obtained the status of a “free city”. The city remained an important cultural center and was visited by emperors, including Nero and Hadrian [37]. Several Roman emperors built important buildings, some of which are still in use today [38,39]. However, the successive sackings of the city from the 3rd to the 6th centuries caused a great deal of damage. Although the town was rebuilt after each attack, the reconstruction was more extensive each time [40]. The new center of the city became a vast complex around Hadrian's Library. The final Slav pillage in the 6th century seems to have caused Athens to lose its political and cultural role once and for all.

With the centers of this civilization now transferred to Constantinople or Thessalonica, Athens was then a provincial town. The town was so far from the capital that it even became a place of exile in the 8th and 9th centuries. From the 10th century to the 11th century, the town regained its importance; many churches were built as a sign of prosperity; it was the golden age of Byzantine art in Athens [41]. Almost all the most important Byzantine churches in and around Athens were built during this period, reflecting the city's development. After the 4th Crusade, which drifted against Constantinople, Athens came under the control of the “Latins” [42]. This lasted for more than two centuries, from 1205

until Athens fell to the Ottomans in 1458. Sultan Mehmed II was dazzled by the beauty of its ancient monuments and immediately declared an edict punishing the looting or destruction of Athenian monuments [37]. During the 17th century, the city was seriously damaged by accidents and war. In the 18th century, ancient monuments were dismantled to build the new city wall [43]. It is indicative of the history of Athens as a city of changing scale and character throughout history that in 1801, it was only the 43rd city of the Ottoman Empire in terms of population. Its 13,000 houses on and around the Acropolis were surrounded by a 3 m high wall that protected the city from brigands (the so-called klephts) and marked out its fiscal boundaries [44].

During the Greek War of Independence, the city and the Acropolis were subjected to several sieges by both sides. The monuments suffered from war, plunder, and decay. In 1832, one year before the complete retreat of the Ottomans, Athens became the country's capital, but the city was almost entirely ruined by the war [45]. The population of Athens was around 12,000 in 1834. Athens was chosen as the Greek capital for historical and sentimental reasons, not for its grandeur. Nevertheless, a few buildings dating from the period between the Byzantine era and the nineteenth century can still be found in the city. During the reign of Otto I, a modern city was built, and public buildings in classical Greek style were erected, as well as neoclassical mansions. The city's population exploded after the disastrous war with Turkey in 1921 when over a million Greek refugees from western Asia arrived in Greece. Large suburbs such as Néa Ionía and Néa Smýrni emerged as refugee camps [45]. After the 2nd World War, the city began to grow again, with Greeks migrating there from their villages and islands. Overall, the 20th century was a time of continuous urbanization in Greece, which led to practically half of the national population moving into Athens and its suburbs. The influence of architectural movements can be easily traced during those times, presenting a clear transition from Neoclassical to Modernist and Postmodernist architecture, with influences from various sub-movements and the emergence of various site-specific architectural and urbanistic particularities. This examination of the historical and urban development of Paris and Athens sets the stage for the exploration of how public perceptions of the buildings of various architectural movements within these were shaped, laying the groundwork for our investigation into the interplay between architecture, urban landscapes, and the people's appreciation of architectural styles associated with those movements. In this context, the aim of the study is to better understand and quantify public perception of buildings belonging to important architectural movements as viewed through the lenses of people living in different and distinct urban landscapes. The landscapes of Athens, Greece, and Paris, France, were analyzed in this regard as case studies.

2. Materials and Methods

2.1. Summary of Methodology

The primary research questions of the study focus on the theoretical investigation of the perception of architectural work, but the process of carrying out the surveys utilized in this study also generated inferences for practical-methodological areas of research regarding surveying and quantifying public perceptions of landscapes and architecture. The theoretical research questions target the matter of public preferences over architectural movements, namely: Which architectural styles are the most preferable by the citizens of each city? How do history and local landscape perception affect such preferences? The methodological inferences of our study, on the other hand, refer to the evaluation of the process of surveying citizens' opinions over such matters per se and, in particular, do the provided questionnaires provide the right medium for the theoretical analysis of the theoretical-architectural part? What inferences can be made in this regard for future research of similar types or aims? Being secondary in relation to our primary theoretical questions, those additional methodological inferences and considerations are mostly reported in the discussion section while the final conclusions refer to our main theoretical-architectural research questions.

The research questions of our work are addressed through an initial exploration of the public preferences over buildings built with the influences of the architectural movements of Neoclassicism, Eclecticism, Modernism, and Postmodernism. Through surveys with citizens, we collected and analyzed data regarding citizens' self-reported perceptions of buildings and those movements. To this aim, a total of 103 citizens from Athens (Greece) and Paris (France) were presented with the same questions regarding their opinions on architectural styles, as they have been expressed in buildings of their respective cities. In the qualitative interpretation of the results, the different cultural, professional, and demographic characteristics of participants were then considered, as well as the role of the urban landscapes of Athens and Paris as the historical, societal, and aesthetic context that influences and shapes perceptions.

For clarity over utilized terminology [46], we note that throughout this work, when employing the term "architectural style", we are referencing the distinctive forms and features that characterize buildings or structures, and conversely, the term "architectural movement" denotes the more comprehensive spectrum of ideas, philosophies, and principles that have directed the design and conceptualization of buildings and spaces [47].

The parallel analysis of the two cities, Athens and Paris, was selected in order to facilitate comparisons, i.e., by asking the same questions about their opinions over architectural movements but to people with different landscape contexts. The history of the two cities offered an important chance for this since the four highly discussed architectural movements that we study in our work (Neoclassicism, Eclecticism, Modernism, and Postmodernism) have all influenced buildings in both Athens and Paris. This made sure that there was common ground for comparisons of perceptions of buildings of similar architectural styles but within different cities. Finally, an additional reason for selecting the two cities was that they are the cities that the two authors have studied, providing them with valuable theoretical and empirical background regarding their architecture and urban character and thus facilitating the qualitative investigation of the results. The questionnaires targeted the collection of three types of data: (i) demographic data, (ii) data on perceptions of buildings belonging to various architectural styles, and (iii) data regarding the origins of those perceptions. Data from type (ii) were the most essential for this study, but the data from types (i) and (iii) were also necessary to allow the contextualization of the results and, eventually, their better interpretation. In addition to that data, we also utilized a critical overview of the historical context of the two examined landscapes, aiming again to lay the groundwork for the analysis of the results later in the discussion section. This overview is presented in Section 2.2, followed by the presentation of the survey's setup in Section 2.3, the primary results of the survey in Sections 3.1 and 3.2, and finally, the processed results for comparison between Athens and Paris in Section 3.3.

2.2. The Historical Context of Athens and Paris from a Landscape and Architectural Perspective

To effectively assess the public perception of the urban landscapes in the two cities, it is crucial to begin by examining their respective histories [48]. This includes the broader societal, political, and economic state of the countries that have defined the examined cities' development [49], particularly given that they are the capital cities of their respective countries. In line with Thucydides' view that history refers to the study of the past with the aim of interpreting the future [35], the study of architectural history in our work is carried out to facilitate the identification of the factors that shape architectural perception in a broader generic context. In this section, we demonstrate the integration of the introductory historical remarks of the study into our methods, showcasing how they affected the setup of our methodology and the interpretation of our results.

As was already established in the Introduction, a primary historical differentiating parameter between the two cities is that the Athenian urban development was not as continuous as the Parisian one. The gaps in the historical development of Athens mean that even though there is a range of close to 3000 years of architecture to be found, buildings from historical eras like the Renaissance and the Enlightenment are mostly missing. So, the

architectural styles and types from those periods that can be found in Athens are largely limited in comparison to Paris. This historical observation led to the identification of four important architectural movements that have influenced both cities: Neoclassicism, Eclecticism, Modernism, and Postmodernism. Those movements did not always emerge around the same time, however, in the two cities and have affected the cities to different extents. The current proportion of the influence of each style as a percentage of the cities' buildings varies considerably, depending on both its original expansion and the later protection and restoration of buildings of this style (or lack thereof). For example, while 60% of today's Paris is made up of Haussmann-style buildings, which are so characteristic of the capital, the majority of current buildings in Athens are either not attributable to any particular international architectural movements (this applies to many of the Athenian "polykatoikies", 4 to 6-story apartment buildings built from the 1970s to the 2000s [50]) or mostly lean towards Modernism. An exception to this is the city center, where there are several neoclassical buildings to be found and some Eclectic or older historical buildings as well. Of course, this reality limits the comparisons that are available between Athens and Paris. However, the limitation is not critical since the common styles between the two cities, i.e., Neoclassicism, Eclecticism, Modernism, and Postmodernism, and the associated architectural styles are some of the most debated ones [46,51–53]. Our work can contribute to such academic discussions by offering insight into the public's perceptions of the buildings of those movements.

History also provides indicators as to why and how developments took place and can also help explain the architectural trends that make up the cities [54] to a significant extent. For example, in Paris, the modernization of Paris under Louis XIV was made at a time when the streets were narrow, dirty, and rife with disease and could, therefore, be considered a matter of citizens' health and safety [55] rather than merely an urban regeneration project. Haussmann's improvements under the 2nd Empire were designed to make Paris more pleasant for Parisians, to make the streets more fluid and less congested, and to make it easier to control the crowds at a time when the political state of the country was very unstable, and riots were very common [55]. In Athens, on the other hand, there are whole centuries during which urban development ceased, e.g., from the previously mentioned historical eras or the period from the 6th to the 10th century. At those times, political and strategic interest in the city by the ruling powers was lost [41], which, of course, also had impacts on the production of architecture and built infrastructure in the region and also affected the perception of the landscape of the city per se, due to the dominance of Christianity and the departure from the values of classical Greece that Athens stood for more than any other city in common perceptions [42].

Given the vast historical differences between the two cities, even the same or similar architectural movements can be seen developing in different ways within their distinct political and societal contexts, e.g., this can be noticed in the so-called Byzantine architecture and the Romanesque and Gothic architecture that existed at the same time. Byzantine architecture was an inspiration for Romanesque architecture [56], and buildings that have been influenced by that architecture survive in Paris and Athens until today. However, in the case of Athens, Byzantine architecture became a static remnant of a historical era, while in Paris, it played a more dynamic role and inspired this new type of architecture, called Romanesque architecture, which was in intentional contrast with the emergent Gothic architecture with its slenderer and sharper buildings and its innovative structural principles. Nevertheless, even from those medieval times, there are also similarities between the two cities that can already be traced. Medieval political structures and derivative ethics led both cities to the development of town planning and architecture primarily through religious monuments [57]. Paris was one of the cities that led the way in overcoming this way of acting and thinking during the French Renaissance [58] and later in the French Enlightenment [59] when many civil and institutional buildings were constructed.

Overall, the selection of the four architectural styles of Neoclassicism, Eclecticism, Modernism, and Postmodernism, due to their common presence in the cities of Paris

and Athens, provides ample space for theoretical purchase regarding the perceptions of buildings of the various architectural movements per se, but also regarding the origins of those perceptions within urban environments with different historical, cultural, and societal characteristics.

2.3. Survey

Surveys' Setup

The questionnaires that were shared with participants requested the following information:

- (i) Demographic data: Age and employment/studies
- (ii) Data on public perceptions over buildings belonging to various architectural movements: (A) Rating their preference of building of various architectural styles within their respective cities from 1 to 5, when presented with photographs of such buildings; and (B) selecting their favorite architectural style within their city. Our selection of architectural styles to be included in the surveys was customized for Paris and Athens, aiming to represent major existing and important buildings of architectural movements that have had a significant presence within the two cities (see Appendices A and B).
- (iii) Reported reasons for the above-mentioned perceptions: sharing the reasons for liking or disliking the said buildings. This included selecting one or more of the following options: integration into the landscape, aesthetics, personal/emotional links, rarity in the landscape, historical reasons, cultural reasons, political/ideological reasons, environmental reasons, nothing, and other (free text reply).

The surveys were primarily disseminated via grouped emails to our respective universities and schools as well as through professional networks on LinkedIn. To reach more people, the surveys were also relayed on the social networks (Facebook and Instagram) of the authors. In total, we received 103 responses to our surveys. The 69 responses were for the questionnaire on architectural movements in Paris, and 34 were for Athens. The number of responses was considered adequate for a first investigation of the selected research questions in a largely unexplored scientific area. Nevertheless, it should be acknowledged that even though the set of responses collected is random, from the perspective of the methods utilized for data collection, it does not adhere to the principles of the selection of a random sample in statistical analysis. As is later analyzed in the analysis of the demographic data in Section 4.3, and in the last paragraph of the conclusions, the generated results should be exploited while considering the associated constraints.

3. Results

3.1. Results of the Parisian Survey

Figure 1 presents the choice of favorite architectural styles in Paris, capturing the essence of participants' singular preferences when asked to choose a favorite architectural movement. This is the first question employed to explore the dominant architectural styles that resonate most strongly with the Parisian people. Figure 2 offers a more holistic overview by showcasing the average ratings assigned by participants to all the major architectural styles that have influenced Paris. This figure, therefore, provides an understanding of the overall perception and preferences toward buildings assigned to those architectural styles in Paris, offering a comprehensive view beyond individual favorites.

Table 1 offers additional descriptive statistics for the ratings assigned to the four architectural movements that are highlighted in this work (Neoclassicism, Eclecticism, Modernism, and Postmodernism), providing a detailed breakdown of the distribution of opinions in Paris. These four architectural movements were separated and analyzed in greater detail as (i) they are movements that have been adequately expressed in the built environment of both Athens and Paris, therefore offering the necessary room for comparison, and (ii) are movements that have been of considerable interest in the international literature in terms of their differences and inferences [46,51–53], and therefore providing

data regarding the public’s perception of the architectural styles associated with those movements was considered to be offering a new important perspective in such discussions. In Figure 3, a scatter plot with trend lines visually depicts the ratings given by participants to each architectural style, providing a graphical representation of the distribution of the responses over citizens’ preferences of the said architectural movements.

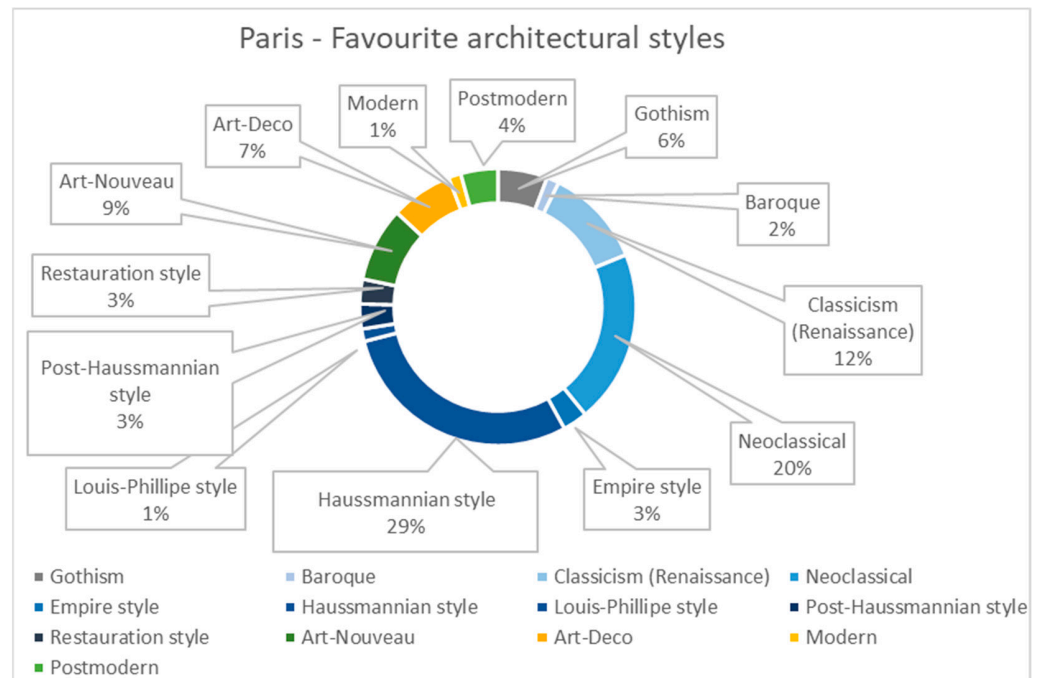


Figure 1. Favorite architectural styles in Paris (answered when participants were presented with the choice of singling out one of the styles as their favorite).

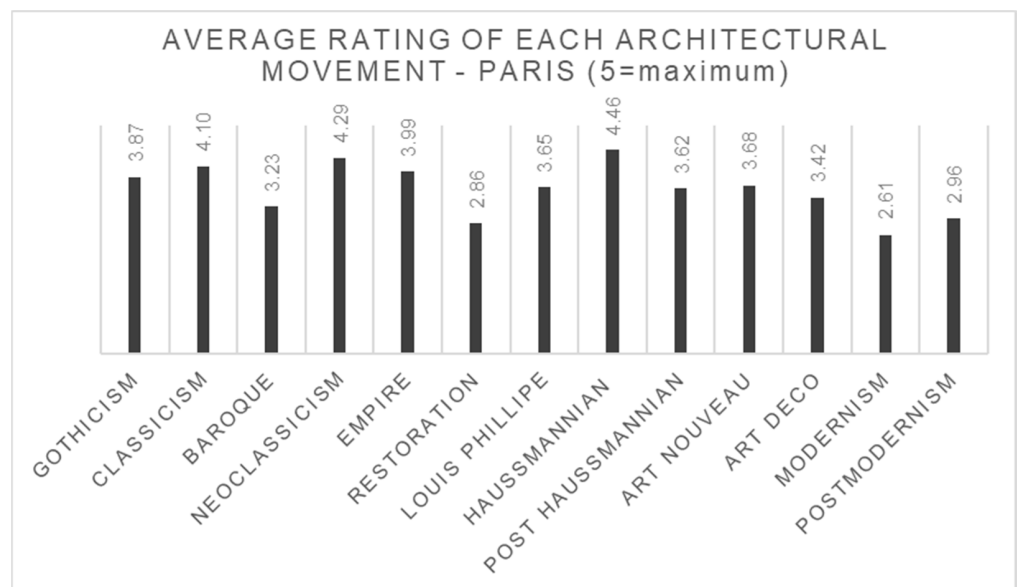


Figure 2. Average rating given to Parisian architectural styles, with possible answers ranging from 1 to 5.

The demographic data of participants from Paris are given in Figures 4 and 5. Figure 4 shows cases of the distribution of respondent ages, while Figure 5 provides details regarding the occupation or field of study of participants.

Table 1. Additional descriptive statistics for ratings given to Neoclassic, Eclectic, Modernist, and Postmodern Architecture in Paris.

Architectural Style	Neoclassicism	Eclecticism	Modernism	Postmodernism
Standard Deviation	0.909127721	1.036009789	1.17845102	1.130262627
Sample Variance	0.826513214	1.073316283	1.3887468	1.277493606
Kurtosis	2.160582062	−1.09539706	−0.85642111	−0.85887271
Skewness	−1.462320224	−0.21725465	0.31456695	0.087440008
Range	4	3	4	4
Minimum	1	2	1	1
Maximum	5	5	5	5

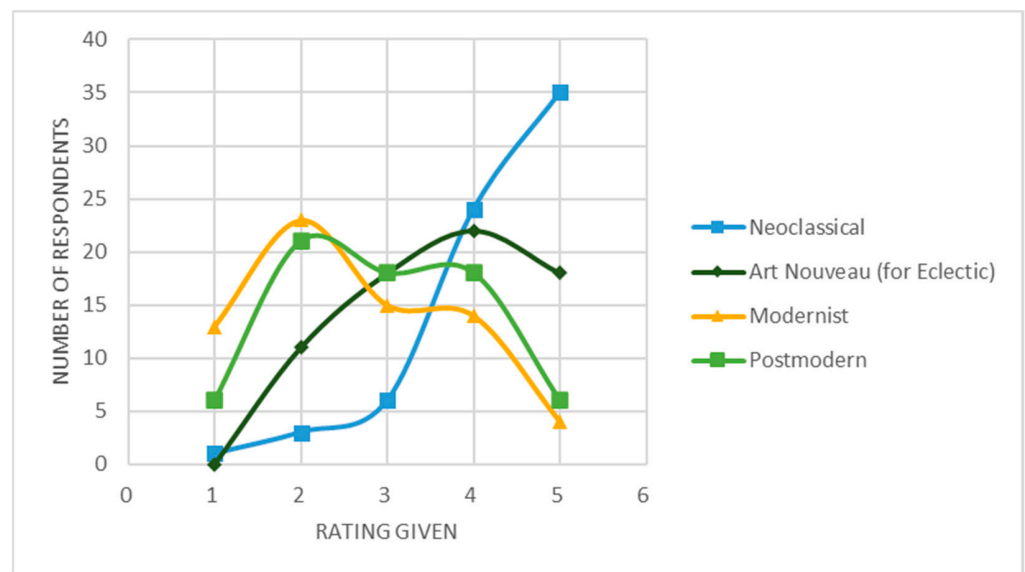


Figure 3. Scatter plot with trend lines depicting ratings given to Neoclassic, Eclectic, Modern, and Postmodern architecture in Paris.

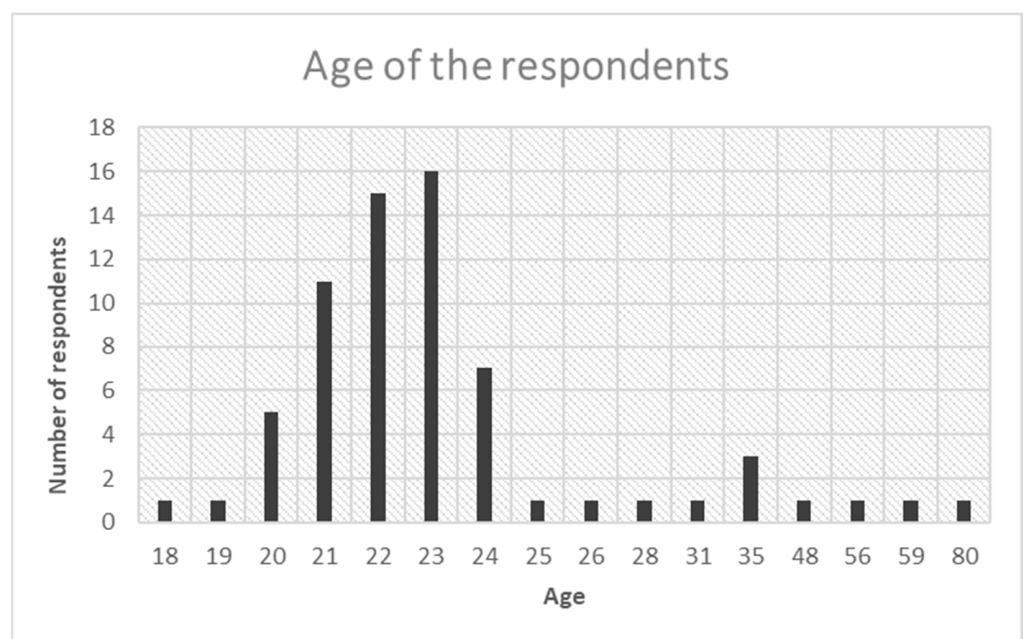


Figure 4. Graph of the ages of the respondents, the average age was 25, and the median was 23.

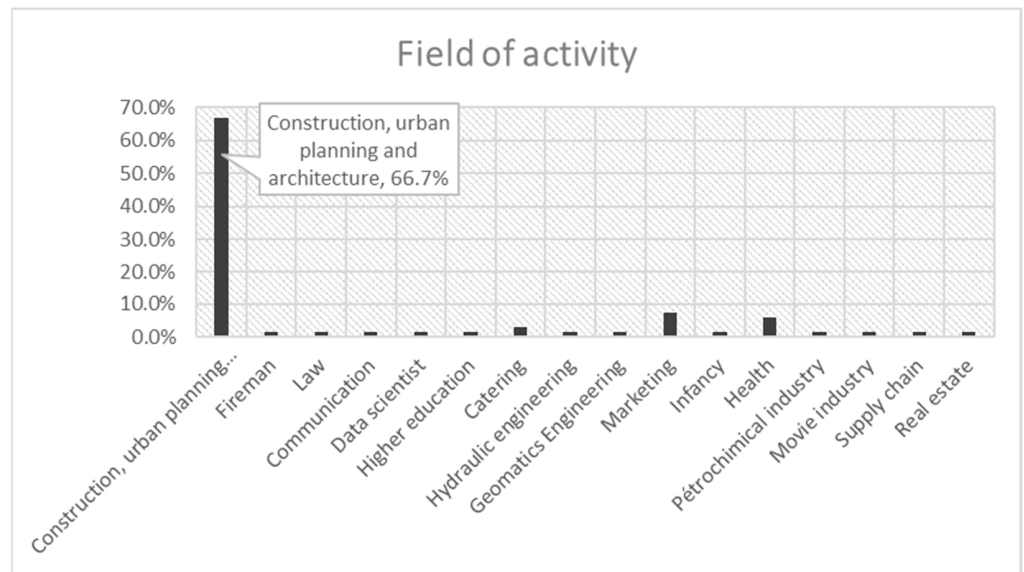


Figure 5. Field of activity of the Parisian respondents.

3.2. Results of the Athenian Survey

Figure 6 demonstrates the participants’ preferences for favorite architectural styles in Athens when prompted to select a single preferred one. This initial inquiry serves as a gateway to exploring prevalent architectural styles that hold the strongest appeal to the Athenian public. Figure 7 takes a broader perspective by presenting the average ratings assigned by participants to all the diverse architectural styles in Athens rather than limiting the assessment to their singular favorite. Consequently, this figure expands our understanding of the overall perception and preferences concerning the associated architectural movements in Athens.

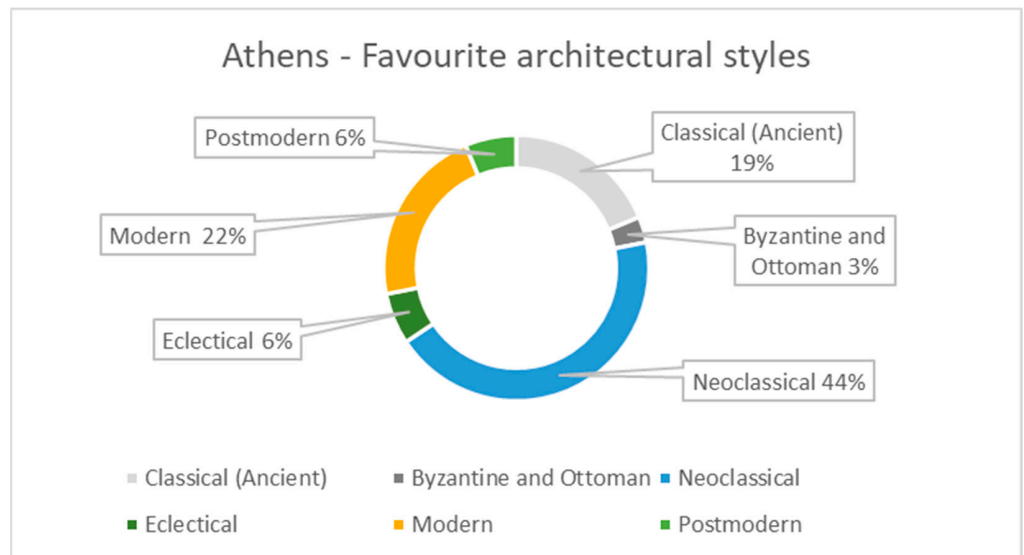


Figure 6. Favorite architectural styles in Athens (answered when participants were presented with the choice of singling out one style as their favorite).

Table 2 presents additional descriptive statistics for the ratings assigned to buildings belonging to the four architectural movements emphasized in this study (Neoclassicism, Eclecticism, Modernism, and Postmodernism), offering a comprehensive breakdown of opinion distribution in Athens. In Figure 8, a graphical representation of the distribution is

utilized to visualize the statistical differences between the ratings given by participants for each architectural style.

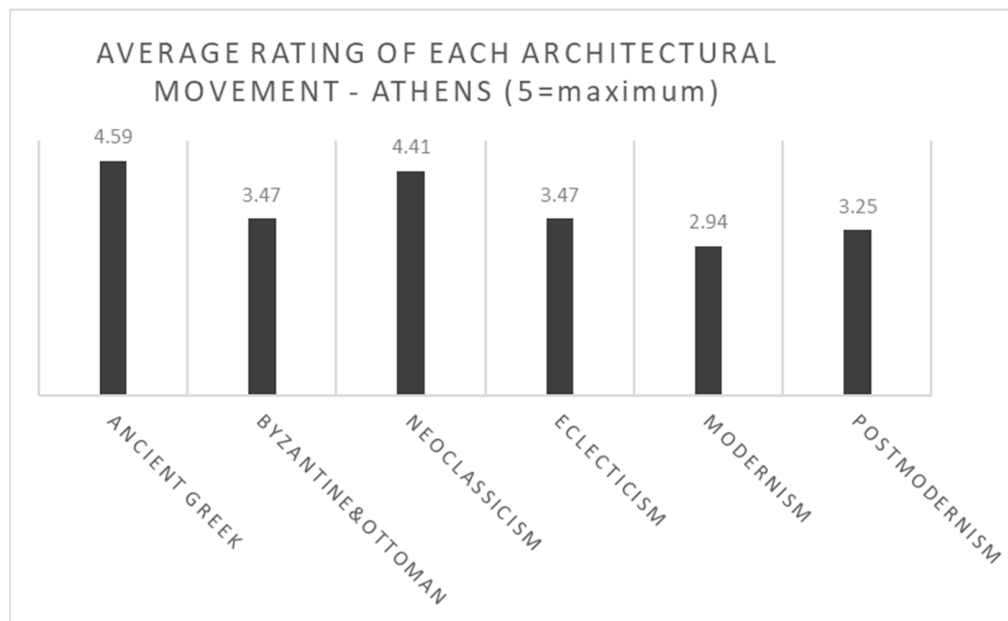


Figure 7. Average rating given to Athenian architectural styles, with possible answers ranging from 1 to 5.

Table 2. Additional descriptive statistics for ratings given to Neoclassic, Eclectic, Modernist, and Postmodern Architecture in Athens.

Architectural Style	Neoclassicism	Eclecticism	Modernism	Postmodernism
Standard Deviation	0.756024193	0.983226256	1.38976675	1.077631812
Sample Variance	0.571572581	0.966733871	1.93145161	1.161290323
Kurtosis	−0.672818945	0.981327131	−1.194642	−0.297924649
Skewness	−0.855211847	−0.667505216	−0.0354515	−0.206213495
Range	2	4	4	4
Minimum	3	1	1	1
Maximum	5	5	5	5

Figures 9 and 10 present demographic data specific to participants from Athens. Figure 9 highlights the age distribution, and Figure 10 provides details on participants’ professional backgrounds or fields of study.

3.3. Comparative Results between Athens and Paris

Our first level of comparison refers to the ratings given to each architectural style. As can be seen in Figures 2 and 7 regarding the four architectural movements of our principal focus, Neoclassical architecture is the most well-perceived by respondents, followed by Eclectic, Postmodern, and Modernist architecture, in said order. Those results are common for both Athens and Paris. It could also be argued, both from observing the distributions of the ratings (Figures 3 and 8) and their descriptive statistics (namely the variance in Tables 1 and 2), that Postmodern and Modernist architectures are more “divisive” in terms of public perception. The ratings given to those movements are more dispersed since more ratings can be observed at the edges of the distributions. This comes in contrast with the ratings given to Neoclassical and Eclectical architectures, which have more uniform distributions with relatively low numbers of low ratings, i.e., ratings of 1 or 2 out of 5.

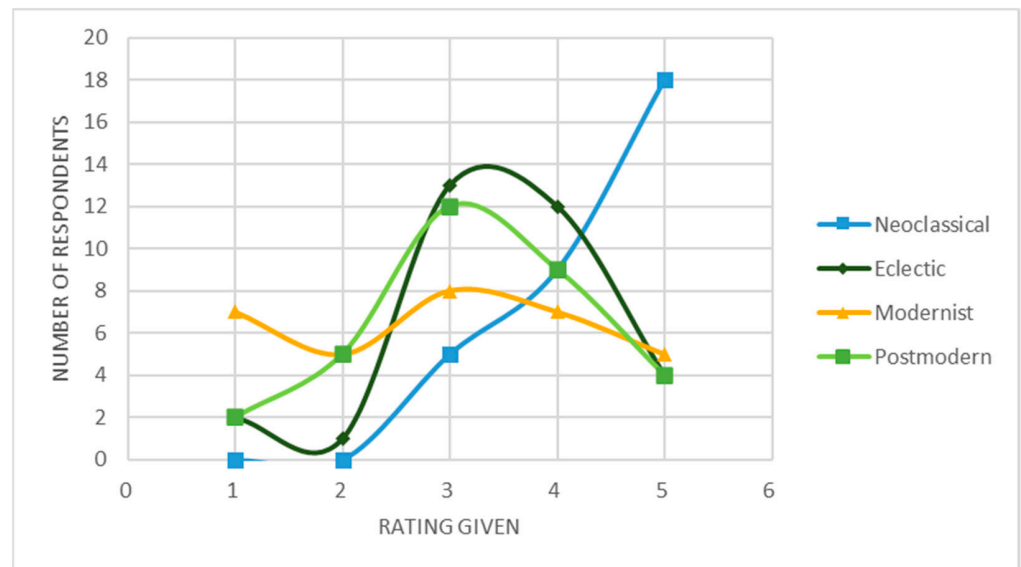


Figure 8. Scatter plot with trend lines depicting ratings given to Neoclassical, Eclectic, Modernist, and Postmodern architecture in Athens.

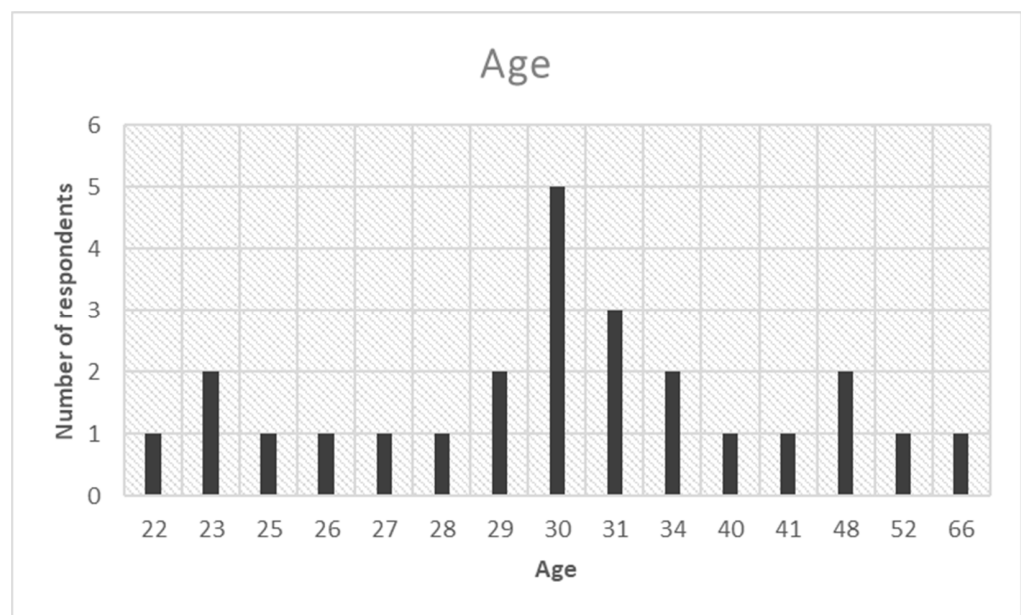


Figure 9. Graph of the ages of the respondents from Athens, the average age was 33, and the median age was 30.

In Figure 11, we have grouped architectural styles from Figures 2 and 7 into some clustered categories that share similar characteristics. This was carried out in order to facilitate comparisons between the two cities since there are several architectural substyles for Paris that are not found in Athens due to the denser architectural history of Paris. Then, we went on to average their ratings for each clustered category.

The first category, the historical-type architectural movements, encompasses the architectural styles that can mostly be dated before the Renaissance times in both cities and were thus not directly useful for our comparison of the four major architectural movements of interest. Namely, in this category, we included Ancient Greek, Byzantine, and Ottoman architecture for Athens and Gothic Architecture for Paris. The second category only includes Neoclassical Architecture for Athens, but in the case of Paris, it includes most of the substyles since they are all greatly influenced by classical architecture and by the principles

of the Neoclassical Movement [60,61]. Therefore, the average presented in Figure 11 originates from the following: Classicism, Baroque, Neoclassicism, Empire, Restauration, Louis Phillipe, Haussmannian, and Post-Haussmannian styles. For Eclectical-type architectures, Art Nouveau has been elected as the representative of Paris for this comparison due to the significant correlation between the two [62]. In terms of Modernist-type architecture, the only addition that has been made is that now the average of Paris also includes the Art Deco style [63]. Finally, Postmodernist-type architectures represent the categories named “Postmodern Architecture” in Figures 2 and 7 without requiring the clustering of more sub-movements or styles.

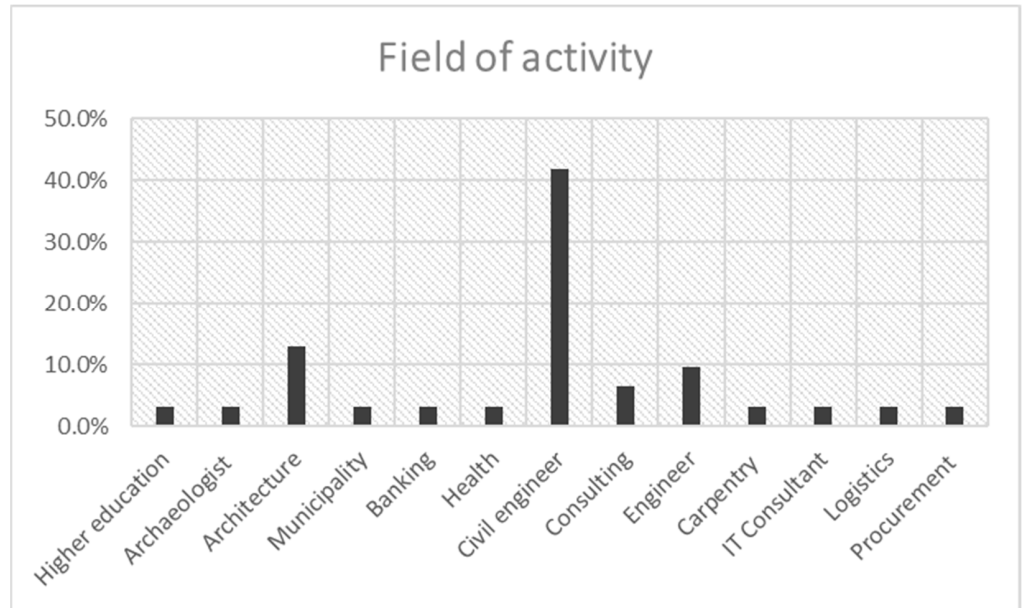


Figure 10. Fields of activity of the respondents from Athens.

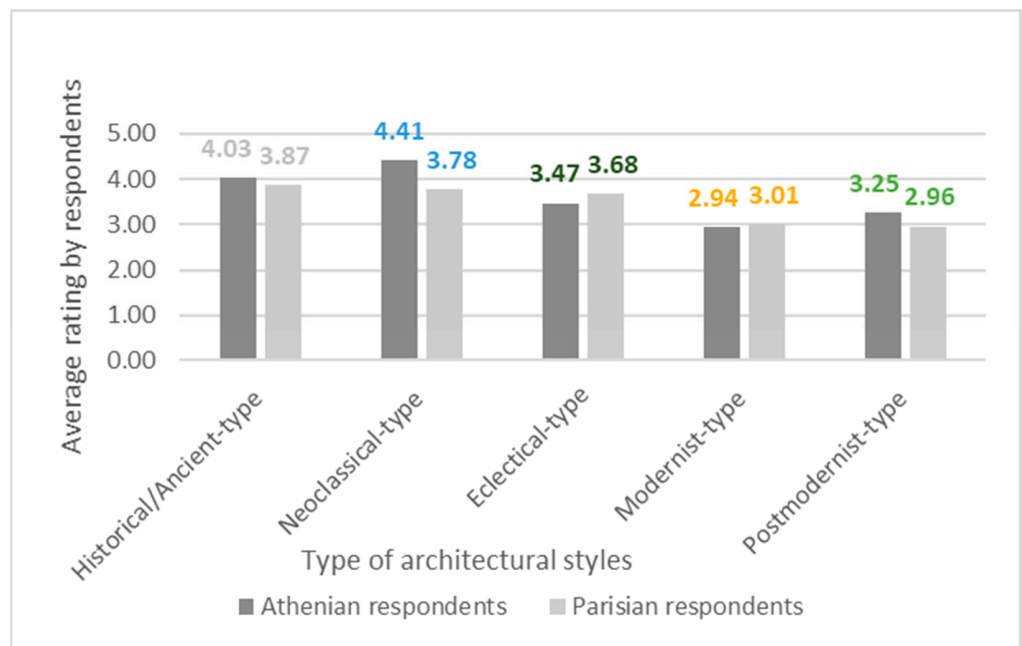


Figure 11. Comparative average ratings given to architectural styles in Athens and Paris. The group Historical/Ancient-type of architectural styles is also included other than the four major examined movements since rating those types of architecture was also available in the questionnaires.

The second level of comparison is made utilizing the results of the selection of favorite architectural styles by respondents to the questionnaires. We should note again at this point that the questionnaires included a separate section in which respondents rated all the examined architectural styles (Figures 2 and 7) and a separate one in which the respondents were asked which of the said styles was their favorite (Figures 1 and 6). In the following Figures 12 and 13, we present the results over the latter, i.e., the selection of the favorite style. In the figures, we use the same grouping of the styles also used in Figure 11 in order to facilitate comparisons between Paris and Athens.

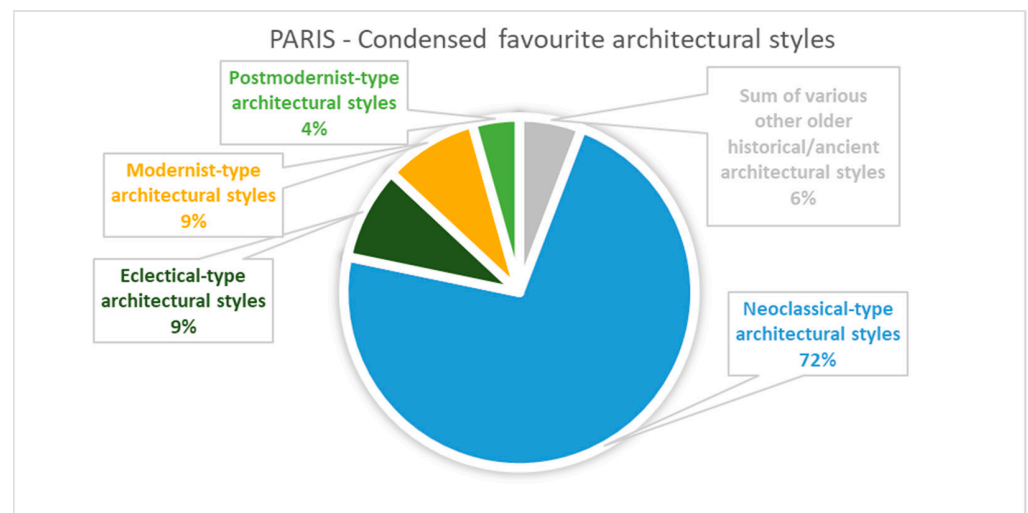


Figure 12. Clustered groups of favorite architectural styles for Paris.

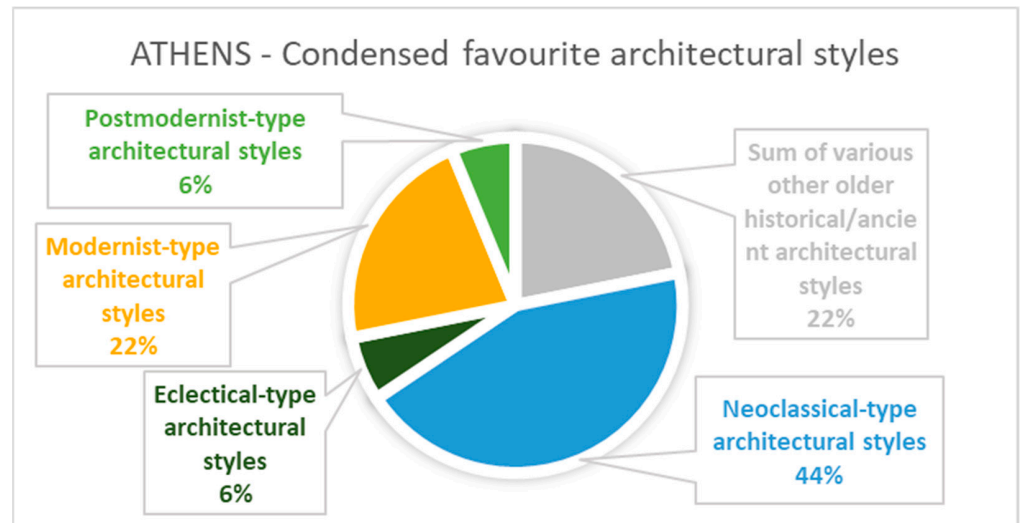


Figure 13. Clustered groups of favorite architectural styles for Athens.

The third level of our comparison is based on utilizing the wider historical, cultural, and societal context of each city to interpret the comparative results, the differences, and the similarities between the two cities. For this comparison, we refer to both the brief historical overview of the urban development of the two cities in the introduction section as well as the reasons that the respondents used to justify their ratings. In Table 3, we can see that the two major reported reasons for positive perception of architecture are aesthetic and historical ones. Those two are the ones that sum up the largest percentages of responses to the reported “Reasons for liking architecture”. Meanwhile, the two major reported “Reasons for disliking architecture” are aesthetic ones and reasons related to the integration of the work into its surrounding landscape.

Table 3. Reported reasons for liking or disliking buildings belonging to architectural movements, extracted from answers to all examined architectural styles.

City	Paris		Athens	
Reasons of Ratings	Reasons for Liking Architecture	Reasons for Disliking Architecture	Reasons for Liking Architecture	Reasons for Disliking Architecture
Aesthetic	30.71%	19.76%	32.05%	15.42%
Historical	16.20%	0.98%	19.87%	0.93%
Cultural	13.30%	1.30%	16.35%	3.74%
Rarity in the landscape	8.39%	1.52%	8.33%	0.47%
Integration in the landscape	18.10%	14.77%	6.73%	22.90%
Personal/emotional link	2.52%	0.43%	6.09%	0.47%
Political or ideological	1.95%	5.43%	5.13%	3.27%
No reason for liking/disliking	6.31%	48.86%	3.53%	48.13%
Environmental	2.52%	6.95%	1.92%	4.67%

Green color has been used to demonstrate the top three reasons for positive perception and light red for the top three reasons for negative perception (the “No reason for liking/disliking” answer has been left out of this comparison as it was mostly given by people that had given low or high ratings respectively).

In Tables 4 and 5, we present some more detailed results regarding the negative perceptions of Modern and Postmodern architecture in order to verify that the general results of Table 3 also apply to those particular cases that generally received lower average ratings. With a similar intent, in Table 6, we present the detailed results for a positive perception of Neoclassical architecture.

Table 4. Table of comparison of reported reasons for disliking Modernist architecture from the Parisian and Athenian participants.

What Do Parisians Dislike the Most about Modernist Architecture?		What Do Athenians Dislike the Most about Modernist Architecture?	
It does not blend into the landscape	32%	It does not blend into the landscape	31%
Its aesthetic	34%	Its aesthetic	23%
Environmental aspect	14%	Environmental aspect	13%
Political or ideological aspect	4%	Political or ideological aspect	4%
Historical aspect	3%	Historical aspect	4%
Cultural aspect	6%	Cultural aspect	6%
A personal/emotional connection	1%	A personal/emotional connection	2%
They like it as it is	6%	They like it as it is	17%

Table 5. Table of comparison for reported reasons for disliking Modernist architecture from the Parisian and Athenian participants.

What Do Parisians Dislike the Most about Postmodern Architecture?		What Do Athenians Dislike the Most about Postmodern Architecture?	
It does not blend into the landscape	38%	It does not blend into the landscape	40%
Its aesthetic	32%	Its aesthetic	26%
Environmental aspect	10%	Environmental aspect	11%
Political or ideological aspect	5%	Political or ideological aspect	0%
Historical aspect	1%	Historical aspect	0%
Cultural aspect	0%	Cultural aspect	3%
A personal/emotional connection	0%	A personal/emotional connection	0%
They like it as it is	14%	They like it as it is	20%

Table 6. Table of comparison of reported reasons for liking Neoclassical architecture from the Parisian and Athenian participants.

What Do Parisians Like the Most about Neoclassical Architecture?		What Do Athenians Like the Most about Neoclassical Architecture?	
Its integration into the landscape	14%	Its integration into the landscape	11%
Its aesthetic	32%	Its aesthetic	40%
Environmental aspect	0%	Environmental aspect	3%
Political or ideological aspect	4%	Political or ideological aspect	5%
Historical aspect	23%	Historical aspect	21%
Cultural aspect	20%	Cultural aspect	13%
A personal/emotional connection	6%	A personal/emotional connection	7%
They don't like anything about it	1%	They don't like anything about it	0%

4. Discussion

4.1. Summary and Analysis of Comparative Results

The comparative results (Figures 11–13) demonstrate a clear prevalence of Neoclassical architecture as the most positively perceived by Parisians and Athenians alike. The citizens of the two cities also have common opinions for Eclectic architecture, which follows as second, but with a noticeable lack of devoted supporters who would also choose it as their favorite type of architecture. Third, we rank Modernist architecture. Modernist architecture received a slightly lower average rating from the respondents than the fourth, Postmodern architecture; however, it enjoys a significant advantage regarding its selection as the respondents' favorite architecture. This is also the only area in which we find a significant difference between the respondents of Paris and Athens since Athenians chose Modernist-type architectures as their favorites in more than double the percentage than Parisians did, i.e., 22% compared to 9% (both however chose it higher than Postmodern architecture). A similar difference can also be found for the architectural styles that we have grouped and labeled as Historical-type architectures; however, we will not expand further on those since they are not the primary focus of the study.

In terms of reasons that Athenians and Parisians liked or disliked buildings belonging to various architectural movements, aesthetic reasons were the ones that were most widely cited by the respondents. But since aesthetics are defined by both sensory and cultural impacts, we could argue that the results also indicate a strong relation between the perception of architecture and the perception of history, which is the second most cited reason. We can see history and historical setting emerge as a primary criterion of assessment of architecture in two ways: firstly, as a direct conscious criterion of evaluation (Table 3—Sections “Reasons for liking architecture”) and secondly, as an indirect and maybe subconscious one, since when respondents refer to the criterion of “landscape integration” they refer to not spoiling the image of urban landscapes as they have been shaped by history so far (Table 3—Sections “Reasons for disliking architecture”).

But other than the theoretical purchase of those observations, inferences can also be sought out in the realms of planning policy and practice. The above-mentioned results, in combination with the rest of the results of the study, enforce the view that the integration of the values of the European Landscape Convention [64,65] into national frameworks should also consider local conditions [66] in terms of landscape and architectural perceptions of the public and the experts. Inferences are also to be made regarding the necessity of protecting and restoring buildings since legal frameworks do not always include in their lists of protected or preserved buildings Eclectic or Modernist buildings (Irimi Gratsia—personal communication), which were identified as important in terms of public perceptions.

4.2. The Interpretation of the Results in the Context of the Athenian and Parisian Urban Landscapes

The results of our work demonstrate that a positive perception of historical eras correlates with the architecture they produced. This is evident in Paris's preference for Neoclassical styles tied to its Enlightenment history, while in Athens, preferences align

with key urban development periods: Ancient Classical architecture, the Neoclassical surge post-Greek revolution, and the “Modernist Spring” after WWII. Participants referred to aesthetic and historical reasons as origins for their positive perceptions of architecture, suggesting a link between aesthetic and historical appreciation. Negative attitudes, on the other hand, are also influenced by history since they are not solely aesthetic in nature, but they also refer to how architectural styles integrate into the surrounding landscapes, whose form has also been shaped by history.

The architecture of each historical period is perceived by people through the lenses of their current perception of those times. This means, of course, that the correlation of historical periods that are perceived as being prosperous with a positive perception of their architecture by modern-day citizens does not necessarily prove that less prosperous times did not generate high-quality architecture. For example, the Byzantine Period of Greece [67] and the Medieval Period of France also produced important architectural and landscape works. Contemporary perceptions seem to just be indications of how historical times are perceived without necessarily revealing a wider theoretical “truth” regarding the quality of architecture.

We must also note that our conclusions in this regard cannot be certain, and there are many questions that still require investigation, are more philosophical in nature, and therefore less likely to be deterministically answered. For example, do people like one type of architecture because they have learned to appreciate it, or could it be argued that it is, in fact, more aesthetically pleasing for some reason (e.g., due to the application of the so-called Golden Ratio) [25]? Is it the Aristotelian notion of “*taxis*” [46]? Or is it Vitruvius “*venustas*” [68]? The question of the nature of aesthetics is a complex philosophical question, and we have to recognize that in our survey, we do not define or explain the term but rather use it while being dependent on each of the respondent’s own understanding of the term.

From a broader historical perspective, both the rankings and favorability responses of participants, as well as the cited reasons for those responses, seem to agree with the societal, economic, and political conditions of their living environments. To begin with Athens, the noticeable favorability for Neoclassic and Modernist architecture that was identified is to be expected as those two architectural movements are the ones that have characterized the contemporary city the most. It is also indicative of this that they are also the only ones that have gotten international visibility for the applications in Athens [69]. On the one hand, we have the Neoclassical developmental boom that followed the Greek Revolution and the selection of Athens as the capital of the Greek state. On the other hand, the post-war era of Modernist prevalence in Greek architecture has also been called the Modernist Spring of Greece [51], an era personified by some of the most renowned Greek architects, such as Konstantinidis, Zenetos, Valsamakis, Decavallas, Antonakakis (S. and D.), and many others [70]. It is also the time of the characteristic and much-discussed Athenian Polykatoikia [71]. Regarding Paris now, the influence of architectural styles whose primary reference is classical architecture is dominant. Over 60% of Parisian architecture is Haussmannian, while the rest is also, in some way or another, inspired by Ancient Greek or Ancient Roman Classical architecture or the 19th-century Parisian Neoclassical style [33,61]. The positive perception of this type of architecture in Paris is reasonable since it is arguably one of the most important parameters that give the city its distinct character and has contributed to its international appeal. On the contrary, Modernism, for example, has limited influence on the Parisian urban landscape, and therefore, buildings of Modernist architecture can more easily be perceived as not being well integrated into the city.

4.3. Thoughts on the Utilized Methodology

This section includes two parts: (a) acknowledging existing biases and (b) a self-evaluation regarding the utilized methodology in order to generate useful inferences for similar future studies.

Starting with the biases: (i) Firstly, a significant percentage of respondents are employed or studying in the fields of urban planning, civil engineering, and architecture. This can lead to potential biases since knowledge of the technical nature of certain works or the architectural history of buildings and urban developments may affect their perception of architectural movements without necessarily being representative of the general public that has no formal education in those fields. It should be noted, though, that this characteristic of the relevance of the professional background of our sample with urbanism and architecture could also be considered positive, depending on one's preference about such evaluations being carried out by experts or by the general public. In any case, it must be recognized that the statistical sample of the present study is closer to an expert sample than a general public sample. (ii) Secondly, the results might be influenced, to some extent, by the photographs of the particular buildings that were used within the questionnaire to represent each architectural movement. No matter what our efforts are for the best representation of the movements, it would be difficult to argue that our selections are optimal or the most representative ones. The selected photographs could have an impact on responses, especially for people who did not have preexisting knowledge of the assessed architectural movements. Nevertheless, we did our best to include photographs of two to five buildings of each movement from within the urban landscapes of the respective cities, trying to include buildings of various scales and of architectural sub-styles when existent (see Appendices A and B). (iii) Thirdly, there are age differences among the respondents of the surveys. In the Parisian survey, the vast majority of respondents were aged between 20 and 24 and were mainly students at urban engineering or architecture schools. For the Athenian questionnaire, the majority of respondents were aged between 29 and 34, and although the fields of activity of Athenian respondents were more varied, the answers of people working in civil engineering and architecture remained dominant.

In a self-evaluation of the methodology employed in our study, we note that no matter the informative insights, there is also room for improvement for future similar work. One notable aspect pertains to the complexity of the questionnaire utilized. In our pursuit to capture nuanced opinions, particularly in Paris, the multitude of choices for 19th-century architectural styles led to a more intricate survey compared to the Athenian counterpart. The challenge emerged from the difficulty in distinguishing between styles that, while distinct, exhibited visual similarities due to each being inspired by its predecessor. Respondents in Paris expressed weariness and, in some cases, confusion, perceiving the presented architectures as indistinguishable. This issue was mitigated in our comparisons by clustering architectural styles into broader groups of styles, using the major four examined architectural movements as a basis for this. In the Athenian survey, on the other hand, we followed a more simplified strategy from the start, raising questions only about major architectural styles and leaving out sub-styles, which seemed to work better for the respondents' engagement. To enhance methodology in studies with similar aims, it is advisable for future research to consider the insights from this simplification approach. Given the complexity of architectural subcategories, especially in historical contexts, simplifying terminology for non-expert citizens seems essential. Additionally, the insights generated with the limited resources of this study indicate that there is certainly room for future studies that could expand on the same research questions with an improved technical setup. Indicative directions for improvement include implementing stricter rules for random sampling, increased public engagement, and utilization of new technologies [4,24,72]. Alternatively, such studies could also move more strictly towards the format of expert surveys, limiting their sample to people who have relevant studies or experience.

5. Conclusions

Neoclassical architecture enjoyed an unanimously positive perception in both cities. It is also particularly interesting that the statistical distributions of the ratings of neoclassical architecture were almost identical in both Athens and Paris. Their primary shared characteristic was that respondents gave almost no lower-tier ratings to buildings of the

Neoclassical Movement (i.e., ratings of 1 or 2 out of 5). When asked to single out their favorite architectural style, Parisians and Athenians alike chose predominantly styles linked with Neoclassical architecture. In Paris, the prevalence of Neoclassical-type architectures in terms of favorability is even clearer since they were chosen by 72% of respondents. In Athens they were first again but with a lower 44%.

Eclectic architecture was also rated highly in both Athens and Paris. In both cities, it ranked between the leading Neoclassical architecture and the less favorably perceived Postmodernist and Modernist architectural movements. When asked which is their favorite architectural style, however, respondents ranked Eclectic architecture (including Art Nouveau) the third, following Neoclassical and Modernist architecture.

Modernist architecture presents the contradiction that, on the one hand, its buildings were rated the lowest by the public on average, slightly below Postmodern architecture; however, it enjoyed high percentages in terms of being selected as the favorite architectural style. Additionally, the statistical analysis presented the largest variance of distribution for buildings of the Modern movement. Both above points combined indicate that Modernist architecture has both ardent supporters and keen critics, with a larger percentage of supporters found in Athens than in Paris.

Postmodern architecture, had overall the lowest ranking in terms of public perception among the examined architectural movements. This stemmed from the fact that even though its average ratings by participants were slightly higher than those of Modernist architecture, there was a significant difference between the two in terms of being singled out as the favorite of respondents. In both Athens and Paris, more people chose Modernist-type architectural styles (including Art Deco) as their favorite rather than Postmodern architectural styles.

Cumulative results—Comparison of Athens and Paris: Interestingly, most of the results were common between the two cities, agreeing in the following general ranking of the examined architectural movements in terms of public perception: (1) Neoclassic, (2) Eclectic, (3) Modernist, and (4) Postmodern, the last two only having a slight difference between them. This final ranking is made considering both the average rating given to each style but also the answers given to the question, “Which is your favorite architectural style?”. Meanwhile, the only major difference found between the perceptions of buildings of the four architectural movements in the two cities is that Athenians chose Modernist-type architectures in higher rank in comparison to Parisians—when asked which is their favorite architectural style.

Interpretations of the results: From the results, it can be argued that there is a correlation between positively perceived historical eras and the architecture that those eras produced. In Paris, whose history is greatly associated with the Enlightenment and its ideals, we notice a clearer preference for Neoclassical-type architectures, which are clear products of those times. In Athens, on the other hand, we notice again a preference for architecture that is linked with the three historical periods of important urban development of Athens: namely, (i) the Classical architecture of Ancient Athens, (ii) the Neoclassical architecture of the urban boom after the Greek revolution and the designation of Athens as the capital, and finally (ii) the Modernist architecture of what has been called the “Modernist Spring” of Greece after the Second World War. Further enforcing this view is the fact that aesthetic and historical reasons were the reasons that were reported by participants themselves as their primary drives for a positive perception of architecture. Links between aesthetic perception and perception of history could thus be considered as a potential inference of those results. Another statistically significant reason for negative attitudes towards particular architectural styles was the lack of integration to their surrounding landscapes. This means that the perception of architectural movements and styles is not something static, but it can be dynamically shaped by the relation of the buildings of those movements with the respective landscapes in which they are placed.

In terms of limitations of research, we have to acknowledge the following potential biases of our results: (i) from the demographic data of our respondents it is clear that we

had a higher percentage of urban planners, civil engineers, and architects in our statistical sample than what would be expected from the general population—this is very likely to have affected the results, (ii) the responses over ratings and favorability of architectural styles could be potentially sensitive to the pictures that were used within the questionnaires to represent each movement (see Appendices A and B)—especially for people that did not have predefined opinions over those movements—and (iii) in terms of the comparison of the results of the two cities it has to be noted that the age of respondents is in both cases relatively low and also that there are age differences between the two samples might be responsible for some of the differences—namely the average age of respondents was 25 for Paris and 33 for Athens. The results should, therefore, be further exploited under those restrictions, acting as initial results in a rather unexplored area from a quantitative scientific perspective.

From a broader landscape research context, our work in Paris and Athens indicates firstly that local public perceptions of architecture can present both similarities and differences, which should be considered in the formation of planning and design policies. Secondly, the work demonstrated various limitations posed by the conventional methods of using surveys and questionnaires to analyze architectural and landscape perception, which highlights the importance of investigating new technologies and methodologies as means of overcoming such issues.

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Conflicts of Interest: The authors declare no conflicts of interest.

Appendix A. Photographs Used in Questionnaires for Athens

To provide a better context for understanding our study, in this appendix, we provide screenshots containing the photographs that were used to represent the various architectural movements and styles within the questionnaire that was given to Athenian residents (the red “*” symbol within the Figures is part of the questionnaire used, in which it demonstrated that answering those questions was mandatory)

Classical (Ancient)

How much do you like ancient Greek architecture? *



Figure A1. Photographs used to represent Classical architecture in questionnaires for Athens.

Byzantine and Ottoman

How much do you like the Byzantine and ottoman architecture? *

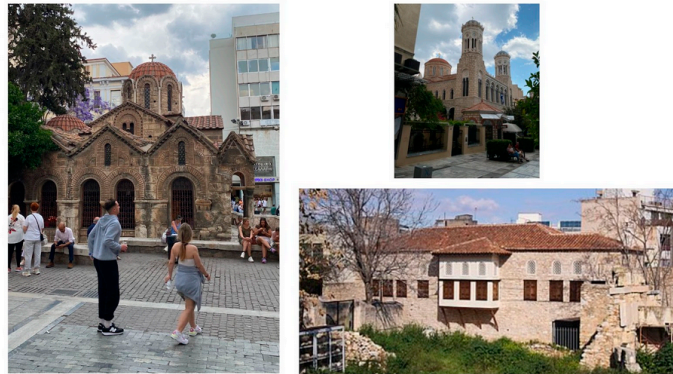


Figure A2. Photographs used to represent Byzantine and Ottoman architecture in questionnaires for Athens.

Neoclassical

How much do you like the Neoclassical architecture? *



Figure A3. Photographs used to represent Neoclassical architecture in questionnaires for Athens.

Eclectic

How much do you like the Eclectic architecture? *

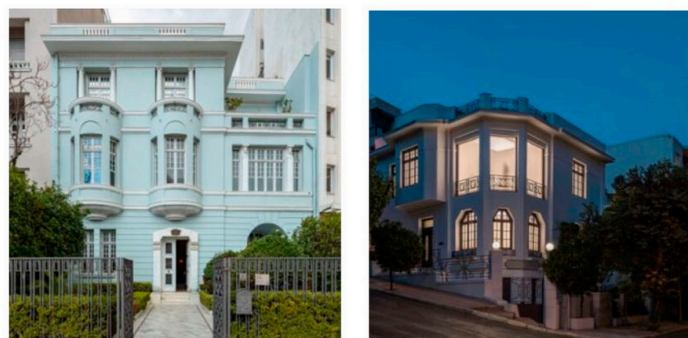


Figure A4. Photographs used to represent Eclectic architecture in questionnaires for Athens.

Modernist

How much do you like the Modernist architecture ? *

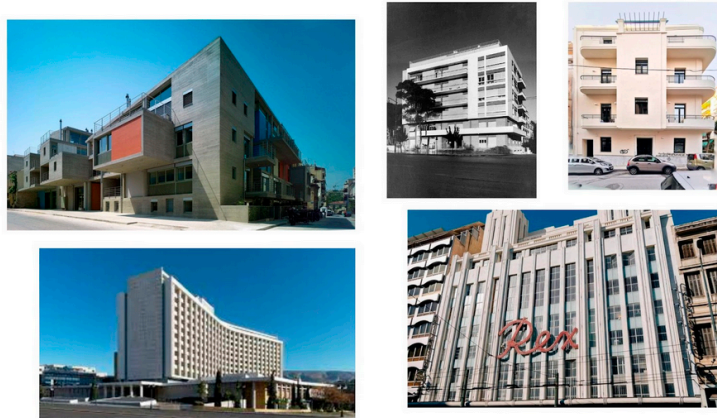


Figure A5. Photographs used to represent Modernist architecture in questionnaires for Athens.

Postmodern

How much do you like the Post-Modernist architecture ? *



Figure A6. Photographs used to represent Postmodern architecture in questionnaires for Athens.

Appendix B. Photographs Used in Questionnaires for Paris

To provide a better context for understanding our study, in this Appendix, we provide screenshots containing the photographs that were used to represent the various architectural movements and styles within the questionnaire that was given to Parisian residents.

Gothic

Que pensez vous de l'architecture Gothique ? *



Figure A7. Photographs used to represent Gothic architecture in questionnaires for Paris.

Baroque

Que pensez vous de l'architecture Classique ? *

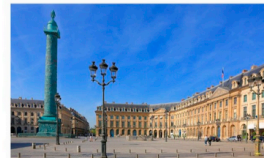


Figure A8. Photographs used to represent Baroque architecture in questionnaires for Paris.

Classicism (Renaissance)

Que pensez vous de l'architecture Baroque ? *



Figure A9. Photographs used to represent Renaissance Classicism architecture in questionnaires for Paris.

Neoclassical

Que pensez vous de l'architecture Néo-classique ? *

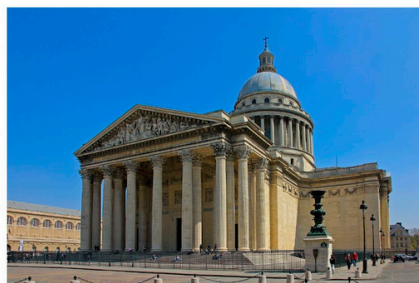


Figure A10. Photographs used to represent Neoclassical architecture in questionnaires for Paris.

Empire style

Que pensez vous du style Empire ? *



Figure A11. Photographs used to represent Empire-style architecture in questionnaires for Paris.

Restauration-style

Que pensez vous du style Restauration ? *



Figure A12. Photographs used to represent Restauration-style architecture in questionnaires for Paris.

Hausmannian-style

Que pensez vous de l'architecture Haussmannienne ? *



Figure A13. Photographs used to represent Hausmannian-style architecture in questionnaires for Paris.

Louis-Phillipe style

Que pensez vous du style Louis Phillippe ? *

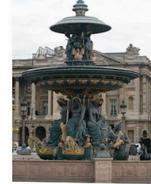
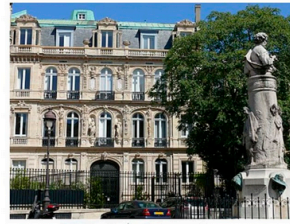


Figure A14. Photographs used to represent Louis-Phillipe-style architecture in questionnaires for Paris.

Post-Haussmannian style

Que pensez vous du style Post Haussmannien ? *



Figure A15. Photographs used to represent Post-Haussmannian-style architecture in questionnaires for Paris.

Art-Nouveau

Que pensez vous du style Art Nouveau ? *

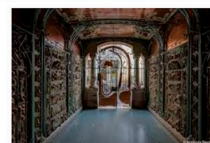
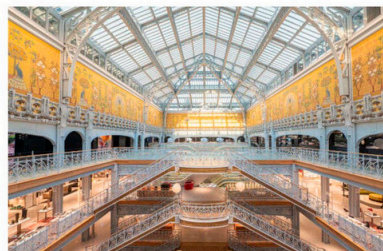


Figure A16. Photographs used to represent Art-Nouveau architecture in questionnaires for Paris.

Art-Deco

Que pensez vous du style Art Déco ? *



Figure A17. Photographs used to represent Art-Deco architecture in questionnaires for Paris.

Modernist

Que pensez vous de l'architecture Moderne ? *



Figure A18. Photographs used to represent Modernist architecture in questionnaires for Paris.

Postmodern

Que pensez vous de l'architecture Post-Moderne ? *



Figure A19. Photographs used to represent Postmodern architecture in questionnaires for Paris.

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