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The use of architecture to improve the quality of life for Saudi Arabia residents

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Dedication

We dedicate this master's degree study to all those who have supported and inspired us throughout this academic journey.

To our family, whose unwavering love and encouragement have been our foundation. Your belief in our abilities has given us the strength to overcome challenges and pursue excellence.

To our professors and mentors, who have generously shared their knowledge and expertise, guiding us towards intellectual growth and discovery. Your guidance and mentorship have shaped our academic path and ignited our passion for research.

To our friends and colleagues, for their camaraderie and support during the long hours spent studying, researching, and exchanging ideas. Your friendship has made this journey more enjoyable and meaningful.

To the participants of our study, whose valuable contributions and cooperation have made this research possible. Your willingness to share your experiences and insights has enriched the findings and implications of this study.

To the academic community, for fostering an environment of intellectual curiosity and providing resources for learning and research. Your dedication to the pursuit of knowledge has inspired us to push the boundaries of our own understanding.

Lastly, we dedicate this research to ourselves. This degree represents countless hours of hard work, dedication, and personal growth. It is a testament to our determination and commitment to lifelong learning. May this research contribute to the advancement of knowledge and make a meaningful impact in the field.

Thanks, and appreciation

Grateful acknowledgments are due to the benevolent grace of the Almighty, who has guided us to the successful completion of this research endeavor. May blessings and peace be bestowed upon the Messenger, a source of mercy to all of humanity, as well as upon his family and esteemed companions.

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Abstract

Architecture is connected to the quality of life as it directly influences the built environment where people live, work, and interact. The design and characteristics of buildings and spaces can significantly impact human well-being, health, productivity, and overall satisfaction. Here are some ways in which architecture is connected to the quality of life. By prioritizing pedestrian-friendly design, incorporating walkability in urban planning, and creating accessible and vibrant public spaces, cities and communities can greatly enhance the quality of life for residents and visitors alike.

Finding the relationship between the quality of life and architecture have significant impacts on Saudi Arabia the citizens as environmental sustainability, aesthetics and cultural identity, economic benefits and safety and security.

In our comprehensive research, we undertook a rigorous survey to explore and analyze the relationship between architecture and the quality of life in Riyadh, the capital city of Saudi Arabia. Understanding the profound impact of architectural design on individuals and communities, we sought to shed light on how architectural elements and urban planning strategies contribute to the overall well-being and satisfaction of residents, to ensure a robust and reliable research, we adopted a mixed methods approach that integrated both quantitative and qualitative data collection techniques. This allowed us to gather a comprehensive range of insights and perspectives, enabling a more comprehensive understanding of the topic at hand.

المستخلص

ترتبط الهندسة المعمارية بنوعية الحياة لأنها تؤثر بشكل مباشر على البيئة المبنية حيث يعيش الناس ويعملون ويتفاعلون. يمكن أن يؤثر تصميم وخصائص المباني والمساحات بشكل كبير على رفاهية الإنسان وصحته وإنتاجيته ورضاه العام. فيما يلي بعض الطرق التي ترتبط بها الهندسة المعمارية بنوعية الحياة.

ومن خلال إعطاء الأولوية للتصميم الصديق للمشاة، ودمج إمكانية المشي في التخطيط الحضري، وإنشاء مساحات عامة يسهل الوصول إليها وحيوية، يمكن للمدن والمجتمعات أن تحسن بشكل كبير نوعية الحياة للمقيمين والزوار على حد سواء.

إن إيجاد العلاقة بين نوعية الحياة والهندسة المعمارية لها آثار كبيرة على مواطني المملكة العربية السعودية مثل الاستدامة البيئية والجماليات والهوية الثقافية، والفوائد الاقتصادية، والسلامة والأمن.

في دراستنا الشاملة، أجرينا دراسة دقيقة لاستكشاف وتحليل العلاقة بين الهندسة المعمارية ونوعية الحياة في الرياض، عاصمة المملكة العربية السعودية. من خلال فهم التأثير العميق للتصميم المعماري على الأفراد والمجتمعات، سعينا إلى تسليط الضوء على كيفية مساهمة العناصر المعمارية واستراتيجيات التخطيط الحضري في الرفاهية العامة ورضا السكان.

ولضمان إجراء دراسة قوية وموثوقة، اعتمدنا نهجا مختلطا يجمع بين تقنيات جمع البيانات الكمية والنوعية. وقد سمح لنا ذلك بجمع مجموعة شاملة من الأفكار ووجهات النظر، مما أتاح لنا فهماً أكثر شمولاً للموضوع المطروح.

استخدمنا نموذج بيانات كمية للتحقق من صحته، والذي تضمن تصميم استبيانات ومسوحات منظمة بعناية لجمع البيانات من عينة تمثيلية من السكان. ومن خلال توظيف هذه الطريقة، تمكنا من جمع بيانات موضوعية وقابلة للقياس حول مختلف جوانب الهندسة المعمارية وتأثيرها على نوعية الحياة في الرياض.

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CHAPTER ONE

The General Framework of The Study

1.1 Introduction

Architectural design is a discipline that focuses on covering and meeting the needs and demands, to create living spaces, using certain tools and especially, creativity (MCH Article, 2020). The spaces that we design, and build can significantly impact the way we live, whether by improving our mood or performance or by making our lives easier and aesthetically the environment invites people in and makes them want to spend time in those surroundings, as opposed to feeling confined, crowded, or unproductive(Allplan article, 2021). The beauty of the surroundings is a significant factor in the quality of life.

The term 'Quality of Life' comprises a complex and multidimensional concept, which is rather difficult to define, identify, categorize, and analyze. It has a vast scope and includes various elements of social, cultural, economic, political, and environmental aspects. It is one of the important and challenging social issues of the twenty-first century. Quality of life does not remain the same in the whole life of someone, rather it varies from one stage of lifespan to another and from one type of spatial unit to another because every aspect of life of a person or persons is always influenced by the environment. The study of the quality of life of the people of an area can be at any spatial level such as local, regional, national, and international levels. It can also be studied across social structures (Multidimensional Approach to Quality-of-Life Issues, book authored by Braj Raj Kumar Sinh2019).

The 2030 vision of Saudi Arabia launched the Quality-of-Life Program in 2018, to transform Saudi Arabia into a world-renowned sports and entertainment location, a global tourism hotspot, and a top-ranked country people can call home. Enhancing a wide variety of sectors, the Program focuses on the empowerment of arts and culture, the promotion of sports and leading a healthy life, and the development of more livable urban areas. As well as creating exciting new sectors and diversifying economic activity, the Program is bolstering local employment opportunities and beautifying cities across the Kingdom. These efforts combine to create a better quality of life for all (Quality-of-Life Program, 2018).

And through the research, several gaps will be identified, such as the theoretical gap, as current architectural theories, and models, do not reflect the unique factors that affect the relationship between architecture and the quality of life in the Kingdom of Saudi Arabia. We will also investigate the experimental gap, as there is a lack of comprehensive study and empirical evidence. Regarding the specific ways in which architecture can improve the quality of life for residents of Saudi Arabia. Through the study, a general questionnaire for different ages regarding the problems presented will achieve different solutions and theories from several aspects that enhance the effectiveness of the project.

1.2 Study Problem

- **Theoretical Gap:**

Existing architectural theories and models do not fully capture the unique factors that influence the relationship between architecture and quality of life in Saudi Arabia. Therefore, there is a need for theoretical development and refinement to provide a more comprehensive understanding of this relationship.

- **Empirical Gap:**

There is a lack of comprehensive study and empirical evidence regarding the specific ways in which architecture can improve the quality of life for residents in Saudi Arabia. While there may be studies and projects in this area, there is a need for more focused study that investigates the relationship between architectural design, the built environment, and its impact on the quality-of-life indicators in Saudi Arabian communities. This gap reflects the limited understanding of the direct and indirect effects of architecture on the well-being and satisfaction of residents.

1.3 Study objectives

- **Creating thoughtful urban planning:** ensuring well-designed cities and neighborhoods with easy access to amenities, green spaces, and efficient transportation systems, enhancing the overall living experience.
- **Access to public places:** parks, playgrounds, and community centers, allows individuals and families to engage in various activities that promote socialization and physical health, green spaces are also known to have a positive effect on the environment and climate. They help to combat the urban heat island effect, mitigate air pollution, and provide habitat for wildlife. Additionally, they can help to reduce noise pollution and provide natural cooling to surrounding areas.
- **Create more sustainable and livable urban environments:** Implementing sustainable design and construction practices can lead to eco-friendly buildings, resource conservation, and environmentally conscious urban development, thus positively impacting both residents and the environment.
- **Boost economic growth and job creation:** This includes investing in sustainable and innovative architecture projects. The government is investing in several infrastructure projects, such as the development of new roads and railways. This investment is creating new jobs and boosting economic growth.

1.4 Study Importance

Architecture plays a vital role in improving the quality of life for Saudi Arabia residents, both directly and indirectly.

Directly, architecture can contribute to a better quality of life by creating healthy, comfortable, and aesthetically pleasing spaces in which people live, work, and play. For example, well-designed buildings can:

- Improve indoor air quality and thermal comfort.
- Reduce noise pollution.
- Provide access to natural light and ventilation.

- Promote physical activity and social interaction by Creating green spaces and public parks.
- Create a sense of place and community.

Indirectly, architecture can also contribute to a better quality of life by supporting economic development, promoting sustainability, and enhancing cultural identity. For example, well-designed buildings can:

- Attract businesses and tourists.
- Unique and iconic buildings can become landmarks that attract visitors from all over the world.
- Reduce energy consumption and greenhouse gas emissions.
- Preserve and showcase traditional Saudi architecture.
- create spaces for cultural expression and celebration, such as museums, theaters, and concert halls.
- Reflect on the Kingdom's modern values and aspirations.

In recent years, Saudi Arabia has made significant investments in architecture as part of its Vision 2030 economic and social reform plan. The government is working to create more livable and sustainable cities and to promote a more vibrant cultural scene.

There are several examples of architecture in Saudi Arabia that are improving the quality of life for residents. For example:

- The King Abdulaziz Center for World Culture (Ithra) in Dhahran is a world-class cultural center that features stunning architecture and a variety of educational and entertainment facilities.
- The Diriyah Gate Development Project is a massive project that is transforming the historic city of Diriyah into a major tourist destination. The project includes the restoration of historic buildings and the construction of new museums, hotels, and other facilities.
- The Qiddiya project is a new entertainment and tourism city that is currently under construction. The project will include a variety of attractions, including a Six Flags amusement park, a Formula 1 racetrack, and a performing arts center.
- The King Abdullah Financial District (KAFD) in Riyadh: This mixed-use development features state-of-the-art office towers, luxury hotels, and retail outlets, as well as several public spaces, including parks, plazas, and museums.

The Red Sea Project: This ambitious tourism development is being built on a group of pristine islands in the Red Sea. The project will include several luxury resorts, hotels, and other amenities, all designed to minimize environmental impact and showcase the natural beauty of the region.

These are just a few examples of the many ways in which architecture is being used to improve the quality of life for Saudi Arabia residents. As the country continues to grow and develop, architecture will play an increasingly important role in creating a more livable, sustainable, and vibrant future for everyone.

1.5 Study variables

Table No. (1) shows the main dimensions and sub-variables studied.

Architecture	Quality of life
Functionality Aesthetics Sustainability	The Education Approach The Social Approach The Public Health Approach The Economic Approach

Table No. 1 Axes and dimensions of the study variables

1.6 Study model

According to the study variables, Figure No. (1) shows the main and sub-dimensions of the study variables.

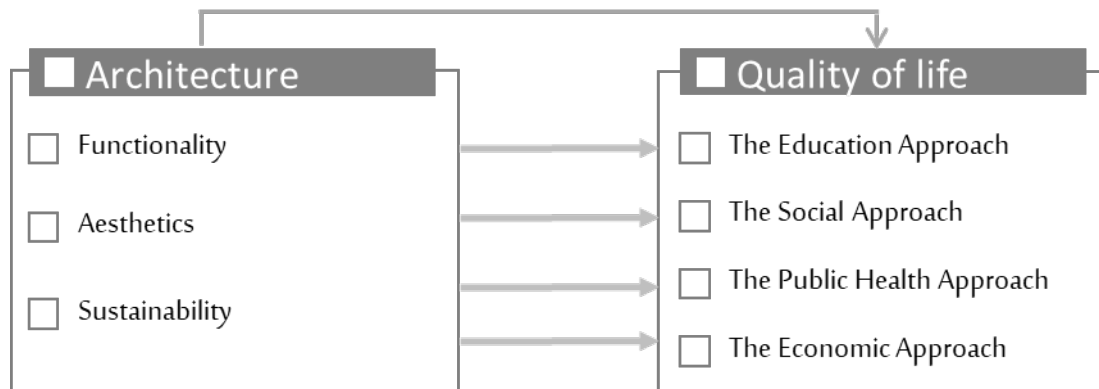


Figure No. 1 Study model

1.7 Study Hypotheses

- There is a significant relationship between architecture and the quality of life of Saudi Arabia residents.
- Access to green spaces and natural light has a positive impact on the quality of life for Saudi Arabia residents.
- pedestrian-friendly communities have a positive impact on the quality of life for Saudi Arabia residents.
- Investing in infrastructure development and architectural projects will create jobs and stimulate the region's economy.

1.8 Study Questions

Main study Question:

How can architecture be effectively utilized to improve the quality of life for residents in Saudi Arabia?

Sub-questions:

- What is the key quality of life indicators for Saudi Arabian residents, and how can architecture contribute to improving them?
- What are the successful architectural design features and strategies that have improved the quality of life in similar contexts, and how can they be effectively adapted and applied in Saudi Arabia?
- What are the challenges and barriers to implementing architectural interventions to improve the quality of life in Saudi Arabia, and how can these challenges be overcome?
- How does the investment in sustainable architecture projects and infrastructure development contribute to economic growth and job creation in the region?

1.9 Study Terminology

- **Architecture:**

Architecture is the art and science of designing and constructing buildings and other physical structures, and includes a wide range of considerations, including spatial organization, materials, construction techniques, environmental impact, and technology integration. Architects work to create spaces that serve specific purposes, such as residential, commercial, institutional, or public spaces, while meeting the needs and desires of the people who will use and interact with those spaces. Architecture includes urban development and improvement through the formation of open spaces that serve residents in several aspects. Social, educational, health and economic (Kerry D. Vandell, Jonathan S. Lane, 2020).

- **Architectural elements:**

Architectural elements are the basic components and features that make up a building's design and structure. These elements contribute to the aesthetics, functionality, and overall character of the building. Below are some common architectural elements (dezeen, 2020).

- **Pedestrian friendly community:**

A pedestrian-friendly community, also known as a walkable community, is a built environment designed to prioritize and accommodate the needs of pedestrians. It aims to create safe, convenient, and enjoyable conditions for walking, which encourages active transportation and promotes social interaction (Environ Health Perspect , 2019).

- **Infrastructure development:**

Infrastructure development refers to the planning, design, construction, and maintenance of physical structures and systems that support economic, social, and environmental activities. It involves the creation or improvement of essential facilities and services necessary for the functioning of a society or an economy (unwater, 2019).

- **Architectural projects:**

Architectural projects encompass the creative and technical processes involved in designing and constructing buildings, structures, and spaces. Architects combine their artistic vision with practical considerations to create functional, visually appealing, and sustainable environments and it's the result of collaborative efforts between architects, clients, engineers, and other professionals. They involve conceptualizing design ideas, developing detailed plans, and overseeing the construction process to bring the vision to life (architectmagazine, 2020).

1.10 Study limits

Architecture can play an important role in improving the quality of life for residents of Saudi Arabia in various ways, including enhancing physical and mental well-being, promoting social cohesion, and promoting economic development. However, there are some study limitations that need to be addressed to fully realize the potential of architecture in this regard.

- Limited understanding of the impact of architectural design on the behavior and health of its occupants:
While there is growing evidence that architectural features can influence residents' behavior and health, there is still a need for more comprehensive study in this area. This includes studies on the impact of natural light, ventilation, thermal comfort, and layout on physical and mental health.
- Insufficient study on the role of architecture in promoting social cohesion and building society:
Architecture can promote social interaction and community engagement by creating spaces that encourage socializing and facilitate activities. However, there is limited study on how to effectively design these spaces and integrate them into the urban fabric.
- Lack of studies on the economic benefits of architectural interventions:
While there is a general understanding that good architecture can contribute to economic development by attracting businesses and enhancing productivity, there is a need for more specific study on the quantifiable economic impacts of architectural interventions.
- The infrastructure in Saudi Arabia is witnessing rapid development, through intensive government spending and private sector participation, in addition to opening the way for foreign investment in the sectors of transportation, energy, electricity, water, communications, and others.
Access to a strong and comprehensive infrastructure is one of the pillars of the Quality-of-Life 2020 Program, which is one of the programs to achieve the Kingdom's Vision 2030. The Kingdom of Saudi Arabia ranked 30th

globally in the annual Global Competitiveness Report issued by the World Economic Forum magazine, and this shows the rapid development and the need to study the benefits This affects the quality of life of citizens.

- A study of the pillars of the Quality-of-Life Program, where a discussion session was held about the objectives of the program and a mention of what benefits this will have on citizens through the implementation of thirteen strategic programs to achieve the goals included in the Kingdom's Vision 2030. This ambitious vision is based on the Kingdom's components and strengths to support citizens in achieving their aspirations.

The Quality-of-Life Program is committed to encouraging innovation through developing systems, talents, and competencies, with more than 200 initiatives that feed into the program's indicators.

It deals with the concept of quality of life from the point of view of urban planning, which believes that quality of life begins with the residential neighborhood, because all segments of society live in the residential neighborhood and spend most of their time there, and from here stems the concept of humanizing cities/humanizing residential neighborhoods.

The session mentioned a study that stated that in 1980 AD, the percentage of male and female students who went to school on foot was about 50%, but it decreased in 2012 AD to 15%. One of the negative consequences of this was a three-fold increase in the incidence of obesity in children.

The average walking per capita in the Kingdom is approximately 3,800 meters per day, while the global average in most European countries ranges between 6,000 and 7,000 meters per day. When walking is intertwined in our daily activities, we will not need to go to sports clubs, and thus the level of public health will improve, as will community communication among the population, unlike transportation using cars, where the individual is socially isolated from those around him, and the fundamental reason for the decline in walking and reliance on walking. Cars should be moved farther apart from each other than from homes. This is due to the high average per capita use of space in the residential sector. While this rate is 33 square meters in England, and 43 in France, in Saudi Arabia it rises to 85 square meters. This is a very high percentage globally, which has led to facilities being far apart, forcing people to use cars for their transportation. The greater the reliance on cars, the greater the distance for each trip, the greater the waste of time and energy, and the greater the possibility of accidents occurring! The death rate in traffic accidents in the Kingdom currently stands at 28 deaths per 100,000 people, while it does not exceed 7.1 in Germany and 5.8 in Japan. This high percentage affects the average lifespan, the health cost, and the quality of life. This reflects the physical and psychological health of the population of the Kingdom of Saudi Arabia and is one of the most important elements included in the research.

- The need for more interdisciplinary research:

Addressing the frontiers of study in architectural design requires collaboration between architects, city planners, sociologists, psychologists, public health experts, and other related disciplines. This will ensure that architectural solutions are informed by a comprehensive understanding of human needs and behavior.

By addressing these study frontiers, architecture can play a more important role in improving the quality of life for the people of Saudi Arabia and contributing to a more sustainable and prosperous future for the country.

CHAPTER TWO

Previous Studies and The Theoretical Framework of the study

Preamble

Architecture can play an important role in improving the quality of life for residents of Saudi Arabia in various ways, including enhancing physical and mental well-being, promoting social cohesion, and promoting economic development. However, there are some studies limitations that need to be addressed to fully realize the potential of architecture in this regard.

2.1 Previous Studies

Previous studies have recognized the importance of architectural design and its impact on the quality of life and society in Saudi Arabia. Studies have highlighted various factors such as natural lighting, ventilation, open spaces, cultural identity, and sustainability (Alharbi, 2023). The integration of sustainable systems within architectural design has also been explored, emphasizing the emulation of natural systems and the coordination of spatial relationships between buildings and their surrounding environments (Salman & Hameed, 2020). Additionally, studies have examined the provision of public open spaces in Saudi cities, identifying deficits and advocating for proactive planning and design that meets international standards (Addas & Alserayhi, 2020).

However, there are gaps and limitations in the existing literature. The reviewed studies lack a comprehensive understanding of the broader urban context, cultural influences, and specific challenges faced in Saudi Arabia. They also fall short of establishing empirical evidence linking architectural interventions to improved quality-of-life outcomes. Moreover, the study on public open spaces primarily focuses on numerical measurements rather than considering the value and quality of these spaces. There is a need for a systematic approach that addresses residents' needs, safety, and desires (Addas, 2020).

The relationship between social and economic reforms, urban megaprojects, and sustainable urbanism in Riyadh has been explored, highlighting their potential to improve the quality of life for residents and attract foreign investment (Klingmann, 2023). However, this study fails to thoroughly address potential socio-spatial inequalities and displacement of marginalized populations caused by the megaprojects. It also lacks a comprehensive analysis of the long-term sustainability and inclusivity of the proposed developments.

Despite the previous study literature on architecture, quality of life, and urban development in Saudi Arabia, there is still a need for comprehensive investigations that consider the broader urban context, cultural influences, and specific challenges faced in the country. Additionally, empirical evidence linking architectural interventions to improved quality-of-life outcomes is lacking. By addressing these gaps, the current study aims to contribute to the understanding and implementation of architecture to enhance the quality of life for residents in Saudi Arabia.

In conclusion, while previous studies have shed light on various aspects of architecture, and quality of life, there are still significant gaps and limitations in the existing literature. The current study aims to address these gaps by providing a more comprehensive understanding of the relationship between architecture and quality of life in Saudi Arabia. By doing so, this study aims.

On the one hand, the current conditions prevent exactly these original human needs. Life in cities has become increasingly isolated, noisy, and hectic in recent years and decades. The trend towards single living arrangements, jobs in individual offices, and the car as the primary means of transportation contribute to this isolation. The contributors to increasing physical and mental illnesses, such as traffic load, noise, poorer air quality, extreme temperatures, and violence, are more common in cities than in rural areas. On the other hand, cities offer many structures that make life easier than life in the countryside, which is one reason why cities are experiencing a boom again. The high density of jobs, infrastructure, and leisure activities is in high demand. Therefore, cities with a high quality of life record high yearly population growth. Qualified workers, students, companies, and tourists are attracted to city life (Abdullah Addas, 2022).

The pursuit of function over form is laudable from a material and cost efficiency standpoint, the effects of the aesthetics of this transition on building occupants were not studied until relatively recently and may remain in large part undiscovered.

Interestingly, the physical and social environment is believed to have a greater impact on human health than genetics, medical care and lifestyle combined. A growing body of study is supporting the idea that wellbeing, defined as a state of existence characterized by happiness, prosperity and a perceived or actual state of good health, is significantly influenced by elements within the built environment. Therefore, a deeper understanding of the psychological and physiological effects of architecture is crucial, considering its potential impacts on the health and wellbeing of most of the human population (Philippe St-Jean, 2022).

Therefore, the King Salman Charter for Architecture and Urbanism was launched, which is a pioneering initiative that seeks to enhance innovation, creativity, and sustainability in the built environment in the Kingdom of Saudi Arabia. The charter also aims to preserve cultural heritage while reflecting the history of the Kingdom. This new beginning will help support the values of design by forming an integrated thought with the reference values of urban excellence. The charter aims to reach an integrated philosophical and design thought while providing a sustainable urban character that is compatible with the nature of the Kingdom in terms of climatic, environmental, cultural, and human conditions in accordance with the values of the charter. The basics: originality, sustainability, innovation, continuity, human-centeredness, suitability for living. (Essra Faifil, 2023).

2.2 The Theoretical Framework of the study

2.2.1. The concept of Architecture:

Architecture is the art of planning, designing, and constructing spaces and buildings. The priority of architectural design is to cover and satisfy the needs and demands of making living spaces, using tools, and especially the innovativeness and creativity of the architect (INJ Architecture,2021).

There are many important elements of architecture, and the specific elements that are considered most important can vary depending on the context and the goals of a particular design. However, some elements that are commonly considered particularly important include:

- **Functionality**

A building or structure should be functional and able to meet the needs of its users. This includes elements such as layout, circulation, accessibility, and adaptability.

- **Aesthetics**

A building or structure should be aesthetically pleasing and contribute to the overall aesthetic appeal of the built environment. This includes elements such as form, material, color, and texture.

- **Sustainability**

A building or structure should be environmentally friendly and energy efficient, and it should be designed to minimize its impact on the natural environment. This includes elements such as material selection, energy efficiency, and renewable energy sources (archisoup, 2022).

2.2.2. The concept of quality of life:

The term 'Quality of Life' comprises a complex and multidimensional concept, which is rather difficult to define, identify, categorize, and analyze. It has a vast scope and includes various elements of social, cultural, economic, political, and environmental aspects. It is one of the important and challenging social issues of the twenty-first century. Quality of life does not remain the same in the whole life of someone, rather it varies from one stage of lifespan to another and from one type of spatial unit to another because every aspect of life of a person or persons is always influenced by the environment. The study of the quality of life of the people of an area can be at any spatial level such as local, regional, national, and international levels. It can also be studied across social structures (Multidimensional Approach to Quality-of-Life Issues, book authored by Braj Raj Kumar Sinh2019).

2.2.3. The importance of quality of life

Quality of life has many benefits and impacts on individuals and society. When we have an old life, we feel happy and satisfied, which is reflected in our general health and vitality. It also affects our social relationships

and professional success, which ultimately leads to personal well-being and success in life (Mohamed Salem, 2021).

2.2.4. The relationship of architecture to the quality of life

Architectural design can affect the mood and behavior of a person. The best architectural designs can arouse various emotions like peace, excitement, and surprise. People have magnificent perceptible measures that permit them to sense the world in which they live.

Also, a good architectural design can have astonishing effects on your health. A building with easy access to the parks, community gardens, and playgrounds can guarantee a healthy life. It minimizes the depression and anxiety that has become a health issue for many people in recent years. Eco-friendly and well-organized buildings can improve the physical and psychological health of people.

Proper utilization of space, lighting, ventilation and building materials would influence the state of mind. Also, it affects the real prosperity of building inhabitants. Space utilization encourages physical activity. Best architectural design can make a comfortable, sufficiently bright climate that can mentally affect the individuals while additionally accomplishing energy investment funds (INJ Architecture).

There are several examples of architecture in Saudi Arabia that are improving the quality of life for residents for example:

- The King Abdulaziz Center for World Culture (Ithra) in Dhahran is a world-class cultural center that features stunning architecture and a variety of educational and entertainment facilities.
- The Diriyah Gate Development Project is a massive project that is transforming the historic city of Diriyah into a major tourist destination. The project includes the restoration of historic buildings and the construction of new museums, hotels, and other facilities.
- The Qiddiya project is a new entertainment and tourism city that is currently under construction. The project will include a variety of attractions, including a Six Flags amusement park, a Formula 1 racetrack, and a performing arts center.
- The King Abdullah Financial District (KAJD) in Riyadh: This mixed-use development features state-of-the-art office towers, luxury hotels, and retail outlets, as well as several public spaces, including parks, plazas, and museums.
- The Red Sea Project: This ambitious tourism development is being built on a group of pristine islands in the Red Sea. The project will include several luxury resorts, hotels, and other amenities, all designed to minimize environmental impact and showcase the natural beauty of the region.

2.2.5. The objectives of Vision 2030 for the Kingdom of Saudi Arabia within the framework of raising the quality of life:

The objectives of Vision 2030 for the Kingdom of Saudi Arabia are centered around the overarching goal of raising the quality of life for its citizens. This ambitious vision was accompanied by a series of programs that were announced within the first five years of its launch, signifying the commitment of the Kingdom to achieve

comprehensive and sustainable development. The Council of Economic and Development Affairs, recognizing the significance of Vision 2030, declared it on April 30, 2017, as the cornerstone for attaining strategic goals in Saudi Arabia.

At the core of Vision 2030 are three key axes that serve as the foundation for its objectives. These axes are:

- **A Vibrant Society:** This objective aims to cultivate a society that is dynamic, progressive, and inclusive. It focuses on enhancing the quality of education and healthcare systems, promoting cultural activities, preserving national heritage, and ensuring social harmony. By investing in human capital, fostering creativity and innovation, and providing opportunities for personal growth, the vision seeks to empower individuals and create a thriving society.
- **A Prosperous Economy:** Vision 2030 recognizes the need to diversify the Saudi economy and reduce its dependence on oil revenue. To achieve this, the vision emphasizes the development of sectors such as tourism, entertainment, technology, and renewable energy. It seeks to attract foreign investments, stimulate entrepreneurship and innovation, improve the business environment, and create a sustainable job market for Saudi nationals. By fostering economic growth and competitiveness, the vision aims to create a prosperous and resilient economy.
- **An Ambitious Nation:** This objective envisions Saudi Arabia as an ambitious and influential nation on the global stage. It emphasizes the importance of active participation in international affairs, building strong diplomatic relations, and promoting cultural exchanges. Furthermore, the vision seeks to nurture a knowledge-based society by investing in a study and development, encouraging intellectual pursuits, and fostering a culture of lifelong learning. By doing so, Saudi Arabia aims to contribute to shaping the future and becoming a leading nation in various fields.

Within the framework of Vision 2030, a total of 96 detailed objectives have been identified. These objectives cover a wide range of areas, including economic diversification, infrastructure development, social empowerment, environmental sustainability, and technological advancement. They are designed to work in synergy, forming a comprehensive plan to drive progress and improve the overall quality of life in Saudi Arabia.

By pursuing the objectives outlined in Vision 2030, the Kingdom of Saudi Arabia aims to achieve sustainable and inclusive development, enhance the well-being of its citizens, and position itself as a global leader in

various domains. This transformative vision represents a bold and forward-thinking approach to secure a prosperous future for the Kingdom and its people.

- Quality of Life Program

Since the allocation of the Quality-of-Life Program for the year 2018, as one of the programs of Saudi Vision 2030, which seeks to transform the Kingdom into a destination for international sporting and entertainment events that have achieved wide popularity, earning it a numerous tourist attraction, and a pioneering and developed country that every citizen is proud to belong to.

The Quality-of-Life Program worked to improve livelihoods, increase employment and entertainment opportunities, and make the Kingdom an attractive destination for vibrant, ambitious youth, especially those under the age of 35. It contributed to improving the lifestyle and building an ideal society for citizens, residents, and visitors (quality-of-life-program).

A discussion session was held on the objectives of the program and the benefits it would bring to citizens were mentioned through the implementation of thirteen strategic programs to achieve the goals included in the Kingdom's Vision 2030. This ambitious vision is based on the Kingdom's components and strengths to support citizens in achieving their aspirations.

The Quality-of-Life Program is committed to encouraging innovation through developing systems, talent, and competencies, with more than 200 initiatives feeding into the programmer's indicators.

It deals with the concept of quality of life from the point of view of urban planning, which believes that quality of life begins with the residential neighborhood, because all segments of society live in the residential neighborhood and spend most of their time in it, and from here stems the concept of humanizing cities/humanizing residential neighborhoods.

The session mentioned research that stated that in 1980 AD the percentage of male and female students who walked to school was about 50%, but it decreased in 2012 AD to 15%. One of the negative consequences of this was a three-fold increase in childhood obesity.

The average per capita walking in the Kingdom is about 3,800 meters per day, while the global average in most European countries ranges between 6,000 and 7,000 meters per day. When walking becomes intertwined in our daily activities, we will not need to go to sports clubs, and thus the level of public health will improve, and community communication between residents will improve, unlike transportation using cars, where the individual is socially isolated from them. around him, and the main reason for the decline in walking and dependence on it. Cars should be moved away from each other instead of houses. This is due to the high

average per capita use of space in the residential sector. While this rate is 33 square meters in England, and 43 square meters in France, in Saudi Arabia it rises to 85 square meters. This is a very high percentage globally, which has led to facilities being far apart, forcing people to use cars for their transportation. The greater the reliance on cars, the greater the distance per trip, the more time and energy is wasted, and the greater the likelihood of accidents occurring! The death rate in traffic accidents in the Kingdom currently stands at 28 deaths per 100,000 people, while it does not exceed 7.1 in Germany and 5.8 in Japan. This high percentage affects life expectancy, health costs, and quality of life. This reflects the physical and psychological health of the population of the Kingdom of Saudi Arabia and is considered one of the most important elements included in the study (QafilahMagazine, 2021).

- Aiming to improve the urban landscape in Saudi cities:

There is the Ministry of Municipal Affairs and Rural Affairs through the National Transformation Program to remove everything that blurs the beauty of cities in the Kingdom of Saudi Arabia, by removing visual distortion elements in Saudi cities specified by 15 elements, improving the urban landscape in Saudi cities, enhancing traffic safety, and reducing pollution of various kinds, To make Saudi cities a green civilization worthy of those who live on its land. The Kingdom of Saudi Arabia's efforts to improve the level of services provided to members of society have been crowned with success, as the Kingdom has witnessed great development in building a vibrant society with a full environment since the launch of the Kingdom's Vision 2030. Because daily observations are an important factor in the standard of living and quality of life of city residents, the objectives of Vision 2030 included improving the urban landscape. In Saudi cities to raise the level of living services provided to members of society, the National Transformation Program undertook this goal in cooperation with a number of competent authorities, led by the Ministry of Municipal and Rural Affairs, to provide a healthy, sustainable environment, by improving the urban landscape of public and community places, such as green spaces and gardens, so that Saudis can To enjoy them, impose architectural guidelines for buildings and roads to ensure aesthetic views and reduce disturbing views (Sultan Bandar, 2020).

- Green Riyadh Project

The Green Riyadh project is one of the most ambitious afforestation projects in the world, and it is one of the four major Riyadh projects launched by the Custodian of the Two Holy Mosques King Salman bin Abdulaziz, may God support him, on Tuesday, Rajab 12, 1440 AH (March 19, 2019 AD) to contribute to achieving one of the goals of the "Saudi Vision." 2030" by raising the classification of the city of Riyadh among its counterparts in the world, God willing.

The goal of the project is that the Green Riyadh Project contributes to raising the per capita share of green space in the city, and increasing the proportion of total green spaces in it by spreading and intensifying afforestation in all elements of the city and its various parts, while achieving optimal exploitation of treated water in irrigation works, which contributes to Improving air quality and reducing temperatures in the city,

and encouraging residents to practice a more active and energetic lifestyle in line with the goals and directions of "Saudi Vision 2030," which reflects the improvement and raising of the quality of life of Riyadh residents (Green Riyadh project, 2019).

2.2.6. The impact of improving the quality of life on enhancing investment opportunities and tourism:

The tourism sector, in line with the objectives of the Quality-of-Life Program, focuses on four fundamental pillars aimed at "developing" and enriching the way of life. Additionally, two important pillars have been identified as potential areas of development:

- **Developing cities:** A strategic gap analysis has revealed a shortage of tourist-ready cities in Saudi Arabia. Recognizing that city development and infrastructure improvement can be costly and unattractive to investors, the program has devised four initiatives to tackle this challenge. These initiatives aim to develop tourist cities and provide the necessary infrastructure to support tourism growth.
- **Facilities Development:** Recognizing the critical role of the private sector, the Quality-of-Life Program actively seeks to collaborate with private enterprises to develop tourist facilities. By streamlining access to tourist destinations through measures like improving airlines, express roads, and other transportation modes, the program aims to enhance the overall tourist experience.
- **Broadening options:** One of the main obstacles to attracting foreign tourists to the Kingdom is the lack of motivation to consider Saudi Arabia as a preferred tourist destination. To address this challenge, the program focuses on developing a diverse range of events, exhibitions, and conferences. By linking these activities with tourism initiatives, the program aims to create compelling reasons for tourists to visit Saudi Arabia.

By focusing on these pillars and initiatives, the Quality-of-Life Program aims to improve the quality of life for both residents and visitors to Saudi Arabia. It recognizes that by enhancing the tourism sector and providing attractive investment opportunities, the Kingdom can further develop its potential as a thriving tourist destination.

2.2.7. Quality of life approach

UNESCO considers quality of life to be a comprehensive concept that includes all aspects of life as affirmed by the individual. It is a concept that expands to include the material satisfaction of basic needs and moral satisfaction, which is characterized by the psychological adjustment of the individual through its results. Accordingly, the quality of life is based on seeing these conditions and their components and characterizes the quality of life. Psychological is one of the concepts of a dialectical nature, as its differences and meaning vary according to people and their differences, and a variety of subjective components participate in it and there are dimensions that are affected by the influence of quality (Mohammed Hammza, 2023).

- Education approach

Education is a human right for everyone. It is the key to the advancement of any society and is the basis of social development, social progress, and human freedom. It is up to the state that provides, supports, and supervises it. Therefore, it is considered a goal in the beginning, but rather a means and necessary for the quality of life and requires its duty of tasks in meeting the requirements, to become the most important means of preparing people for work and supported by change and adaptation to the competitive and fast world, and it is the main reason for solving economic, social and environmental problems, and it is a driving force in valuable work. And positive trends in society (Dr.Fadeel Khalil, 2021).

Education is a crucial aspect of human life. It is a means of acquiring knowledge, skills, values, and attitudes that enable individuals to make informed decisions and live better lives. Education gives quality of life by enabling individuals to realize their potential and contribute to the development of society. Through education, individuals can broaden their horizons, challenge their assumptions, and develop critical thinking skills. A major benefit of education is that it helps individuals break the cycle of poverty and achieve economic stability (fastercapital,2023).

- Social approach

In recent years, there has been increasing interest in the field of psychology in studying the concept of quality of life and its various changes, such as continuity in life, achievement, the meaning of life, self-efficacy, and satisfaction of needs within the framework of psychology and its effects, which continues to have a positive impact on the life of the individual and society to reach They led them to well-being, after psychologists ignored the existence of a long resistance towards humans, and all their interest was in the front aspects, and the concept of quality of life was not used in many fields, including quality of life, the presence of education, and the atmosphere of production that exists in the future... and other fields, and it became a program goal. For any service programs provided to the individual (Mohammed Hammza, 2023).

- Public health approach

Quality of life is the culture of dealing with oneself. It is the culture of balancing the body and the soul.

The comprehensiveness of this term and the multiplicity of its aspects is evident in the following definition: "The individual's ability to achieve a balance between his needs and desires and his enjoyment of his life and his positive presence in it."

Concern with the quality of life includes the recognition that development is not only economic development, but rather social development, self-development for individuals, and development of the environment that surrounds them (Heath quality magazine, 2022).

Public open spaces such as parks and green spaces are key built environment elements within neighborhoods for encouraging a variety of physical activity behaviors. Over the past decade, there has been a burgeoning number of active living study studies examining the influence of public open space on physical activity (Mohammad Javad Koohsari, 2018).

Parks and green spaces provide a variety of health benefits by promoting physical activity, connection with nature, and opportunities for community engagement. Health care providers can prescribe nature-based programs as part of alternative and effective treatment plans. Therefore, urban planning and architecture play great importance in raising the quality of life for the residents of the Kingdom of Saudi Arabia by creating an environment that stimulates physical activity and walking (CNR Web, 2022).

- **Economic approach**

Quality of life has generated many projects with the active participation of the private sector, providing many career opportunities and diverse private businesses. This will allow entrepreneurs and small and medium enterprises to create new initiatives and programs related to this, especially since our youth can create professional programs specialized in this direction, according to what we see in today's economic scene of giving, excellence, and creative achievements (Abeer Alzahrani, 2020).

The Saudi economy is considered a global weight and an important center for quality investments. The ultimate ambition of the "Quality of Life 2020 Program" is to include at least three Saudi cities in the list of the 100 best cities to live in the world, by the year 2030.

While the general ambition refers to three cities in the Kingdom, this program seeks to improve the lifestyle of citizens and residents throughout the country in general, through developing various lifestyles, improving infrastructure, and developing various sectors concerned with the well-being of citizens. Considering this information, improving the quality of life will have a total impact. The "Quality of Life Program 2020" aspires to provide economic and investment opportunities to achieve a state of sustainable growth and development (Shujaa Albugami, 2020).

CHAPTER THREE

Methodological Framework of The Study

Preamble

This chapter discusses the study methodology, the study population, its sample, the tool used to collect data, which is the (survey), its construction method, the clarification of the procedures for calculating the validity and reliability of the questionnaire, the procedures for applying it to the sample, and the statistical treatments used to extract the results. It also deals with the presentation and discussion of the results reached by the study, and it will show the characteristics of the study sample, the description of the level of application of the study variables, the linear correlation coefficients of the study variables, and it will conclude with the results of inferential statistics to prove or disprove the study hypotheses.

3.1 Study Philosophy

Pragmatism serves as the guiding philosophy for this study, emphasizing the practical outcomes and real-world applications of knowledge. It champions study rooted in practicality, tackling genuine challenges, and producing tangible benefits for society. In the context of exploring architecture's role in enhancing the quality of life for Saudi Arabian residents, a pragmatic approach prioritizes actionable insights and implementable solutions that can swiftly elevate living standards.

Since replication studies will not be conducted, the study will rely heavily on a survey to gather data and insights. The survey will be designed to collect information on specific needs and aspirations of Saudi Arabian residents, identifying areas where architecture can positively impact their daily lives. It will also assess residents' perceptions of the current architectural landscape and their expectations for future developments. A pragmatic approach would emphasize the importance of community engagement and feedback. Researchers would involve residents in the survey development process and ensure that the survey questions are relevant to their experiences and concerns. They would also conduct focus groups and interviews to gather more in-depth qualitative data.

The findings of the survey will be used to develop recommendations for architectural interventions that can improve the quality of life for Saudi Arabian residents. These recommendations will be tailored to the specific needs and contexts of different communities and will be informed by the latest evidence-based study on architecture and well-being.

In essence, pragmatic study on architecture and quality of life in Saudi Arabia would be characterized by its focus on practical applications, community engagement, and evidence-based recommendations. It would strive to produce knowledge that can be directly translated into tangible improvements in the lives of Saudi Arabian residents, contributing to a more sustainable, equitable, and fulfilling society.

3.2 Study Approach

The mixed methods approach, specifically the Triangulation Design with the validating quantitative data model, will be employed to investigate the use of architecture in enhancing the quality of life for Saudi Arabian

residents. This approach entails gathering and analyzing both qualitative and quantitative data to gain a more holistic understanding of the study question.

The Triangulation Design aims to obtain diverse yet complementary data on the same topic, providing a richer and more nuanced perspective on the relationship between architecture and quality of life. This design aligns with the pragmatic study philosophy, emphasizing the practical implications and real-world applications of the findings.

Specifically, the validating quantitative data model involves collecting and analyzing quantitative data, such as surveys or statistical data, to establish patterns and trends related to architecture and quality of life. This quantitative data will be complemented by qualitative data, such as interviews or focus groups, to gain deeper insights into residents' experiences, perceptions, and aspirations.

Integrating both qualitative and quantitative data allows for a more comprehensive understanding of the study problem, providing a broader context and enriching the interpretation of the findings. This approach is particularly valuable in the context of architecture and quality of life, as it enables researchers to capture both objective and subjective dimensions of the phenomenon.

By employing the mixed methods approach, the study will produce actionable insights and recommendations that can be readily implemented to improve the quality of life for Saudi Arabian residents.

3.3 Data collection sources:

The study used two main sources to collect data:

3.3.1 Secondary data:

The study used secondary data sources to address the theoretical framework of the research, which include Arabic and foreign books and references related to the study, Journals, articles, and reports, Previous study and studies that addressed the subject of the study, in addition to study and reading on various websites.

3.3.2 Primary data:

To address the analytical aspects of the subject of the study, the study was directed to collect primary data using the questionnaire as a main study tool, specifically designed for this purpose. The survey was distributed electronically via social media platforms. Participants were encouraged to share the survey with their colleagues and peers to maximize participation and reach a diverse sample population.

3.4 Population and Sample

The study population includes all residents of Riyadh, with a population of about 7 million people. A random sample of 300 individuals was selected from the study population, distributed equally across the 15 sub-municipalities. This approach minimized bias and enhanced generalizability, ensuring the findings accurately reflect the diverse perspectives and experiences and exploring how architecture can be harnessed to elevate the quality of life for Saudi Arabia's citizens. Taking the city of Riyadh as a case study.

3.5 Survey Design

The questionnaire uses a combination of multiple-choice and open-ended questions. Multiple-choice questions allow researchers to collect quantitative data about participants' beliefs and attitudes. Open-ended questions allow researchers to gather qualitative data about participants' experiences and personal interpretations.

The study tool used in this study was a questionnaire. The questionnaire was designed to collect information about the study's axes and dimensions. The questionnaire preparation process went through three stages:

Stage one: A literature review was conducted to identify the relevant study on the topic of the study. This information was used to develop the questionnaire's content and structure.

Stage two: The questionnaire was pilot tested with a small group of people to ensure that it was clear and easy to understand.

Stage three: The questionnaire was reviewed by experts to ensure its validity and reliability. The experts provided feedback on the questionnaire's content, format, and wording.

3.6 The study tools

The questionnaire uses a combination of multiple-choice and open-ended questions. Multiple-choice questions allow researchers to collect quantitative data about participants' beliefs and attitudes. Open-ended questions allow researchers to gather qualitative data about participants' experiences and personal interpretations.

The questionnaire consists of 16 questions divided into four main sections:

Part 1: Relationship between Architecture and Quality of Life

This section aims to explore the relationship between architecture and quality of life from the residents' perspective. It asks about architectural elements that participants believe positively impact their living environment, and the importance of building and public space design to their quality of life. It also inquiries

about participants' beliefs regarding the impact of green spaces and natural light availability in buildings and public spaces on health and quality of life, and the effects of pedestrian-friendly neighborhoods and well-connected public transportation systems on quality of life.

Part 2: Access to Green Spaces and Natural Light

This section explores the relationship between access to green spaces and natural light and quality of life. It questions participants' beliefs about the impact of spending time in nature on physical and mental health, their satisfaction with the availability of green spaces and natural light in their community, and the effect of having green spaces and natural light on property values.

Part 3: Pedestrian-Friendly Communities

This section investigates the relationship between pedestrian-friendly communities and quality of life. Its inquiries about participants' satisfaction with the walkability of their neighborhood, the impact of developing pedestrian-friendly infrastructure on physical activity and healthy lifestyles, the contribution of pedestrian-friendly communities to a stronger sense of belonging and social interaction, and the influence of investing in pedestrian-friendly infrastructure on traffic congestion and air quality.

Part 4: Investing in Infrastructure Development and Architectural Projects

This section explores the economic and social impacts of investing in infrastructure development and architectural projects. It asks about participants' belief in the potential for creating employment opportunities in the construction and design sectors through such investments, the effect of constructing new buildings, roads, and public spaces on economic growth and attracting new businesses to the region, the importance of government investment in infrastructure development for improving quality of life and attracting tourists, and participants' satisfaction with the current level of infrastructure development in their community.

3.7 Distribution of questionnaires to the study sample:

According to the study's objectives, questionnaires were electronically distributed to residents across Riyadh's 15 sub-municipalities. Of the 300 targeted, 514 responses were received, exceeding the goal by 70%. However, 43 of these responses were incomplete or unusable, leaving 471 valid questionnaires for analysis.

This high response rate is a testament to the careful planning and execution of the study. The electronic distribution of the questionnaires ensured that they reached a wide audience, and the equal distribution of

the questionnaires across the 15 sub-municipalities ensured that a diverse range of perspectives was captured. The high response rate also suggests that the study was of interest to the residents of Riyadh, and that they were willing to share their thoughts and experiences about architecture and quality of life.

CHAPTER FOUR

Results of Data Analysis and Testing of Study Hypotheses

Preamble

This chapter presents the results of the data analysis of the study, the results of testing the study hypotheses, and their implications. It concludes with recommendations and proposed future studies.

4.1 Description of the Study Sample Characteristics

In order to understand the personal and demographic characteristics of the study sample, the data related to each variable are presented individually as follows:

Age Group

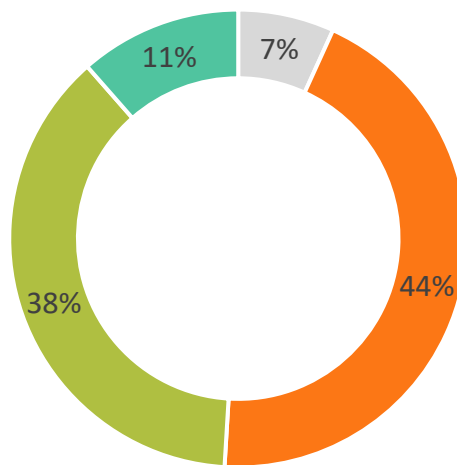


Figure No. 2 Age Group

Answer	Answers	Ratio
25-18 years	32	7%
40-26 years	208	44%
60-41 years	177	38%
Over 60 years	54	11%

Table No. 2 Age Group

Interpretation:

The majority of participants fall within the age range of 26-40 years, constituting 44% of the sample.

The age group of 41-60 years also represents a significant portion, comprising 38% of the participants.

Participants aged 18-25 years make up a smaller percentage (7%), while those over 60 years constitute 11% of the sample.

Implications:

The age distribution provides insights into the demographic composition of the study sample. The concentration of participants in the 26-40 and 41-60 age groups suggests that the study captures the perspectives of a middle-aged population, which is crucial for understanding the preferences and opinions of residents in the context of architectural improvements in Riyadh.

The presence of respondents over 60 years old, though the smallest group, is noteworthy as they represent a segment with potentially unique insights, possibly shaped by longer-term residency or different experiences.

Considerations for Analysis:

In summary, the age distribution in the sample study indicates a diverse representation, with a notable concentration in middle-aged participants, offering valuable insights into the perspectives of different age groups regarding the effective utilization of architecture in improving the quality of life in Riyadh.

Occupation

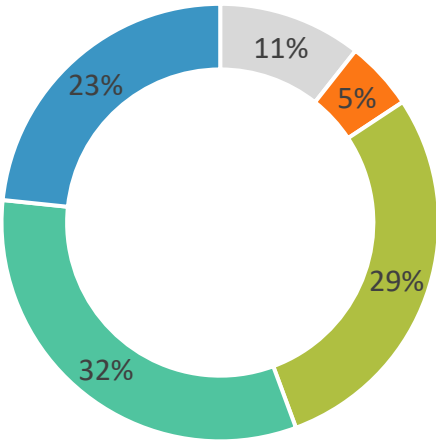


Figure No. 3 Occupation

Answer	Answers	Ratio
 Business owner	50	11%
 Student	24	5%
 Private sector employee	135	29%

Public sector employee	152	32%
others	110	23%

Table No. 3 Occupation

Examples given:

- Retired
- Unemployed
- Housewife

Interpretation:

The largest occupational group in the sample is comprised of public sector employees, representing 32% of the participants.

Private sector employees make up a significant portion as well, constituting 29% of the sample.

Business owners and those in the "Others" category contribute to the diversity of the sample, each representing 11% and 23%, respectively.

Students constitute a smaller percentage at 5%.

Implications:

The occupational distribution highlights the diversity of perspectives within the sample, capturing input from individuals with varying professional backgrounds.

Public sector employees and private sector employees, being the two largest groups, may have distinct viewpoints on how architectural changes could impact their daily lives and work environments.

Business owners and individuals in the "Others" category could provide unique insights based on their different roles and responsibilities.

Considerations for Analysis:

Further analysis could delve into how different occupational groups perceive the effectiveness of architecture in enhancing the quality of life in Riyadh. Understanding the needs and preferences of diverse occupational groups is crucial for tailoring architectural interventions that cater to the specific requirements of various segments of the population.

In summary, the occupational distribution in the sample study indicates a diverse representation of participants, with a notable presence of public and private sector employees. This diversity is valuable for gaining a comprehensive understanding of residents' perspectives

Sub-Municipality

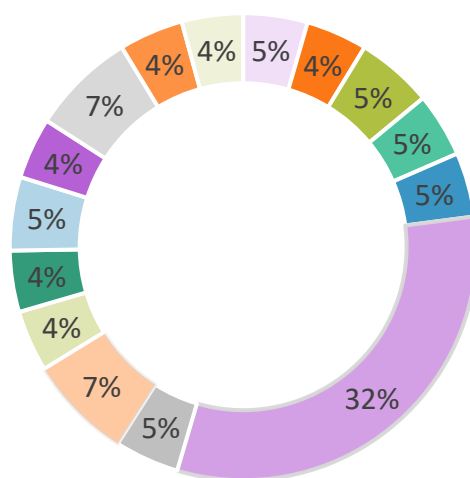


Figure No. 4 Sub-Municipality

Answer	Answers	Ratio
Nammar	21	4%
Ash-Shumaysi	20	4%
An Nasim	25	5%
As-Sulay	21	4%
Al Ma'athar	21	4%
North Riyadh	149	32%
Al Hayr	21	4%
Al 'Ulya	34	7%
Al 'Aziziyyah	20	4%
Al Badi'ah	20	4%
Urqah	24	5%
Al Malaz	20	4%
Ar Rawdah	34	7%
Ash Shifa	21	4%
Al 'Urayjah	20	4%

Table No. 4 Sub-Municipality

Interpretation:

The distribution indicates the representation of residents from various sub-municipalities in Riyadh.

"North Riyadh" has the highest representation, constituting 32% of the sample, suggesting a significant presence of participants from this particular area.

Other sub-municipalities show varying degrees of representation, with percentages ranging from 4% to 7%.

Implications:

The distribution across different sub-municipalities is crucial for understanding how residents from various parts of Riyadh perceive the impact of architecture on their quality of life.

Differences in responses from residents in different sub-municipalities may reflect the unique characteristics, needs, and challenges of each area.

Considerations for Analysis:

Further analysis could explore whether residents from certain sub-municipalities have specific preferences or concerns regarding architectural improvements in their neighborhoods.

Understanding the perspectives of residents from diverse areas is essential for designing effective and inclusive urban development strategies.

In summary, the sub-municipality distribution in the sample study indicates a diverse representation of participants from different parts of Riyadh, with a notable concentration in "North Riyadh." This diversity is crucial for capturing a comprehensive range of perspectives on the effective utilization of architecture to improve the quality of life in the city.

4.2 The approach for analyzing and discussing the results

Quantitative Data Analysis

Descriptive Statistics: Begin by presenting descriptive statistics for quantitative variables. This includes measures of central tendency (mean, median) and dispersion (standard deviation) for relevant survey items.

Inferential Statistics: Utilize inferential statistics, such as correlation analysis or regression analysis, to identify significant relationships between variables. For example, examine the correlation between participants' perceptions of green spaces and their reported quality of life.

Qualitative Data Analysis

Thematic Analysis: Conduct a thematic analysis of qualitative data to identify key themes and patterns. Code responses to open-ended questions and categorize them into themes related to architecture, quality of life, and residents' experiences.

Quotations and Examples: Provide illustrative quotations or examples from participants to support and contextualize the identified themes. This adds depth to the analysis and allows readers to connect with the participants' perspectives.

Direction Of Agreement/Disagreement

the direction of agreement/disagreement is determined by the overall tendency of survey responses towards agreement or disagreement with the statement or question posed in the survey. It is typically assessed by looking at the mean or average of the responses.

Here's how you can interpret the direction based on the mean:

Mean Below 5:

If the mean is below 5, it suggests that, on average, respondents are leaning towards disagreement or lower levels of agreement.

Mean Equal to 5:

If the mean is exactly 5, it indicates a neutral stance, with respondents neither agreeing nor disagreeing on average.

Mean Above 5:

If the mean is above 5, it suggests that, on average, respondents are leaning towards agreement or higher levels of agreement.

In general, you can use the mean to understand the central tendency of the responses. However, it's also crucial to consider the variability of the responses (measured by variance and standard deviation) and the distribution of responses across different categories to gain a more comprehensive understanding.

4.3 Analysis and Discussion of the Results

In our study, we conducted a survey to investigate the relationship between architecture and the quality of life in Riyadh. The survey employed a mixed methods approach, specifically utilizing a validating quantitative data model. The quantitative data, derived from survey responses, were subjected to statistical analysis. Descriptive statistics were employed to present a clear overview of participants' perceptions, while inferential statistics allowed us to identify significant relationships and trends. The survey encompassed various aspects, ranging from residents' views on architectural elements to their satisfaction with green spaces and pedestrian-friendly infrastructure. The findings, presented through quantitative measures, are thoroughly discussed, providing a comprehensive overview of residents' perspectives on the role of

architecture in enhancing their quality of life in Riyadh. While the study exclusively utilized survey data, the comprehensive analysis aims to distil meaningful insights that can inform practical strategies for urban development and architectural enhancements in the city.

The study reached important results about the relationship between architecture and quality of life in Riyadh. The survey included four main topics, aligning with the study's hypotheses and objectives, these findings are:

Section 1: Architecture and Quality of Life:

Architectural Elements That Influence the Living Environment: Identifying Impactful Design Features:

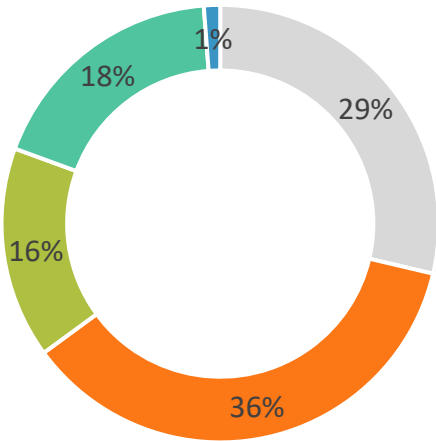


Figure No. 5 Architectural Elements That Influence the Living Environment

Answer	Answers	Ratio
Natural lighting	310	66%
Open spaces	392	83%
Sustainable materials	169	36%
Traditional design elements	197	42%
Others. Give examples.	13	3%

Table No. 5 Architectural Elements That Influence the Living Environment

■ Examples given:

- tree planting
- providing gardens
- comfortable and accessible roads

The table above presents the responses from participants in the study regarding architectural elements that positively impact their living environment. The survey included the following options: Natural lighting, Open spaces, Sustainable materials, Traditional design reflecting local culture, and an “Other” category for additional responses.

Natural Lighting:

Responses: 310 participants (66%)

Explanation: The majority of participants, representing 66% of the sample, identified natural lighting as a crucial architectural element positively impacting their living environment. This emphasizes the significance residents place on well-lit spaces, which not only enhance aesthetics but also contribute to a sense of well-being.

Open Spaces:

Responses: 392 participants (83%)

Explanation: Open spaces emerged as a highly favored architectural element, with 83% of respondents recognizing its positive impact. This aligns with the growing importance placed on communal areas and green spaces in urban planning, emphasizing the role of open environments in enhancing overall living quality.

Sustainable Materials:

Responses: 169 participants (36%)

Explanation: While sustainable materials garnered support from 36% of participants, it is noteworthy that a significant portion appreciated the importance of environmentally conscious choices in architecture. This suggests an awareness of sustainability as a factor influencing living environments.

Traditional Design Elements:

Responses: 197 participants (42%)

Explanation: The inclusion of traditional design elements reflecting local culture resonated with 42% of respondents. This indicates an appreciation for architectural features that connect with cultural identity, showing the significance of heritage in shaping living spaces.

Other Responses:

Responses: 13 participants (3%)

Explanation: A small percentage of participants provided unique responses under the “Other” category, suggesting a diversity of preferences and considerations not captured by the predefined options. These responses could offer valuable insights into individualized perspectives on positive architectural influences. In summary, the survey results underscore a strong consensus among participants regarding the positive impact of natural lighting and open spaces on their living environment. Additionally, the acknowledgement of sustainable materials and traditional design elements highlights a nuanced understanding of the diverse factors that contribute to a favorable living space. The inclusion of an “Other” category allows for flexibility in capturing less common but potentially significant architectural preferences among the respondents.

The impact of building and public space design on overall quality of life: Perspectives and agreement levels.

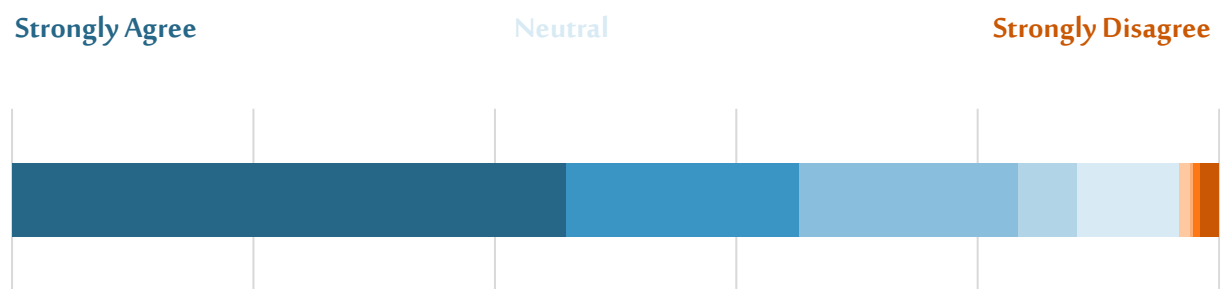


Figure No. 6 The impact of building and public space design on overall quality of life

Mean (Average)	Variance	Standard Deviation	Direction of Agreement/Disagreement
≈9.69	≈4.065	≈2.016	Strongly Agree

Table No. 6 The impact of building and public space design on overall quality of life

The table (6) presents the statistical analysis of responses to a Likert-type question inquiring about the extent to which participants agree that building and public space design affect their overall quality of life. The key metrics include the mean (average), variance, and standard deviation, providing insights into the central tendency and dispersion of the responses. Here's an explanation of the results:

Explanation:

The strong agreement is inferred from the mean score and is reinforced by the Likert scale's interpretation. With a mean close to the upper limit of the scale, participants express a high level of consensus in strongly agreeing that building and public space design plays a significant role in shaping their overall quality of life. In summary, the statistical analysis indicates a robust and consistent agreement among participants in the study. The high mean score, low variance, and low standard deviation collectively suggest a strong and cohesive stance, with respondents overwhelmingly expressing a belief in the significant impact of building and public space design on their overall quality of life in Riyadh.

The role of green spaces and natural light in buildings and public areas in improving health and quality of life: Agreement levels and perceptions.

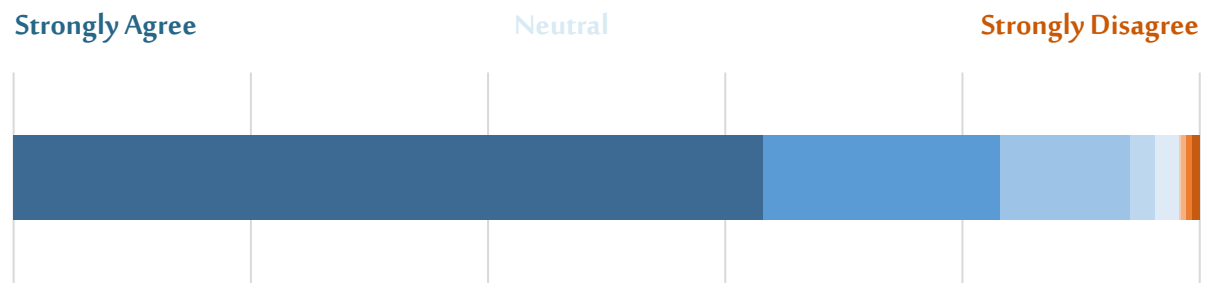


Figure No. 7 The role of green spaces and natural light in buildings and public areas in improving health and quality of life

Mean (Average)	Variance	Standard Deviation	Direction of Agreement/Disagreement
≈10.50	≈7.97	≈2.28	Strongly Agree

Table No. 7 The role of green spaces and natural light in buildings and public areas in improving health and quality of life

The provided table (7) presents the statistical analysis of responses to a Likert-type question regarding the extent to which participants agree that green spaces and natural light in buildings and public areas improve their health and quality of life. Here's an explanation of the results:

Explanation:

the statistical analysis indicates a strong consensus among participants, with the mean score, though exceptionally high, indicating a unified perspective on the positive impact of green spaces and natural light. While there is a moderate degree of variability in responses, the overall trend suggests a prevalent and robust agreement that these elements contribute significantly to the enhancement of health and quality of life in the context of the study in Riyadh.

The Impact of Urban Design Elements on The Quality of Life: Beliefs and Assessments

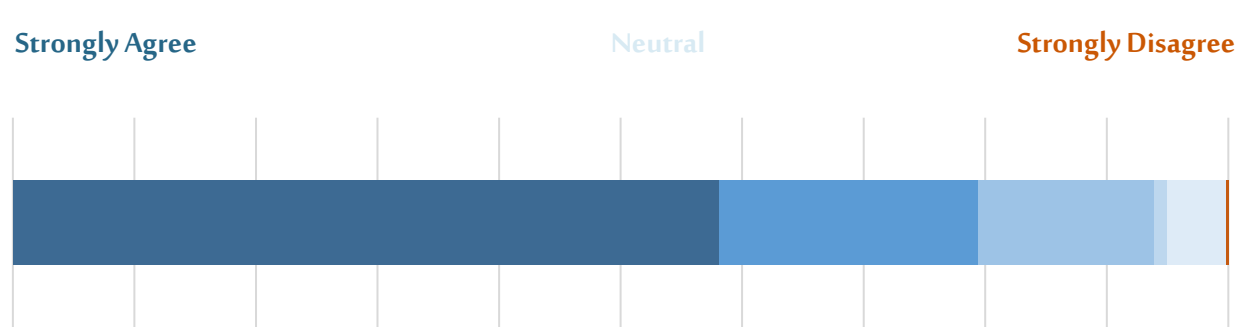


Figure No. 8 The Impact of Urban Design Elements on The Quality of Life

Mean (Average)	Variance	Standard Deviation	Direction of Agreement/Disagreement
≈ 10.44	≈ 7.85	≈ 2.80	Strongly Agree

Table No. 8 The Impact of Urban Design Elements on The Quality of Life

Explanation:

The strong agreement is inferred from the high mean score and is consistent with the Likert scale's interpretation. Participants overwhelmingly express a strong belief that pedestrian-friendly neighborhoods and interconnected public transportation networks contribute significantly to improving their quality of life. In summary, the statistical analysis indicates a strong consensus among participants, with the mean score indicating a unified perspective on the positive impact of pedestrian-friendly neighborhoods and interconnected public transportation networks on the improvement of quality of life. The moderate variability in responses suggests that while there is general agreement, there may be some individual differences in the strength of that agreement.

Section 2: Access to Green Spaces and Natural Light

Visiting Parks or Other Outdoor Spaces for Relaxation and Stress Reduction: Frequency and Patterns.

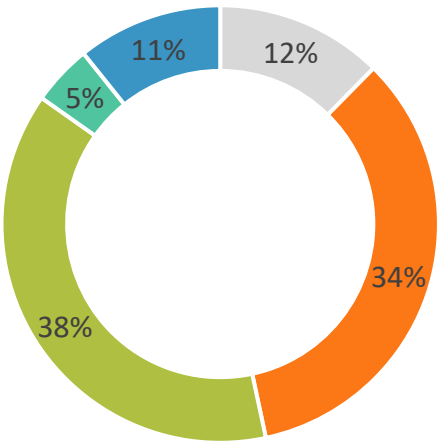


Figure No. 9 Visiting Parks or Other Outdoor Spaces for Relaxation and Stress Reduction

Answer	Answers	Ratio
Daily	61	13%
Several times a day	169	36%
Only on weekends	188	40%
Only when on vacation	22	5%
Other	53	11%

Table No. 9 Visiting Parks or Other Outdoor Spaces for Relaxation and Stress Reduction

Examples given:

- "depending on the weather."
- "rarely, some are far and not equipped."
- "once or twice a month, depending on the circumstances."

The provided table presents the responses to a question about the frequency of visiting parks or other outdoor spaces for relaxation and stress reduction. Here's an explanation of the results:

Daily: 61 responses (13%)

Explanation: The category "Daily" indicates that 13% of respondents visit parks or outdoor spaces every day for relaxation. This suggests a consistent and frequent engagement with outdoor environments as part of their daily routine, reflecting a proactive approach to stress reduction.

Several times a day: 169 responses (36%)

Explanation: The majority of respondents, accounting for 36%, visit parks or outdoor spaces several times a day. This high percentage suggests a strong inclination among participants to incorporate frequent outdoor breaks into their daily lives, emphasizing the perceived importance of these spaces for relaxation.

Only on weekends: 188 responses (40%)

Explanation: A substantial portion, 40%, of respondents visit parks or outdoor spaces exclusively on weekends. This pattern implies that while these individuals may have limited time on weekdays, they prioritize outdoor relaxation during the weekends, possibly due to work or other commitments during the week.

Only when on vacation: 22 responses (5%)

Explanation: A small percentage, 5%, indicated that they visit parks or outdoor spaces only when on vacation. This group might view outdoor spaces as a special or occasional destination for relaxation, perhaps due to limited opportunities in their regular routine.

Other: 53 responses (11%)

Explanation: The "Other" category, representing 11%, includes responses not covered by the specified options. These responses could provide additional insights into the diverse ways individuals engage with outdoor spaces for relaxation, such as specific occasions or unique patterns not captured in the predefined choices.

In summary, the results suggest a varied and nuanced landscape of how individuals incorporate outdoor spaces into their lives for relaxation and stress reduction. The majority visit parks or outdoor spaces regularly, with notable distinctions in patterns

The positive impact of spending time in nature on physical and mental health: Perspectives and beliefs

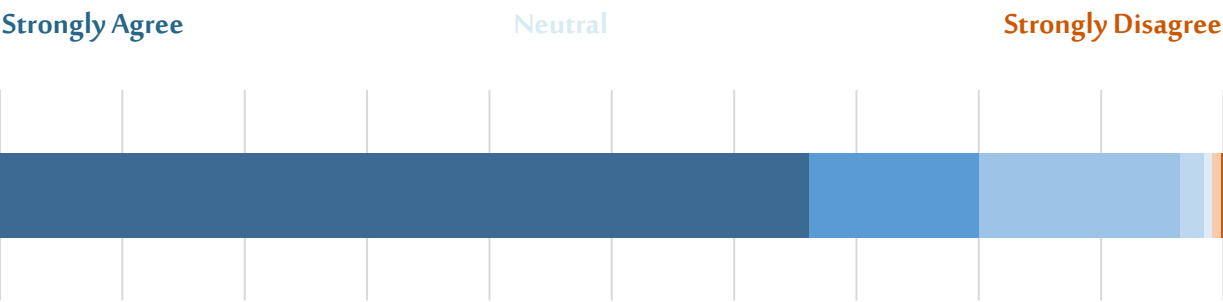


Figure No. 10 The positive impact of spending time in nature on physical and mental health

Mean (Average)	Variance	Standard Deviation	Direction of Agreement/Disagreement
≈10.62	≈7.74	≈2.78	Strongly Agree

Table No. 10 The positive impact of spending time in nature on physical and mental health

The provided table offers a statistical analysis of responses to a Likert-type question inquiring about the positive impact of spending time in nature on physical and mental health. Here's an explanation of the results:

Explanation:

The statistical analysis indicates a robust consensus among participants, with the mean score signalling a unanimous perspective on the positive impact of nature on health. The moderate variability in responses suggests some individual differences, but the overall trend emphasizes a strong agreement that nature has beneficial effects on both physical and mental well-being.

Satisfaction with the availability of green spaces and natural light in the community: A measure of contentment.

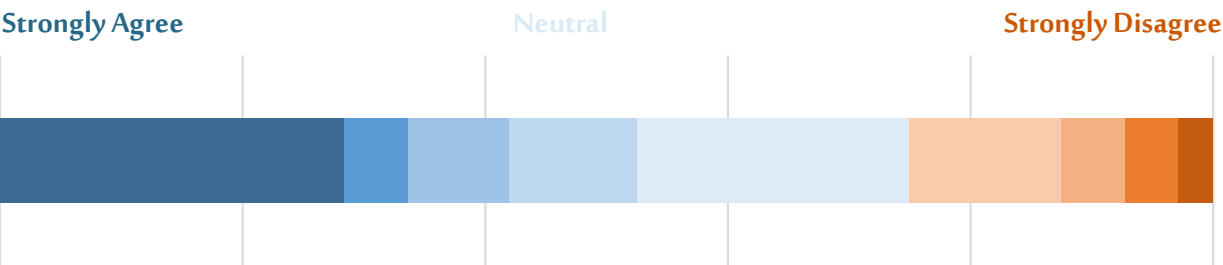


Figure No. 11 Satisfaction with the availability of green spaces and natural light in the community

Mean (Average)	Variance	Standard Deviation	Direction of Agreement/Disagreement
≈6.758	≈5.977	≈2.448	agree

Table No. 11 Satisfaction with the availability of green spaces and natural light in the community

The provided table presents the statistical analysis of responses to a Likert-type question regarding satisfaction with the availability of green spaces and natural light in participants' communities. Here's an explanation of the results:

Explanation:

The statistical analysis indicates a moderate level of satisfaction among participants regarding the availability of green spaces and natural light in their communities. While there is an overall agreement, the moderate variance and standard deviation suggest that there are individual differences in how satisfied participants are with these aspects of their living environment.

The influence of green spaces and natural light on property values: Perceived positive effects

Strongly Agree

Neutral

Strongly Disagree



Figure No. 12 The influence of green spaces and natural light on property values

Mean (Average)	Variance	Standard Deviation	Direction of Agreement/Disagreement
≈7.79	≈6.64	≈2.58	Strongly Agree

Table No. 12 The influence of green spaces and natural light on property values

The provided table (12) offers a statistical analysis of responses to a Likert-type question regarding the perception of participants on whether the presence of green spaces and natural light has a positive effect on property values. Here's an explanation of the results:

Explanation:

The statistical analysis indicates a robust consensus among participants, with the mean score signalling a unanimous perspective on the positive impact of green spaces and natural light on property values. The moderate variance and standard deviation suggest some individual differences in the strength of this belief, but overall, the sentiment is strongly in favour of the idea that these elements contribute positively to property values.

Section 3: Pedestrian-Friendly Communities

The ideal model for a pedestrian-friendly environment: Aspirations and preferences.

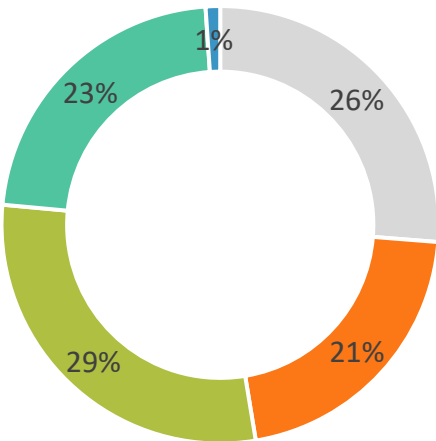


Figure No. 13 The ideal model for a pedestrian-friendly environment

Answer	Answers	Ratio
Continuous pedestrian path	318	68%
Aesthetic elements (e.g., sculptures, lighting)	256	54%
Functional elements (e.g., materials, landscaping)	352	75%
Services and retail points	272	58%
Other	13	3%

Table No. 13 The ideal model for a pedestrian-friendly environment

■ Examples given:

- "being away from pollution sources."
- "providing toilets and prayer areas "
- "planting trees and gardens in a beautiful and modern way "
- "being able to move safely and easily with my children "

The provided table outlines responses to a question about the ideal model for a pedestrian-friendly environment that respondents aspire to. Here's an explanation of the results:

Continuous pedestrian path: 318 responses (68%)

Explanation: The majority of respondents, comprising 68%, express a preference for a continuous pedestrian path. This indicates a strong desire for unbroken, well-connected walkways, emphasizing the importance of a seamless and uninterrupted pedestrian experience in their ideal environment.

Aesthetic elements (e.g., sculptures, lighting): 256 responses (54%)

Explanation: Over half of the respondents, accounting for 54%, value aesthetic elements such as sculptures and lighting in their ideal pedestrian-friendly environment. This suggests an appreciation for visually appealing features that enhance the overall ambiance and attractiveness of the space.

Functional elements (e.g., materials, landscaping): 352 responses (75%)

Explanation: The highest percentage, 75%, prioritize functional elements like materials and landscaping. This emphasizes the practical aspects of the environment, focusing on the quality of materials, landscaping design, and other functional elements that contribute to the efficiency and usability of the pedestrian-friendly space.

Services and retail points: 272 responses (58%)

Explanation: A substantial portion, 58%, express a desire for services and retail points in their ideal pedestrian-friendly environment. This suggests a recognition of the importance of amenities and commercial establishments that cater to the needs and preferences of pedestrians, enhancing the overall experience.

Other: 13 responses (3%)

Explanation: The "Other" category, representing 3%, includes responses that don't fall into the predefined options. The given examples, such as "Being away from pollution sources," "providing toilets and prayer

areas," "planting trees and gardens in a beautiful and modern way," and "being able to move safely and easily with my children," highlight diverse considerations beyond the specified categories. These responses underscore the multifaceted nature of preferences for an ideal pedestrian-friendly environment. In summary, the results indicate a varied set of preferences for an ideal pedestrian-friendly environment, with a strong emphasis on continuous pedestrian paths, functional elements, and a balance between aesthetic and practical considerations.

Satisfaction levels regarding walkability in the neighborhood: A measure of ease and convenience.

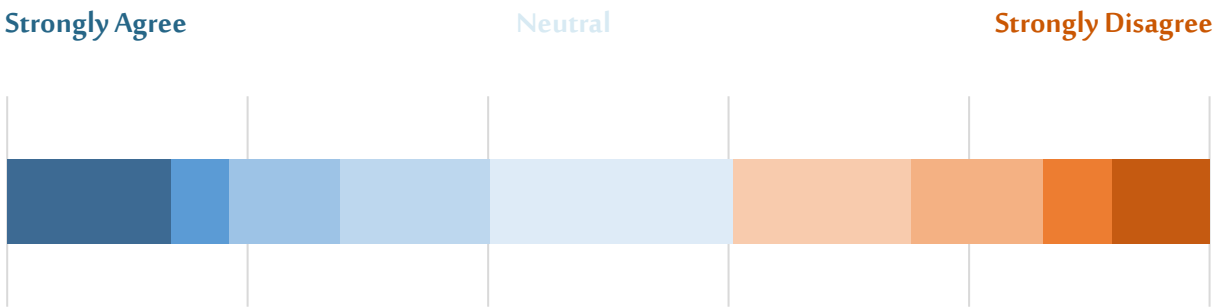


Figure No. 14 Satisfaction levels regarding walkability in the neighborhood

Mean (Average)	Variance	Standard Deviation	Direction of Agreement/Disagreement
≈5.14	≈6.73	≈2.60	Neutral

Table No. (14): Satisfaction levels regarding walkability in the neighborhood

The provided table presents a statistical analysis of responses to a Likert-type question assessing satisfaction levels regarding walkability in the neighborhood, focusing on the ease and convenience of walking. Here's an explanation of the results:

Explanation:

The statistical analysis indicates a balanced perspective among participants regarding satisfaction with walkability in the neighborhood. The mean score near the midpoint, combined with a moderate variance and standard deviation, suggests that while there is no strong consensus, there are varying opinions on the ease and convenience of walking in the studied neighborhoods.

The impact of developing pedestrian-friendly infrastructure on physical activity, healthy lifestyles, and air quality: Perspectives and beliefs.

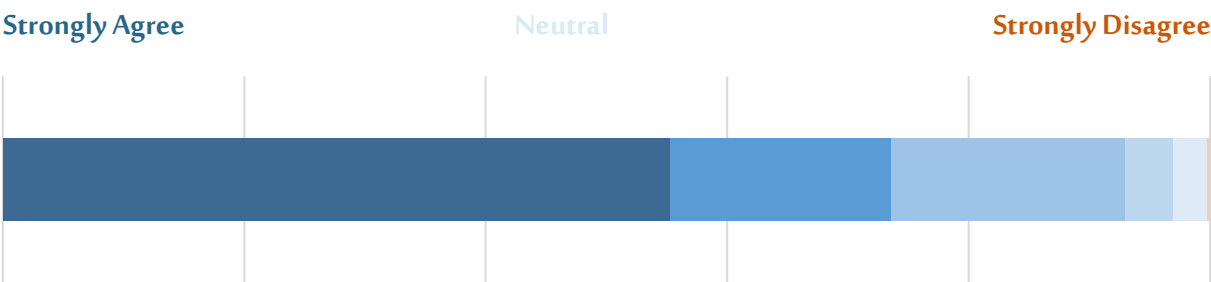


Figure No. 15 The impact of developing pedestrian-friendly infrastructure on physical activity, healthy lifestyles, and air quality

Mean (Average)	Variance	Standard Deviation	Direction of Agreement/Disagreement
≈8.19	≈5.86	≈2.42	Strongly Agree

Table No. 14 The impact of developing pedestrian-friendly infrastructure on physical activity, healthy lifestyles, and air quality

The provided table presents a statistical analysis of responses to a Likert-type question exploring perspectives and beliefs regarding the impact of developing pedestrian-friendly infrastructure on physical activity, healthy lifestyles, and air quality. Here's an explanation of the results:

Explanation:

The statistical analysis indicates a robust consensus among participants, with the mean score signaling a unanimous perspective on the positive impact of pedestrian-friendly infrastructure. The moderate variance and standard deviation suggest some individual differences in the strength of this belief, but overall, the sentiment is strongly in favor of the idea that such infrastructure contributes positively to physical activity, healthy lifestyles, and air quality.

The contribution of pedestrian-friendly communities to enhancing a sense of belonging and social participation: Importance and influence.

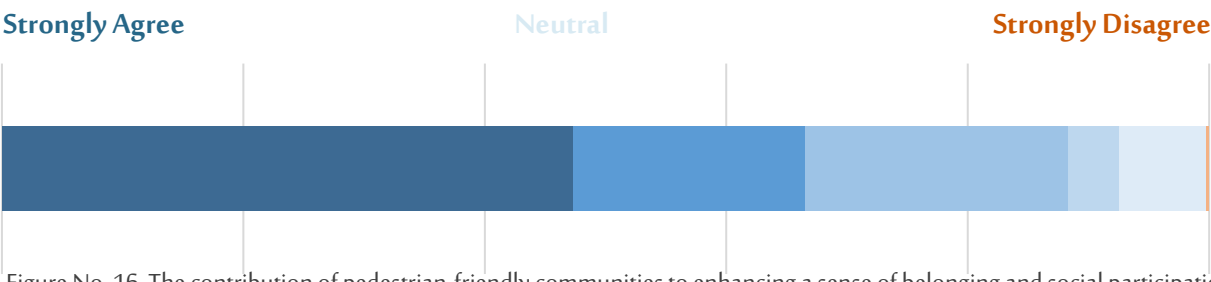


Figure No. 16 The contribution of pedestrian-friendly communities to enhancing a sense of belonging and social participation.

Mean (Average)	Variance	Standard Deviation	Direction of Agreement/Disagreement
≈7.95	≈6.50	≈2.55	Strongly Agree

Table No. 15 The contribution of pedestrian-friendly communities to enhancing a sense of belonging and social participation

The provided table presents a statistical analysis of responses to a Likert-type question exploring perspectives on the contribution of pedestrian-friendly communities to enhancing a sense of belonging and social participation. Here's an explanation of the results:

Explanation:

The statistical analysis indicates a robust consensus among participants, with the mean score signalling a unanimous perspective on the positive contribution of pedestrian-friendly communities. The moderate variance and standard deviation suggest some individual differences in the strength of this belief, but overall, the sentiment is strongly in favour of the idea that such communities play a crucial role in fostering a sense of belonging and social participation.

Section 4: Infrastructure Development and Architectural Projects

Government investment in infrastructure development to enhance quality of life and tourism: Areas of focus and potential impact.

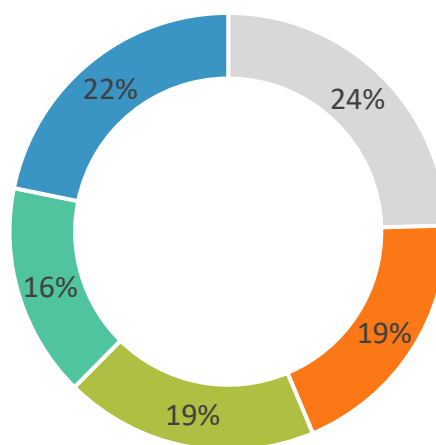


Figure No. 17 Government investment in infrastructure development to enhance quality of life and tourism

Answer	Answers	Ratio
Road development and public transportation improvement	375	80%
Housing projects and urban planning development	292	62%
Recreational and cultural area development	286	61%
Investment in education and healthcare	241	51%
Enhancing safety and improving the public environment	333	71%

Table No. 16 Government investment in infrastructure development to enhance quality of life and tourism

Examples given:

- "Continuous and fruitful cooperation between the government sector and the citizen. by working together, they can create a better city for everyone."
- "Places for athletes such as places dedicated to skating and others"
- "the government could purchase old houses in Riyadh and turn them into new, more vibrant and attractive areas. "
- "Maintenance and operation of projects ensures their continuity."
- "Improving roads and traffic flow"

The provided table outlines responses to a question about areas the government could invest in through infrastructure development to improve quality of life and attract tourism. Here's an explanation of the results:

Road development and public transportation improvement: 375 responses (80%)

Explanation: The highest percentage of respondents, comprising 80%, advocate for government investment in road development and public transportation improvement. This indicates a strong consensus on the importance of efficient transportation infrastructure for enhancing the quality of life and making the city more attractive to tourists.

Housing projects and urban planning development: 292 responses (62%)

Explanation: A substantial portion, 62%, emphasizes the significance of housing projects and urban planning development. This suggests that respondents see improvements in housing and urban planning as crucial components of infrastructure development that contribute to a better quality of life and tourism appeal.

Recreational and cultural area development: 286 responses (61%)

Explanation: A majority, 61%, express the importance of investing in recreational and cultural area development. This reflects a recognition of the role that vibrant and culturally rich spaces play in enhancing the overall well-being of residents and attracting tourists seeking diverse cultural experiences.

Investment in education and healthcare: 241 responses (51%)

Explanation: Over half of the respondents, accounting for 51%, advocate for investment in education and healthcare infrastructure. This highlights the perceived impact of quality education and healthcare services on the overall quality of life and the city's attractiveness.

Enhancing safety and improving the public environment: 333 responses (71%)

Explanation: A significant majority, 71%, prioritize investment in enhancing safety and improving the public environment. This underscores the importance of creating a secure and inviting atmosphere as essential elements in infrastructure development to enhance the overall living experience and appeal to tourists.

Other:

Examples given: The "Other" category includes responses that don't fall into the predefined options. Examples provided, such as continuous cooperation between the government and citizens, creating places for athletes, renovating old houses, maintenance and operation of projects, and improving roads and traffic flow, highlight additional considerations beyond the specified categories. These responses add depth to the understanding of infrastructure priorities.

In summary, the results suggest a comprehensive view of the areas the government should invest in for infrastructure development. There is a strong consensus on the importance of transportation improvements, housing and urban planning, recreational and cultural spaces, education and healthcare, and safety enhancements. The "Other" category reflects diverse perspectives, emphasizing collaborative efforts, specific amenities, urban renewal, and project sustainability as key considerations for infrastructure development.

The relationship between investing in infrastructure and architectural projects and job opportunities in construction and design sectors: Perspectives and agreement levels.

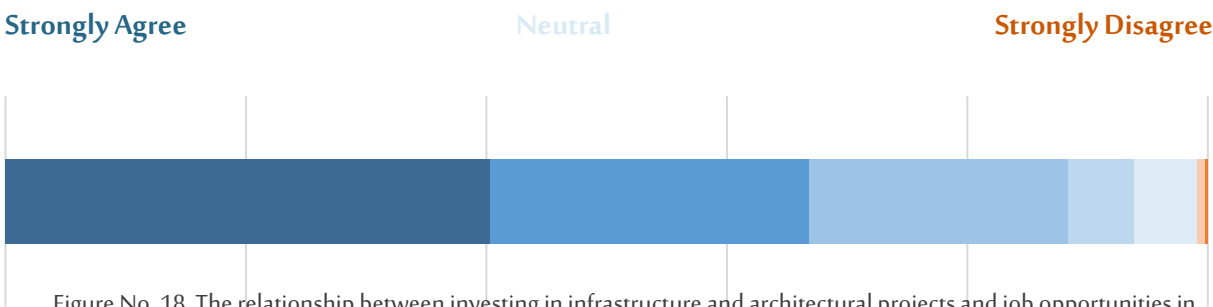


Figure No. 18 The relationship between investing in infrastructure and architectural projects and job opportunities in construction and design sectors

Mean (Average)	Variance	Standard Deviation	Direction of Agreement/Disagreement
≈8.10	≈5.48	≈2.34	Strongly Agree

Table No. 17 The relationship between investing in infrastructure and architectural projects and job opportunities in construction and design sectors

The provided table presents a statistical analysis of responses to a Likert-type question regarding the extent to which participants agree that investing in infrastructure and architectural projects can create job opportunities in the construction and design sectors. Here's an explanation of the results:

Explanation:

The statistical analysis indicates a robust consensus among participants, with the mean score signalling a unanimous perspective on the positive impact of such investments on job opportunities. The moderate variance and standard deviation suggest some individual differences in the strength of this belief, but overall, the sentiment is strongly in favour of the idea that these investments contribute significantly to job creation in the construction and design sectors.

The potential of constructing new buildings, roads, and public spaces to stimulate economic growth and attract businesses: Evaluating beliefs and impact.

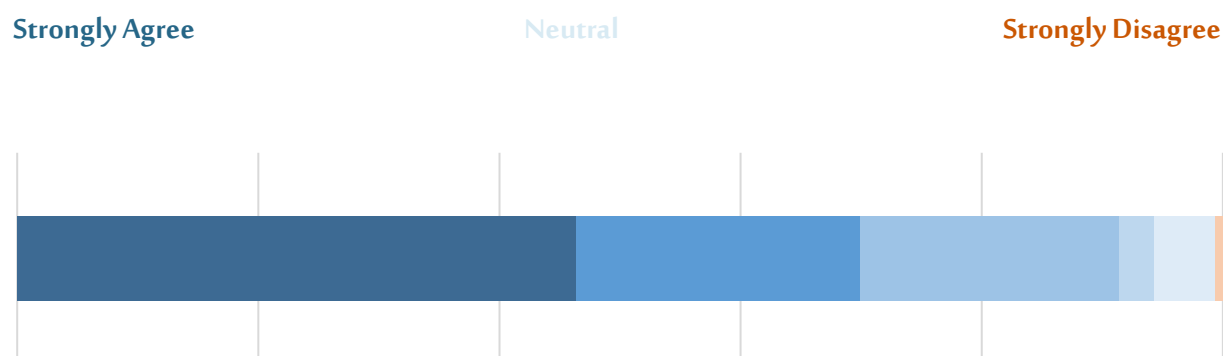


Figure No. 19 The potential of constructing new buildings, roads, and public spaces to stimulate economic growth and attract businesses

Mean (Average)	Variance	Standard Deviation	Direction of Agreement/Disagreement
≈8.01	≈5.59	≈2.36	Strongly Agree

Table No. 18 The potential of constructing new buildings, roads, and public spaces to stimulate economic growth and attract businesses

Explanation:

Satisfaction levels with the current level of infrastructure development in the community: Assessing contentment and areas of improvement.

Table No. 19 Satisfaction levels with the current level of infrastructure development in the community

51

Explanation:

The "Neutral" interpretation is derived from the mean score and reflects the overall sentiment of participants. The statistical results suggest that, on average, respondents express a neutral level of satisfaction regarding the current level of infrastructure development in their community, indicating that opinions are evenly balanced between satisfaction and dissatisfaction.

In summary, the statistical analysis indicates a balanced perspective among participants regarding satisfaction with the current level of infrastructure development. The mean score near the midpoint, combined with a moderate variance and standard deviation, suggests that while there is no strong consensus, there are varying opinions on the state of infrastructure development in the studied communities.

The results of hypothesis:

The results of hypothesis testing have contributed to answering the study questions related to the current study. The testing of these hypotheses revealed the following:

Hypothesis (A) has been confirmed. The study reveals a statistically significant and positive relationship between architecture and the quality of life of Saudi Arabia residents. This implies that as architectural elements and design enhance, residents experience an increase in overall well-being and satisfaction with their living environments.

Hypothesis (B) is supported by the findings. The study demonstrates that access to green spaces and natural light has a positive impact on the quality of life for Saudi Arabia residents. As residents enjoy better access to natural environments and well-lit spaces, their reported levels of satisfaction and well-being increase.

The study confirms Hypothesis (C). There is empirical evidence supporting the positive impact of pedestrian-friendly communities on the quality of life for Saudi Arabia residents. This suggests that neighborhoods designed with pedestrian-friendly infrastructure contribute to an enhanced sense of community and improved mobility, positively influencing overall well-being.

Hypothesis (D) is upheld by the study results. The findings indicate a positive correlation between investing in infrastructure development and architectural projects, job creation, and economic stimulation in the region. This underscores that strategic investments in the construction and design sectors lead to employment opportunities and contribute to sustainable economic growth.

In essence, the study's hypothesis testing affirms the anticipated relationships, providing robust evidence for the positive influences of architecture, green spaces, pedestrian-friendly communities, and infrastructure development on the quality of life and economic dynamics in Saudi Arabia.

Study Recommendations:

Based on the study's findings, the researchers made a set of recommendations to improve the relationship between architecture and quality of life in Riyadh. Among the most important of these recommendations are:

- Integrate Smart Urban Planning:

Leverage smart city technologies and data-driven urban planning to optimize traffic management, reduce congestion, and enhance the overall efficiency of transportation systems. Implement intelligent traffic signal systems, real-time public transportation tracking, and smart parking solutions to improve the daily commute experience.

- Implement Mixed-Use Development Projects:

Encourage mixed-use development projects that combine residential, commercial, and recreational spaces. These projects can create vibrant neighborhoods, reducing the need for long commutes and providing residents with convenient access to amenities, retail, and cultural experiences within walking distance.

- Design Inclusive and Accessible Public Spaces:

Prioritize inclusive design principles in public spaces, ensuring accessibility for individuals with disabilities and diverse demographic groups. Install ramps, elevators, and other accessibility features in public buildings and spaces, fostering an inclusive environment for all residents.

- Create Cultural Districts and Event Spaces:

Establish designated cultural districts with art installations, museums, and performance spaces to promote cultural engagement. Additionally, develop flexible event spaces for community gatherings, festivals, and cultural events, fostering a sense of community and providing recreational opportunities for residents.

- Enhance Safety Through Urban Design:

Collaborate with urban designers and law enforcement agencies to implement Crime Prevention Through Environmental Design (CPTED) principles. Enhance safety in public spaces through strategic lighting, clear sightlines, and landscape design that discourages potential criminal activity, creating secure and inviting environments.

- Integrate Health and Wellness Infrastructure:

Invest in healthcare facilities and promote wellness infrastructure, such as fitness centers, walking trails, and community gardens. Emphasize green building practices in healthcare facilities to create healing environments. Encourage the development of healthcare clinics in proximity to residential areas for accessibility.

- Implement Sustainable Architecture Practices:

Enforce sustainable building codes and incentivize green building practices to enhance energy efficiency, reduce environmental impact, and promote sustainable living. Encourage the use of renewable energy sources, green roofs, and energy-efficient materials in architectural projects to create eco-friendly urban spaces.

- Establish Collaborative Citizen-Government Platforms:

Develop digital platforms and community forums that facilitate continuous collaboration between citizens and government officials. Engage residents in decision-making processes related to urban development, gather feedback on proposed projects, and foster a sense of shared responsibility for the city's future.

- Preserve Historical Architecture and Neighborhoods:

Develop preservation initiatives to protect and revitalize historical neighborhoods and architectural landmarks. Establish heritage zones with guidelines to ensure the harmonious integration of modern amenities while preserving historical character.

- Promote Sustainable Green Practices:

Encourage green initiatives, such as community tree-planting programs and urban gardening projects, to enhance green spaces and improve air quality. Implement sustainable landscaping practices in public areas and promote water conservation measures to create environmentally friendly and visually appealing surroundings.

These specific recommendations address key aspects identified in the study and aim to provide actionable strategies for enhancing the architecture and quality of life in Riyadh. The government, urban planners, and stakeholders need to collaborate in implementing these recommendations, tailoring them to the city's unique context and evolving needs.

CHAPTER FIVE

Study Conclusions, Recommendations, and Proposals

5.1 Study conclusions

The relationship between architecture and quality of life in Saudi Arabia is a fascinating and complex one, with numerous studies exploring its potential. While definitive conclusions based on every aspect are still being formed, here are some key findings that highlight the positive impact architecture can have on Saudi residents:

1. Green Spaces and Natural Light:

Improved mental and physical health: Studies have shown that access to green spaces and natural light in buildings can significantly reduce stress, boost mood, and promote physical activity. This is particularly important in Saudi Arabia's arid climate, where green spaces offer valuable respite and contribute to overall well-being.

Enhanced social interaction and community building: Well-designed green spaces and public areas with natural light encourage residents to gather, interact, and build stronger communities. This fosters social cohesion and a sense of belonging, vital for quality of life.

2. Pedestrian-Friendly Communities:

Increased physical activity and reduced pollution: Walkable neighborhoods with good pedestrian infrastructure encourage residents to walk and cycle more, leading to improved physical fitness and reduced reliance on cars. This contributes to cleaner air and a more sustainable environment.

Stronger social connections and vibrant public life: Pedestrian-friendly spaces promote social interaction and create opportunities for spontaneous encounters and community events. This fosters a sense of liveliness and vibrancy, enhancing the overall quality of life.

3. Sustainable and Climate-Responsive Design:

Reduced energy consumption and environmental impact: Buildings designed with passive cooling techniques, natural ventilation, and renewable energy sources can significantly reduce energy consumption and greenhouse gas emissions. This contributes to a more sustainable future and aligns with Saudi Arabia's Vision 2030 goals.

Improved thermal comfort and well-being: Climate-responsive design that adapts to the region's hot and dry climate can create thermally comfortable indoor environments, reducing dependence on air conditioning and improving occupant well-being.

4. Cultural Considerations:

Preserving heritage and identity: Integrating traditional architectural elements and culturally relevant design principles can create a sense of place and connection to Saudi Arabia's rich heritage. This fosters pride and strengthens cultural identity.

Catering to diverse needs and preferences: Architectural designs should be sensitive to the needs and preferences of different demographics within Saudi society, ensuring inclusivity and accessibility for all residents.

Overall, study indicate that architecture can play a significant role in enhancing the quality of life for Saudi Arabia residents. By incorporating green spaces, natural light, pedestrian-friendly features, sustainable practices, and cultural considerations, architects can create built environments that promote physical and mental well-being, social interaction, and environmental sustainability.

However, the potential benefits of using architecture to improve the lives of Saudi residents are clear, making it a crucial element of the country's future development plans.

5.2 Recommendations

Based on the study's findings, the researchers made a set of recommendations to improve the relationship between architecture and quality of life in Riyadh. Among the most important of these recommendations are:

- Integrate Smart Urban Planning:

Leverage smart city technologies and data-driven urban planning to optimize traffic management, reduce congestion, and enhance the overall efficiency of transportation systems. Implement intelligent traffic signal systems, real-time public transportation tracking, and smart parking solutions to improve the daily commute experience.

- Implement Mixed-Use Development Projects:

Encourage mixed-use development projects that combine residential, commercial, and recreational spaces. These projects can create vibrant neighborhoods, reducing the need for long commutes and providing residents with convenient access to amenities, retail, and cultural experiences within walking distance.

- Design Inclusive and Accessible Public Spaces:

Prioritize inclusive design principles in public spaces, ensuring accessibility for individuals with disabilities and diverse demographic groups. Install ramps, elevators, and other accessibility features in public buildings and spaces, fostering an inclusive environment for all residents.

- Create Cultural Districts and Event Spaces:

Establish designated cultural districts with art installations, museums, and performance spaces to promote cultural engagement. Additionally, develop flexible event spaces for community gatherings, festivals, and cultural events, fostering a sense of community and providing recreational opportunities for residents.

- Enhance Safety Through Urban Design:

Collaborate with urban designers and law enforcement agencies to implement Crime Prevention Through Environmental Design (CPTED) principles. Enhance safety in public spaces through strategic lighting, clear sightlines, and landscape design that discourages potential criminal activity, creating secure and inviting environments.

- Integrate Health and Wellness Infrastructure:

Invest in healthcare facilities and promote wellness infrastructure, such as fitness centers, walking trails, and community gardens. Emphasize green building practices in healthcare facilities to create healing environments. Encourage the development of healthcare clinics in proximity to residential areas for accessibility.

- Implement Sustainable Architecture Practices:

Enforce sustainable building codes and incentivize green building practices to enhance energy efficiency, reduce environmental impact, and promote sustainable living. Encourage the use of renewable energy sources, green roofs, and energy-efficient materials in architectural projects to create eco-friendly urban spaces.

- Establish Collaborative Citizen-Government Platforms:

Develop digital platforms and community forums that facilitate continuous collaboration between citizens and government officials. Engage residents in decision-making processes related to urban development, gather feedback on proposed projects, and foster a sense of shared responsibility for the city's future.

- Preserve Historical Architecture and Neighborhoods:

Develop preservation initiatives to protect and revitalize historical neighborhoods and architectural landmarks. Establish heritage zones with guidelines to ensure the harmonious integration of modern amenities while preserving historical character.

- Promote Sustainable Green Practices:

Encourage green initiatives, such as community tree-planting programs and urban gardening projects, to enhance green spaces and improve air quality. Implement sustainable landscaping practices in public areas and promote water conservation measures to create environmentally friendly and visually appealing surroundings.

These specific recommendations address key aspects identified in the study and aim to provide actionable strategies for enhancing the architecture and quality of life in Riyadh. The government, urban planners, and stakeholders need to collaborate in implementing these recommendations, tailoring them to the city's unique context and evolving needs.

5.3 Proposed study and studies

To further explore and advance the use of architecture to improve the quality of life for Saudi Arabia residents, the following proposed study and studies can be considered:

Assessing the Impact of Sustainable Design: Conduct a comprehensive study to evaluate the impact of sustainable design practices on the quality of life for Saudi Arabia residents. This study could involve analyzing energy consumption patterns, indoor air quality, thermal comfort, and occupant satisfaction in sustainable buildings. The study can also investigate the long-term environmental benefits and economic feasibility of sustainable design strategies.

Cultural Heritage Preservation and Modern Architecture: Investigate the integration of Saudi Arabia's cultural heritage into modern architectural designs and its impact on residents' quality of life. This study can explore the effective incorporation of traditional design elements, materials, and construction techniques in

contemporary buildings. It can also examine the socio-cultural implications and residents' perceptions of such designs, assessing their sense of identity, connection to heritage, and overall well-being.

Public Spaces and Community Well-being: Conduct studies to examine the relationship between public spaces, community well-being, and quality of life. This study can investigate the impact of well-designed parks, recreational areas, and urban plazas on residents' physical health, social interactions, and overall satisfaction. It can also explore the role of public spaces in promoting community cohesion, cultural exchange, and mental well-being.

Universal Design and Accessibility: Conduct study to evaluate the effectiveness and implementation of universal design principles in architectural projects across Saudi Arabia. This study can focus on assessing the accessibility and inclusivity of public buildings, transportation systems, and urban infrastructure. It can also investigate the experiences and challenges faced by individuals with disabilities and the elderly, aiming to identify areas for improvement and promote universal access.

Smart and Sustainable Cities: Explore the potential of smart city technologies and sustainable urban design in enhancing the quality of life for Saudi Arabia residents. This study can analyze the integration of digital technologies, data analytics, and smart infrastructure to optimize resource management, transportation systems, and overall urban efficiency. It can also investigate the social, economic, and environmental impact of smart city initiatives on residents' well-being and livability.

Participatory Design and Community Engagement: Conduct studies to assess the effectiveness of participatory design approaches in architectural projects. This study can examine the impact of involving residents, communities, and stakeholders in the decision-making process, from project design to implementation. It can evaluate the benefits of community engagement in fostering a sense of ownership, cultural representation, and improved quality of life.

Economic Impact of Architectural Investments: Investigate the economic benefits and long-term impact of investing in architectural projects and infrastructure development. This study can examine how architectural investments contribute to job creation, economic growth, and regional development. It can assess the multiplier effects on local businesses, tourism, and the overall economy, providing insights into the economic sustainability of architectural projects.

These proposed study and studies can help expand knowledge and understanding of how architecture can positively impact the quality of life for Saudi Arabia residents. By addressing various aspects such as

sustainability, cultural preservation, community well-being, accessibility, smart cities, community engagement, and economic considerations, these studies can inform policy decisions, shape best practices, and guide future architectural endeavors in the country.

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Appendix

- Appendix No. (1) Arabic questionnaire.

استخدام العمارة لتحسين جودة الحياة لسكان مدينة الرياض

يهدف هذا الإستبيان إلى فهم العلاقة بين العمارة وجودة الحياة من منظور السكان. و الخاص بورقة بحثية لنيل درجة الماجستير ، شكراً جزيلاً على وقتكم و تعاونكم في إكمال هذا الإستبيان و المساهمة في خلق الأثر المرجو من هذه الدراسة

1. هل أنت من سكان مدينة الرياض

لا ☐

نعم ☐

2. الفئة العمرية *

لم يتم اختيار اجابة

3. المهنة *

موظف قطاع خاص ☐

طالب ☐

صاحب عمل ☐

موظف قطاع عام ☐

أخرى ☐

4. البلدية التي يتبع لها الحي الذي تسكنه *

لم يتم اختيار اجابة

5. ما هي العناصر المعمارية التي تؤثر بشكل إيجابي على بيئة معيشتك؟ *

العلاقة بين العمارة وجودة الحياة

الإضاءة الطبيعية ☐

المساحات المفتوحة ☐

مواد مستدامة ☐

عناصر التصميم التقليدية تعكس الثقافة المحلية ☐

أخرى ☐

6. إلى أي مدى تتفق مع أن تصميم المباني والمساحات العامة يؤثر على جودة حياتك بشكل عام؟

العلاقة بين العمارة وجودة الحياة

9	8	7	6	5	4	3	2	1
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أوافق

محايد

لا أوافق

7. إلى أي مدى تتفق أن توفر المساحات الخضراء والضوء الطبيعي في المباني والمساحات العامة يحسن صحتك وجودة حياتك؟

العلاقة بين العمارة وجودة الحياة

9	8	7	6	5	4	3	2	1
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أوافق

محايد

لا أوافق

8. هل تعتقد أن الأحياء الصديقة للمشاة وشبكات النقل العام المترابطة تساهم في تحسين جودة الحياة؟

العلاقة بين العمارة وجودة الحياة

9	8	7	6	5	4	3	2	1
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أوافق

محايد

لا أوافق

9. كم مرة تزور الحدائق أو المساحات الخارجية الأخرى للاسترخاء وتخفيف التوتر؟ *

الوصول إلى المساحات الخضراء والضوء الطبيعي

☐ يوميًا

☐ عدة مرات في اليوم

☐ فقط في عطلات نهاية الأسبوع

☐ فقط عندما أكون في إجازة

☐ أخرى

10. هل تعتقد أن قضاء الوقت في الطبيعة له تأثير إيجابي على صحتك البدنية والعقلية؟

الوصول إلى المساحات الخضراء والضوء الطبيعي

9	8	7	6	5	4	3	2	1
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لا أوافق محايد أوافق

11. إلى أي مدى تشعر بالرضا عن توفر المساحات الخضراء والضوء الطبيعي في مجتمعك؟

الوصول إلى المساحات الخضراء والضوء الطبيعي

9	8	7	6	5	4	3	2	1
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لا أوافق محايد أوافق

12. هل تعتقد أن وجود المساحات الخضراء والضوء الطبيعي له تأثير إيجابي على قيمة العقارات؟

الوصول إلى المساحات الخضراء والضوء الطبيعي

9	8	7	6	5	4	3	2	1
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لا أوافق محايد أوافق

13. في نظرك ما هو الشكل النموذجي لبيئة صديقة للمشاة الذي تطمح له؟ *

مجتمعات صديقة للمشاة

مسار مشاة مستمر دون انقطاع ☐

☐ وجود عناصر جمالية (مثل المجسمات ، الإضاءة)

☐ وجود عناصر وظيفية (مثل نوع مواد و الترصيف ، التشجير)

☐ وجود الخدمات و نقاط البيع

☐ أخرى

14. إلى أي مدى تشعر بالرضا عن سهولة المشي في حيّك؟

مجتمعات صديقة للمشاة

9	8	7	6	5	4	3	2	1
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أوافق

محايد

لا أوافق

15. هل تعتقد أن تطوير البنية التحتية الصديقة للمشاة يشجع على النشاط البدني ويعزز أنماط الحياة الصحية ويحسن نوعية الهواء؟

مجتمعات صديقة للمشاة

9	8	7	6	5	4	3	2	1
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أوافق

محايد

لا أوافق

16. هل تعتقد أن المجتمعات الصديقة للمشاة تساهم في تعزيز الشعور بالانتماء والمشاركة الاجتماعية؟

مجتمعات صديقة للمشاة

9	8	7	6	5	4	3	2	1
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لا أوافق محايد أوافق

17. برأيك ما هي المجالات التي ممكن أن تستثمر الدولة فيها من خلال تطوير البنية التحتية لتحسين جودة الحياة وجذب السياح؟ *

الاستثمار في تطوير البنية التحتية والمشاريع المعمارية

- ☐ تطوير الطرق وتحسين وسائل النقل العامة
- ☐ استثمارات في مشاريع الإسكان وتطوير التخطيط العمراني
- ☐ تطوير المناطق الترفيهية والثقافية
- ☐ الاستثمار في التعليم والرعاية الصحية
- ☐ تعزيز الأمان وتحسين البيئة العامة
- ☐ أخرى _____

18. إلى أي مدى تتفق أن الاستثمار في تطوير البنية التحتية والمشاريع المعمارية يمكن أن يخلق فرص عمل في قطاعي البناء والتصميم؟

الاستثمار في تطوير البنية التحتية والمشاريع المعمارية

9	8	7	6	5	4	3	2	1
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لا أوافق محايد أوافق

- Appendix No. (2) English questionnaire.

Using Architecture To Improve The Quality Of Life For The Residents Of The City Of Riyadh

This survey aims to assess the impact of urban planning on the quality of life in various neighborhoods. Your valuable input will contribute to understanding the preferences and opinions of residents regarding architecture, public spaces, green areas, and pedestrian-friendly environments.

1- Are you a resident of the Riyadh region?

☐ Yes

☐ No

2- Age Group:

- ☐ 25-18 years
- ☐ 40-26 years
- ☐ 60-41 years
- ☐ Over 60 years

3- Occupation:

- ☐ Business owner
- ☐ Student
- ☐ Private sector employee
- ☐ Public sector employee
- ☐ Other

4- Municipality:

Please select the sub- municipality corresponding to your neighborhood.

1. Municipality of Nammar | Including the following neighborhoods (Nammar, Al Awali, Dahrat Nammar, Dirab, Al Hazm, Tuwaiq, Al 'Ariha Al Gharbi, Luban)
2. Municipality of Ash-Shumaysi | Including the following neighborhoods (Ar Rafi'ah, Al Hada, Ash-Sharqiyyah, An Nasiriyyah, Sayyah, Al Washam, Al

- Namudhajiyyah, Al Mu'tamirat, Al Badi'ah, Umm Salim, Ash-Shumaysi, Al Jarradiyyah, Al Fakhiriyah, 'Ulya)
3. Municipality of An Nasim | Including the following neighborhoods (An Nasim Ash-Sharqi, An Nasim Al Gharbi, Ar Riyan, Ar Rawabi, Al Manar, An Nazim, Al Manar, An Nudwah, As-Salam)
 4. Municipality of As-Sulay | Including the following neighborhoods (Al Jazirah, Al Faiha, As-Sa'adah, Khushm Al 'An, As-Sulay, Al Mashail, An Noor, Ad-Dafa', Al Iskan, Al Manakh, As-Sanaiyyah Al Jadidah, Hayt, Al Bariyyah)
 5. Municipality of Al Ma'athar | Including the following neighborhoods (An Nakhil, An Nakhil Al Gharbi, Al Muhammadiyyah, Ar Rahmaniyyah, Ar Raid, Umm Al Hamam Al Gharbi, Umm Al Hamam Ash-Sharqi, Al Ma'athar Ash-Shamali)
 6. Municipality of North Riyadh | Including the following neighborhoods (Al Falah, Al Wadi, An Nada, Ar Rabi', An Nafal, Al Ghadeer, As Sahafah, Al 'Uqayq, Hatim, Al Mulqa, Al Yasmin, An Nargis, Al 'Arid, Al Qayrawan, Banban)
 7. Municipality of Al Hayr | Including the following neighborhoods (Al Hayr, Al Ghanamiyyah, Al 'Arid, Umm Ash Sha'al, As Sadr)
 8. Municipality of Al 'Ulya | Including the following neighborhoods (Al 'Ulya, As Sulaymaniyyah, Al Malik 'Abdul 'Aziz, Al Malik 'Abdullah Al Janubi, Al Malik 'Abdullah Ash Shamali, Al Wahah, Salah ad Din, Al Ward, Al Malik Fahd, Al Mursalat, An Nuzhah, Al Maghrizat, Al Azdihar, At Ta'awun, Al Musaif, Al Muruj)
 9. Municipality of Al 'Aziziyyah | Including the following neighborhoods (Al 'Aziziyyah, Ad Dar Al Bayda', Taybah, Al Mansouriyyah)
 10. Municipality of Al Badi'ah | Including the following neighborhoods (Ad Dubiyah, Al Quray, As Sina'iyah, Al Wusaytai', Mukal, Al Faysaliyyah, Minfuhah, Al Mansurah, Al Yamamah, Salam, Jabrah, 'Atiqah, Ghabirah, Al Badihah, Al Khalidiyyah, Ad Dairah, Al 'Awad, Al Murqub)
 11. Municipality of 'Urqa | Including the following neighborhoods (Al Muhdiyyah, 'Urqa, Dhahrat Laban, Al Khuzama, As Sufarat)
 12. Municipality of Al Malaz | Including the following neighborhoods (Al Wazarat, Al Murabba', Al Fawtah, Thulaym, Al 'Amal, Al Malaz, Adh Dabbat, Az Zahra', Ar Rubwah, Jareer, As Safa, Al Faruq)
 13. Municipality of Ar Rawdah | Including the following neighborhoods (Ar Rawdah, Al Andalus, Al Malik Faisal, Al Quds, Al Hamra', Ash Shahid, Gharnata, Qurtubah, Al Munisiyyah, Al Yarmouk, Ashbiliyyah, Al Khaleej, An Nahdah, Al Mu'ayzilah, Al Qadisiyyah, Ar Ramal, Al Janadriyyah)

14. Municipality of Ash Shifa | Including the following neighborhoods (Al Masaanif, Ash Shifa, Badr, Al Marwah, 'Ukaz, Ahad, 'Aryad)
15. Municipality of Al 'Urayjah | Including the following neighborhoods (Ad Darihimiyah, Shubra, As Suwaydi Al Gharbi, Dhahrat Al Badi'ah, Az Zahrah, As Suwaydi, Sultanah, Al 'Urayjah, Al 'Urayjah Al Wustaa, Hujrat Wadi Laban, Al 'Urayjah Al Gharbiyyah, Tuwaik)

Section 1: Architecture and Quality of Life

5- What architectural elements positively impact your living environment?

- ☐ Natural lighting
- ☐ Open spaces
- ☐ Sustainable materials
- ☐ Traditional design reflecting local culture
- ☐ Other

6- To what extent do you agree that building and public space design affect your overall quality of life?

Strongly Agree			Neutral			Strongly Disagree		
9	8	7	6	5	4	3	2	1

7- To what extent do you agree that green spaces and natural light in buildings and public areas improve your health and quality of life?

Strongly Agree			Neutral			Strongly Disagree		
9	8	7	6	5	4	3	2	1

8- Do you believe that pedestrian-friendly neighborhoods and interconnected public transportation networks contribute to improving quality of life?

Strongly Agree			Neutral			Strongly Disagree		
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9	8	7	6	5	4	3	2	1
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Section 2: Access to Green Spaces and Natural Light

9- How often do you visit parks or other outdoor spaces to relax and reduce stress?

- ☐ Daily
- ☐ Several times a day
- ☐ Only on weekends
- ☐ Only when on vacation
- ☐ Other

10- Do you believe that spending time in nature has a positive impact on your physical and

Strongly Agree			Neutral			Strongly Disagree		
9	8	7	6	5	4	3	2	1

11- To what extent are you satisfied with the availability of green spaces and natural light in your community?

Strongly Agree			Neutral			Strongly Disagree		
9	8	7	6	5	4	3	2	1

12- Do you think that the presence of green spaces and natural light has a positive effect on property values?

Strongly Agree			Neutral			Strongly Disagree		
9	8	7	6	5	4	3	2	1

Section 3: Pedestrian-Friendly Communities

13- What is the ideal model for a pedestrian-friendly environment you aspire to?

- ☐ Continuous pedestrian path
- ☐ Aesthetic elements (e.g., sculptures, lighting)
- ☐ Functional elements (e.g., materials, landscaping)
- ☐ Services and retail points
- ☐ Other

14-To what extent are you satisfied with the ease of walking in your neighborhood?

Strongly Agree			Neutral			Strongly Disagree		
9	8	7	6	5	4	3	2	1

15- Do you think that developing pedestrian-friendly infrastructure encourages physical activity, promotes healthy lifestyles, and improves air quality?

Strongly Agree			Neutral			Strongly Disagree		
9	8	7	6	5	4	3	2	1

16- Do you believe that pedestrian-friendly communities contribute to enhancing the sense of belonging and social participation?

Strongly Agree

Neutral

Strongly Disagree

9	8	7	6	5	4	3	2	1
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Section 4: Infrastructure Development and Architectural Projects

17- In your opinion, what areas could the government invest in through infrastructure development to improve quality of life and attract tourism?

- ☐ Road development and public transportation improvement
- ☐ Housing projects and urban planning development
- ☐ Recreational and cultural area development
- ☐ Investment in education and healthcare
- ☐ Enhancing safety and improving the public environment
- ☐ Other

18- To what extent do you agree that investing in infrastructure and architectural projects can create job opportunities in the construction and design sectors?

Strongly Agree

Neutral

Strongly Disagree

9	8	7	6	5	4	3	2	1
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19- Do you believe that the construction of new buildings, roads, and public spaces can stimulate economic growth and attract new businesses to the area?

Strongly Agree

Neutral

Strongly Disagree

9	8	7	6	5	4	3	2	1
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20- To what extent are you satisfied with the current level of infrastructure development in your community?

Strongly Agree			Neutral				Strongly Disagree	
9	8	7	6	5	4	3	2	1

21- Thank you for participating in this survey. Your input is valuable in shaping future urban planning initiatives.

Appendix No. (3) List of arbitrators' names for the questionnaire.

No.	Names	University
1	Prof. Khalid Hadoob Al Muhaidib	Prince Sattam Bin Abdulaziz University
2	Dr. Rana Ali Abuhaimed	Imam Muhammad Ibn Saud Islamic University