Middle East Journal of
Scientific Publishing
Vol. (7) Issue (3)
Edition 23th
2024(1 - 17)

Indicators of hospitalization in urban spaces of religious cities

Noor Al-Huda Hamza Ajeel,
Ameera Jalil Khamis
Architecture Department, College of Architecture, University of Babylon, Babylon 51013, Iraq.
Published on: 6 September 2024

Abstract

The relationship between humans and the environment extends back to the beginnings of life, and this relationship has had an impact on mental, physical, and spiritual health. In recent times, modern research has focused on the topic of healthy environments, and several concepts have emerged, including the concept of healing in the urban environment, which represents the process of creating physical, social, and cultural environments that achieve psychological, physical, and spiritual health, and connect people to the environment to preserve and interact with it in a way that generates comfort and tranquility for the residents.

The research is an attempt to study the role of sacred thresholds as therapeutic stimuli for the urban space of the city, through their positive impact on human health. The research problem was identified as the cognitive deficiency regarding the role of sacred thresholds as cultural and social stimuli in creating healthy urban spaces characterized by their ability to promote psychological, physical, and spiritual healing, which is reflected within these spaces through the diversity of user behavioral functions. The research hypotheses were identified, and the research adopted an inductive-experimental approach. The research samples were selected from the urban space adjacent to the western shrine of Imam Hamza (AS), and the space was monitored and filmed using aerial photography and 30-second videos (using a Mavic Air 2 camera and a mobile phone). The study revealed that urban spaces near the shrine are characterized by high

therapeutic indicators and behavioral pattern diversity.
Keywords: hospitalization, healing environments, manifestations of hospitalization, healing theories, catalysts**.**

*** Introduction**

The environment represents the general framework that contains human life in its material and psychological dimensions. Humans are social beings by nature and practice, seeking to fulfill their biological, personal, social, cultural, and psychological needs. Through understanding the environment and realizing its characteristics, the environment can be counted as a symbolic tool through which expressions, ideas, and values are conveyed. Human behavior is the result of the interaction between humans and the environment, as humans influence and are influenced by their surrounding environment. (Al-Asadi, 2015, p. 58)

This study focuses on the importance and role of sacred thresholds as therapeutic stimuli for urban spaces. Healing is achieved by creating a healthy environment that enhances comfort and satisfaction for its inhabitants, by shedding light on the therapeutic indicators related to the presence of sacred thresholds, which are cultural and social indicators. The research problem has been identified, and as mentioned earlier, its hypothesis (sacred thresholds play a role in creating healthy urban spaces characterized by their ability to provide psychological, physical, and spiritual healing, reflected in the diversity of functional roles for users within these spaces).

The research objectives are: -

1- Identifying hospitalization indicators for the religious urban space.

2- Determining the relationship of hospitalization indicators for religious urban space to various behavioral patterns of users.

3- Detecting the hospital indicators that have the greatest impact on the diversity of behavioral patterns in the urban environment.

4- Extracting metrics to reveal the nature of the relationship between hospital indicators and behavioral patterns For users.

Research Methodology To achieve the research objectives, the research took an approach Experimentally, It consists of two axes, as follows: -

A- The theoretical axis: A comprehensive theoretical framework for hospitalization was built and its indicators were extracted from previous literature and scientific

theories that dealt with the topic of hospitalization and alien behavior.

b- Practical axis: The research samples were selected, which were the urban space adjacent to the western shrine of Imam Hamzah (peace be upon him). The space was monitored and photographed with aerial photography and 30-second videos were recorded on a mobile phone (and pictures were taken with a camera).Mavic air2), and the space was divided into sections and the relationship of the change in hospitalization indicators to the diversity of behavioral patterns of users the religious urban space was analyzed.

*** Concepts related to research**

*** Hospitalization Language and terminology**

After studying Arabic language dictionaries It turns out that the word hospitalization in the Arabic language means the renewal, reconciliation, Recovery, an shyness, And restoration. The Healing by looking at the meaning of the word healing in (The comprehensive dictionary of meanings - an Arabic dictionary) healing noun. Plural: heal noun healing, the healing: recovery from illness, and in Surah An-Nahl, verse 69 (from their bellies emerges a drink of various colors, in which is healing for the people) without healing: that is, with well-being. It has been mentioned as a synonym for the word wellness, That is Complete health. The origin of the word healing in English the old word "Healen" means reaching integration.

The procedural definition of hospitalization It is the experience of physiological, psychological and sociological recovery processes in specific environments.

Healing environment It consists of social, psychological, spiritual, physical and behavioral components to support and encourage healing as a whole, It will give the incorporation of greenery or natural environment an experience Accurate hospitalization enhances a decent life for human (Bamberg J, Hitchings R, & Latham A, Landscape and Urban Planning Enriching green exercise research Landscape and Urban Planning 178, 2018, pp. 270-275)

*** Space behavior is a language and terminology**

After studying the dictionaries, it was concluded that the word behavior Linguistically, It has a variety of meanings, sometimes it is used to refer to dealing and socializing. (Bergner, 2011, p147).

Douglas Portus called behavior within urban spaces human spatial behavior (Human Spatial Behavior) through which he described the

interrelationships between the built environment and humans and the mutual influence (Douglas Porteous, 1977, P10) Amido and Julis used space behavior Spatial behavior to describe the physical manifestations of human actions (Amido and Julis. 1975, p5).

As for the procedural definition of space behavior: it is a group of activities acquired from the environment surrounding them and practiced in the urban environment as a result of the effects of pre- and post-stimuli or stimuli (voluntary and involuntary), and at the same time the environment has an impact on the behavior of individuals (psychologically, physiologically, and physiologically), and thus the relationship The environment and behavior are a reciprocal relationship of the characteristics of behavior (its nature, function, and patterns).

Urban space designs that enhance the relationship between (humans and the natural environment) or (between humans and the built environment)

Biophilia nature-loving design: The term was used in the eighties by the American biologist Edward Wilson (Wilson) in recognition of the human need to communicate with nature. Environments that have the features of natural habitats are preferred by humans and are the next logical step for the green design movement. It is possible to design a sustainable building that meets all LEED standards. These environments help people feel comfortable, inspired and feel alive in different environments. As there are two dimensions of nature-loving design (biophilic), there are two dimensions: the organic dimension (Organic) and the vernacular dimension (Vernacular), which can be enhanced through a number of design elements such as natural lighting, natural ventilation, natural materials, shapes and models that simulate natural systems, and decoration that reflects natural monuments, landscapes and horizons of nature and others. Diversity directly, indirectly or symbolically addresses the innate human need to communicate with nature in various ways.

The nature-loving design emphasizes the vernacular dimension in design by: -

1- Work to integrate ancestral and traditional environments with current modern environments.

2- Avoid design tendencies that oppose the environment and culture.

As for emphasizing the organic dimension in the design, it is done through: -

a- Simulating natural patterns and shapes symbolically.
b- Using natural materials and natural shapes and models. (Ibrahim, 2019, p. 490)

*** Restorative Design (integrating Biophilia with sustainability)**

The concept of recovery (Restoration) is a process of recovery from stress that involves many positive changes in the psychological state and in the level of activity in physiological systems. Restorative environments are the ones that help to avoid and reduce the harmful effects of construction processes. Environments that support well-being and health can only be created by respecting the natural environment. The roots of environmental design in general go back to the time when construction operations began to increase in order to meet basic safety needs such as housing to protect people from climate changes such as wind and rain. Design that provides primitive needs is called preventive environmental design. This trend calls for a building that combines (love of nature) with a low-construction impact in order to preserve human health and the environment. This approach is called Restorative Environmental Design (Restorative Environmental Design). According to Professor of Social Ecology Steven Kellert of Bell University (Swaidan and Mohammed, 2023, p. 181).

Delicate design Senses are a key element in the design decision-making process, enabling us to understand how and why spaces can become therapeutic for those who live in them. Sensitive design includes such characteristics as natural light, artificial light, color, scenery, artwork, smell, modification of space and shape, arrangement of furniture, manipulation of scale and proportion, sound, texture and materials, movement through space and time, inside and outside the home, and the landscape. Kajima, a contracting company in Japan, has installed a unique air conditioning system at its headquarters in Tokyo, in cooperation with Shiseido perfume manufacturer. The system emits citrus scents that energize employees early in the morning, followed by floral scents that help focus and forest scents at lunchtime to relax. The same course starts after lunch. Scents were also used in health care settings. “Scents for children” were used Color is one of the least expensive healing tools. Color can enhance light by lightening or subjecting spaces, providing sensory stimulation, giving directional and other information,

and visually changing the proportions of the room. The colors of the surrounding walls should not use actual skin colors because doctors and anesthesiologists judge a patient's condition by skin color. This design of urban space believes that promoting mental well-being relates to both the public and the private. Its first task is to consider how an individual perceives the environment through the main sensory receptors and how these data, when transmitted to the brain, affect psychological and physiological processes. (Richard and Steven, page 49)

We notice that sensitive design shows us that the senses are the tools through which to evaluate our environment. By understanding the true dimensions and limitations of the senses, an engineer can more skillfully design and create an environment that truly responds to the needs and weaknesses of individuals.

Supportive design for recovery At the beginning of the nineties after the energy crisis, studies began to show the effects of the bad environment on their occupants, which led to significant changes in buildings to conserve energy and reduce its consumption. The effects of the bad environment led to the emergence of sick buildings. This prompted specialists and researchers to study the concept of a healthy environment and a design that supports recovery. He referred to the main role of the architect in creating a healthy environment (James, 1988, p34)

The study (Alan Dilani, 2001) focused on the importance of psychologically supportive design (as the design that stimulates healthy behavior of the user in general. It examines the mental aspect of the user by attracting the person's attention and creating a pleasant atmosphere characterized by motivation and creativity and reducing anxiety and distraction of mind. The design that supports recovery lies in emphasizing the physical characteristics of the environment and aims to promote and create healthy conditions that encourage the user to perform healthy behavior by supporting a sense of cohesion. The researcher also included design factors that support recovery (easy access to nature, lighting, cheerful colors, providing social support spaces, promoting social interaction).

According to researcher Sarah 2015's definition of supportive design for recovery: it is a design that enhances the ability of environments

to make positive psychological changes, encourage recovery, and promote stress management and stress by attracting user attention and trying to create a fun atmosphere characterized by motivation and creativity, reducing anxiety and distraction. The design of healthy environments focuses on functional and safety requirements in addition to achieving psychological comfort by balancing psychological, climatic and design factors as essential factors for user response and then helping to recover ensuring a healthy life.

*** Previous studies that dealt with the concept of hospitalization**

1- The study of Maha Mahmoud Ibrahim 2021: Titled Beyond Sustainability -Towards Restorative Interior Spaces through Biophilic Design, the study discussed restorative environmental design (Restorative environment design) is a design model that combines sustainable construction that restores the health of occupants and re-establishes the relationship between humans and nature As it explained the different responses of individuals to the sensory information found in their environment, since each environment has stimuli that interact with some or all of our senses, and explained the four aspects of the healing environment (magic, compatibility, distance and suitability).

2- Katelin Gelbs' 2020 study Nature-based restorative environments are needed now more than ever The study discussed the need for people to need restorative environments in the period of the spread of COIVD 19 to create the environmental restoration of nature by adding nature in all the curvature of cities instead of making people look for it to provide restoration opportunities for the environment and increase the connection to nature, and the study showed its hypothesis to support psychological benefits and study the concept of vital familiarity (Wilson), which assumes that humans have an innate need to communicate with nature and separation from nature leads to poor health consequences.

3- Abdul Halim's study 2022 The ecological study (man and the surrounding environment) addressed the issue of the impact of the urban and architectural design of the residential environment on human behavior, as it studied the relationship between the physical environment and the behavior of its residents in traditional cities and also discusses the role of architects in designing the psychological space and forming appropriate and inappropriate

behavioral patterns by them. The research clarified its main factors through (the relationship of urban form and human behavior - and urban design as a social and physical field - and human perception of the urban environment). As the physical environment can affect humans and can change according to their needs and behavior, hence the importance of functional considerations of activities and behavioral patterns within the place and the importance of the behavior of individuals and users within the space.

*** Theoretical model for research**

The general vision of the research was built through what emerged from the results of previous literature, which was built on the relationship between patterns of space behavior and the healing characteristics of the urban environment, as they have a direct and indirect impact on the environment as a whole.

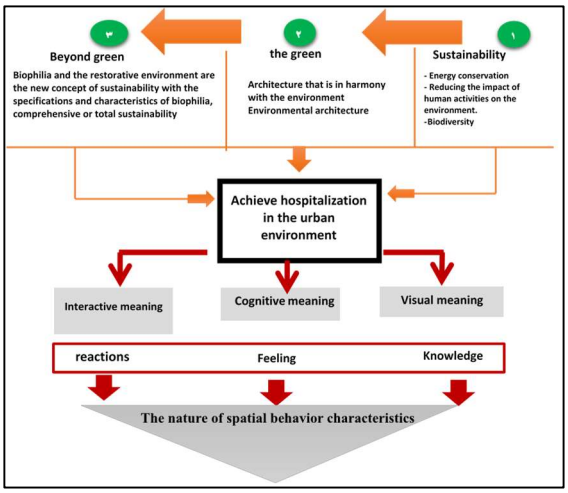


figure (1) shows the general vision of the research.

source: researcher The research sample (Imam Street in the city of Al-Medhatiyah (Al-Hamza West (A)

An Iraqi city located south of Babil Governorate, 100 kilometers south of the capital Baghdad, with an area of 628 square kilometers. It is about thirty kilometers away from Al-Hillah, the center of Babil Governorate. Administratively, Al-Medhatiyah is the center of Al-Hamza West district, which is part of Babil Governorate. It is home to the shrine of Hamza bin Al-Qasim and has a population of 150,000 according to estimates in 2013 (At-Tai, 2022). The sample was taken from Imam Al-Hamza Street. The behavior and activities of the vibrant street near the Imam, characterized by cultural and commercial indicators, were observed and monitored twice a week for a period of three months.

Figure (2) shows the research sample, Imam Hamzah Street, Al-Gharbi (peace be upon him). Source: researcher

Figure (3): Observation or observation results for the research sample. Source: Researcher

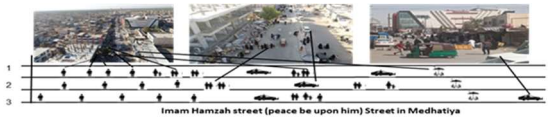
After surveying the experts, presenting the indicators, and taking their opinions into consideration, the most impactful recovery indicators were identified. This was achieved by calculating the frequencies of the research samples, after multiplying the experts' opinion ratio by the weighting factor for each term. The weighting factors are (1 Not present, 2 Present in a few cases, 3 Present in moderate cases, 4 Present in high cases, 5 Present in very high cases).

Table No. (1) shows hospitalization indicators for the research sample

The sample	Expert evaluation	code	Possible values		Secondary vocabulary	key vocabulary
0.95	95%	A1	reduce pollution by recycling water		Commitment to sustainability principles	Enhancing the relationship between humans and the natural environment
0.90	90%	A2	Parks	natural views		
1.8	90%	A3	green areas			
4.5	90%	A4	Easy access to clean water for the region			
0.65	65%	A5	Resource drain/Land degradation due to human activities		Environmental regulation and preservation of the natural environment	Enhancing the relationship between humans and the built environment
0.50	50%	A6	Climate adaptation planting trees around the street			
0.60	60%	A7	Prevent erosion improving means of drainage			
3.2	80%	A8	Purification drinking water			
1.8	90%	A9	Waste Recycling/ Collection of plastic containers by the poor			
0.80	80%	A10	Sustainable transport policies/Use means transfer low impact on the environment			
0.95	95%	A11	Reduce pollution/ Using public transportation			
0.70	70%	A12	Awareness or volunteer campaigns			
1.6	80%	A13	Multiple functions on the same floor			
0.80	80%	A14	Multi functionality between floors			
2.4	80%	A15	Multi functionality in space			
0.75	75%	A16	Design harmony with nature/ Natural building materials		Nature-loving design (Restorative design integrating Biophilia with sustainability)	
2.4	80%	A17	Natural light			
1.7	85%	A18	Design encourages walking			
0.85	85%	A19	Reliance on renewable energy / Use of electric transportation			
0.85	85%	A20	Allocate more space for pedestrian and bicycle paths			
2.25	75%	A21	Active navigation/Providing a bicycle path and a pedestrian path			
2.25	75%	A22	Providing health and education services...etc			
0.95	95%	A23	Resilience and adaptation (strengthening the capacity of health systems to respond to disasters and emergencies)			
1	50%	A24	Artificial light investment		Delicate design	
0.5	50%	A25	Use color stimuli to allocate road spaces			
0.60	60%	A26	Use audio stimuli			
0.50	50%	A27	Use sensory stimuli (for smells and textures)			
0.60	60%	A28	Use of artwork			
1.2	60%	A29	Regular shapes			
0.85	85%	A30	Furnishing the space			
1.7	85%	A31	Scale diversity For buildings			
1.5	75%	A32	Easy access And moves to encourage people to frequent it			
0.75	75%	A33	Developing communication and communication mechanisms at the local level (a warenes screens on the street)			
2.25	75%	A34	Sense of belonging among residents			
0.75	75%	A35	Identity enhancement/ Different types of construction technology			
0.80	80%	A36	Simple message icons to make them easier to read visually		Design that supports recovery	
0.70	70%	A37	Install symbols in clear places			
1.5	75%	A38	Using colors to attract attention to information signs			
0.75	75%	A39	Control unpleasant odors			
0.80	80%	A40	Reducing the effect of a moving sounds			
0.95	95%	A41	Taking into account proportions and large-scale gathering places in a way that enhances social interaction			
0.85	85%	A42	Promoting proximity at the micro-scale to encourage walking			
0.75	75%	A43	Consistency finishing materials between traditional and modern			
1.6	80%	A44	Diversity in the use of space			
0.75	75%	A45	Use cheerful colors			
0.80	80%	A46	Scented plants to freshen the atmosphere			
0.70	70%	A47	Patterns and diversity in texture			
1.8	90%	A48	Providing seating benches			
1.8	90%	A49	Plant containers			
3.6	90%	A50	Lighting poles			
3.6	90%	A51	trees	Diversity of natural scenes	Ecological elements	Healing elements
0.70	70%	A52	waters			
0.90	90%	A53	Plastic attractions include memorials and fountains			
1.65	85%	A54	The degree of closure of the space/arrangement of buildings around the space		Elements Physics	
0.85	85%	A55	Privacy at the general level			
0.85	85%	A56	Depth/ The ratio between the height of buildings and open space			
1.7	85%	A57	The relationship of the surrounding space to the buildings on the site			
1.7	85%	A58	Clarity is achieved through the sequence of space components			
0.85	85%	A59	Consistency and cohesion to form a distinctive environment	Suitability		
0.85	85%	A60	Physical: Breathe fresh air by traveling to the forests	Stay away		
0.85	85%	A61	Visually (physiologically) looking out the window			
0.85	85%	A62	By seeing nature	Magic		
0.85	85%	A63	By being inside nature			
2.55	85%	A64	By exposure to the sun	The feeling of control by choice		
1.7	85%	A65	Sitting in shaded areas			
1.7	85%	A66	Interest in agriculture			

Table No. (2) shows the observation rates for the research sample

rate monitors	The Sample			code	Possible values	Secondary vocabulary	key vocabulary	T
	Monitor3	Monitor2	Monitor1					
4.33	5	4	4	AB1	Self isolation (isolation)	Behavior patterns Social activities B	Behavior characteristics The alien A	1
3.66	4	3	4	AB2	Emotional involvement (dyadic)			2
3.66	3	3	5	AB3	Active participation (small groups)			3
2.66	3	2	3	AB4	Increase participation (large groups)			4
5	5	5	5	AC1	kinetic	The nature of the behavior Necessary activities C		5
2.33	2	2	3	AC2	stable			6
3	3	3	3	AD1	Sitting	Behavior function Optional activities D		7
5	5	5	5	AD2	He walked			8
2	2	2	2	AD3	food			9
1	1	1	1	AE1	Lying down			10
1	1	1	1	AE2	Doing walking or jogging			11



Imam Hamzah street (peace be upon him) Street in Medhatiya

Results of healing indicators The research sample was examined through monitoring, the details of which were previously mentioned, and weighting was given to the selected samples by the researcher based on the summary of previous literature. In this paragraph, the examination of the main and secondary samples for the recovery indicators of the urban environment (A) in the research sample will be discussed as follows: -

Results of examining the main indicator (strengthening the relationship between humans and the natural environment) in the research sample: -

1- The secondary indicator achieved a commitment to sustainability rate of (8.15%)

2- The secondary indicator achieved environmental organization and preservation of the natural environment rate of (14%) As shown in Figure (5)

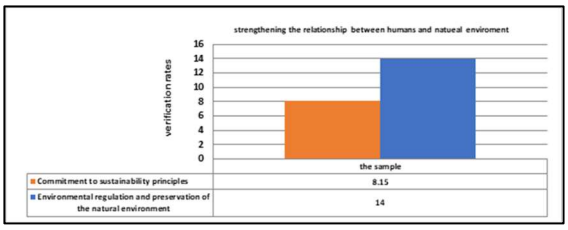


Figure No. (5): - Shows individual results Strengthening the relationship between humans and the natural environment in the research sample

Results of examining the main term (enhancing the relationship between humans and the built environment) in the research samples: -

1- The secondary unit, nature-loving design, achieved a percentage of (10.5%)

2- The secondary unit achieved a sensitive design rate of (11.45%)

The secondary unit achieved a recovery-supportive design rate of (16.35%).

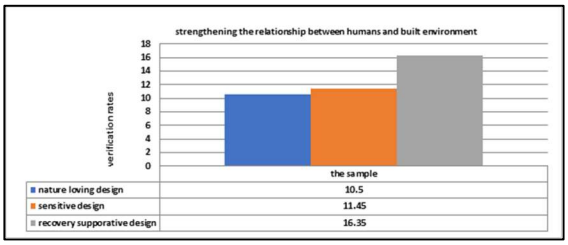


Fig. No. (6): - Shows individual results Strengthening the relationship between humans and the built environment in the research sample.

Results of examining the main item (hospital elements) in the research samples: -

1- The secondary unit, ecological hospital elements, achieved a percentage of (5.2%)
2- The secondary unit, physical hospital elements, achieved a percentage of (16.15%)

Whereas the secondary word (physical hospital elements) is the most present, as shown in sample No. 7, and the least present in sample No. 1, and the secondary word, ecological hospital elements, is the least present in all research samples, as shown in Figure No. (7).

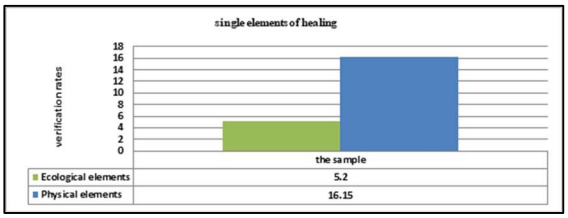


Figure No. (7): Shows the results of individual hospitalization elements in the research samples

Results of verifying the main vocabulary in the research samples

We note that the percentage of achieving the main word (strengthening the relationship between man and the built environment) is the highest in the sample and is the most present and influential, followed by the main word (healing elements), then the main word (strengthening the relationship between man and the natural environment), which is the least present in the research sample, as shown in the figure. number 8)

1- The main term (enhancing the relationship between humans and nature) achieved a percentage of (23.1%)
2- The main vocabulary (enhancing the relationship between humans and the built environment) achieved a percentage of (60.25%)
3- The main item (hospital elements) achieved a percentage of (26.55%)

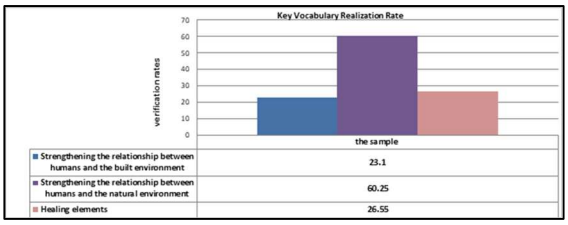


Figure (8) shows the percentages of verification of the secondary items for hospitalization in the research sample

Results of examining the characteristics of alien behavior In research samples: -

In this paragraph, the results of examining the main and secondary indicators of space behavior characteristics indicators, shown in Table (2) and Figure No. (10) for the research sample, will be discussed.

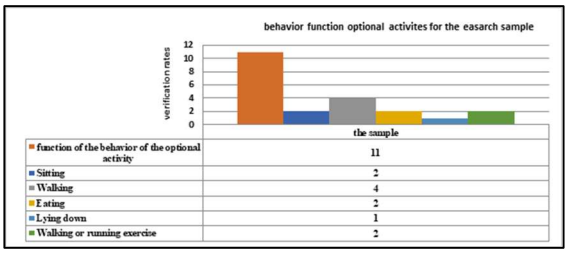


Figure No. (9): illustrates the proportions of secondary vocabulary retrieval in the research sample.

Hypothesis: The hospital indicators associated with sensory stimuli (physical elements) have the

greatest impact on the function of space behavior in local public multi-use spaces.

*** Hypothesis testing results**

After carrying out the process of examining the hypotheses through the program EXCEL Analysis of the relationship between the research factors shows the following: -

1- Commitment to sustainability principles (hospitalization indicators A) is linked to a relationship with indicators of alien behavior characteristics (function of behavior, optional activities)

2- The relationship between commitment to sustainability principles is a strong linear relationship with the behavior function of optional activities, with a regression coefficient of (0.708), as shown in Figure (11).

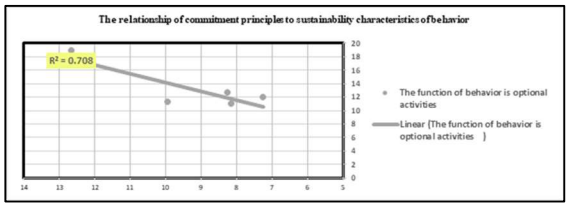


Figure No. (10): shows the relationship of commitment to sustainability principles to the characteristics of space behavior (behavior function)

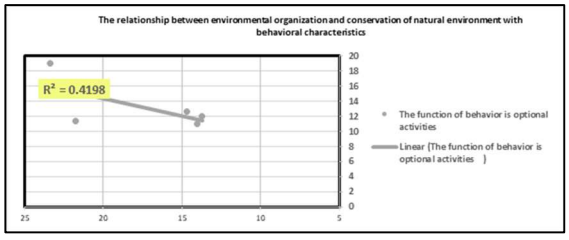


Figure No. (11): shows the relationship of environmental regulation and preservation of the natural environment to the characteristics of space behavior (behavior function)

1- As shown in the previous figure (12), the relationship between environmental regulation and the preservation of the natural environment with the characteristics of space behavior is weak.

2- Environmental regulation and preservation of the natural environment are linked to a weak linear relationship with behavior patterns and social activities, with a regression coefficient of (0.4198).

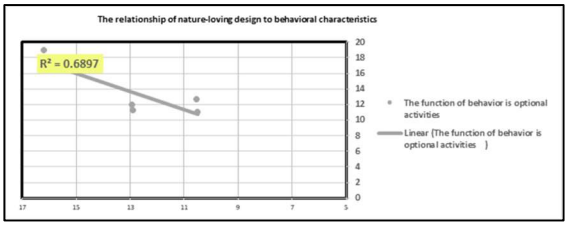


Figure No. (12): shows the relationship of nature-loving design to the characteristics of alien behavior (behavior function)

As shown in the previous figure No. (13), the nature-loving design relationship is linked to a fairly strong linear relationship with the characteristics of space behavior (the behavior function is optional activities).

Nature-loving design has a fairly strong relationship with behavior patterns and social activities, with a regression coefficient of (0.6897).

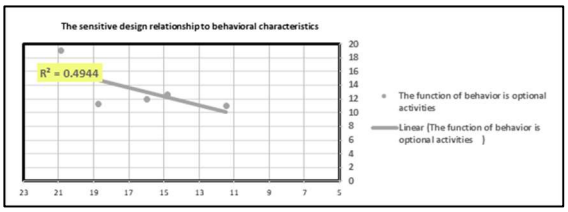


Figure No. (13): shows the relationship of sensitive design to the characteristics of space behavior

As shown in the previous figure (14), the relationship of sensitive design is a moderate linear relationship with the behavior function of optional activities.

1- Sensitive design has a moderate relationship with behavioral function with a regression coefficient of (0.4944).

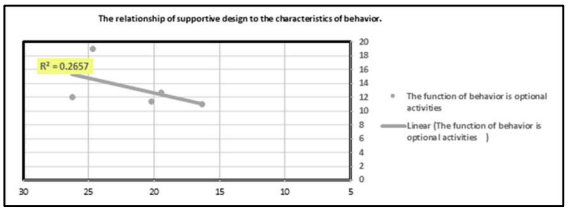


Figure No. (14): - shows the relationship of design supporting recovery to the function of behavior

As shown in the previous figure No. (15), the relationship of design supporting recovery is somewhat strong with the characteristics of space behavior.

Design that supports recovery has a strong relationship with behavioral patterns and social activities with a regression coefficient of (0.2657).

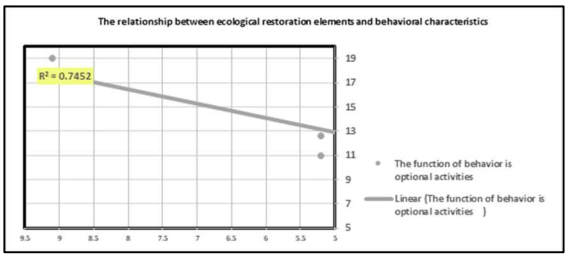


Figure No. (15): - shows the relationship of the ecological elements of hospitalization to the function of behavior and optional activities

According to what was shown by the examination results in the previous figure No. (16), the relationship between the ecological elements of hospitalization and the characteristics of space behavior (behavior function) is strong.

The ecological elements of hospitalization have a strong relationship with the behavioral function of optional activities, with a regression coefficient of (0.7452).

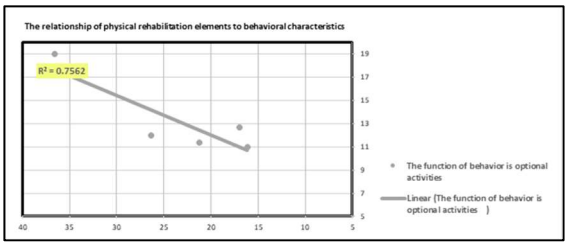


Fig. No. (16): - shows the relationship of the physical elements of hospitalization to the function of behavior and optional activities

*** Conclusions**

1- Recovery is well-being and the new concept of sustainability, by covering the aspects that affect the environment and humans. It focuses on reducing the negative impacts of humans on the environment (the first

stage of the human-environment relationship) by applying sustainable practices and green design standards, in addition to the environmental impact on human health (the second stage of the human-nature relationship) and environmental incentives (S) at all psychological and physical levels (psychologically, physiologically, and socially) in reactive behaviors (behavior), meaning response (R), and connecting people to the environment to preserve and interact with it. A sense of belonging is established until the concept of comprehensive or complete sustainability is achieved.

2- The recovery indicators for the urban environment are represented by three main elements, namely: firstly, enhancing the relationship between humans and the natural environment (commitment to sustainability principles, environmental organization, and preservation of the natural environment); secondly, enhancing the relationship between humans and the built environment (nature-loving design and sensitive design that considers the senses as tools for assessing the environment and supportive design for recovery); and thirdly, the recovery and ecological elements (ecological and physical).

3- Spatial behavior: It is the behavior of humans within the urban environment, consisting of behavior patterns (isolation, dyadic, active participation, increased participation (large groups), and the nature of behavior (stable, dynamic), and the function of behavior (sitting, walking, eating, lying down, exercising walking or running), and its mutual influence on the characteristics of the recovery environment.

4- The key term "enhancing the relationship between humans and the built environment" is the most present in the research samples, followed by the elements of recovery, then the term "enhancing the relationship between humans and the natural environment.

5- In the research samples, it was noted that the secondary term (physical recuperative elements) is the most present, and the secondary term (ecological recuperative elements) is the least present.

6- The results of the first hypothesis indicated that it was found that the nature of the design and the presence of physical recuperative elements have the most impact on spatial behavior characteristics, not the ecological elements. Thus, the significant role of the designer in

designing environments that support recovery is emphasized.

7- It became apparent that increased recovery is associated with increased life satisfaction and reduced stress and fatigue, which occurs to individuals when present in the urban spaces of religious cities.

*** Recommendations**

1- It is recommended to activate the role of the designer in creating therapeutic environments that support healing and health, which in turn affects the behavior of the user in the urban environment.

2- It is recommended to use physical therapeutic elements (attention to agriculture, the magic of nature by seeing it or being present in it, the degree of space enclosure/arrangement of buildings around the space, the relationship of the surrounding space to the buildings on the site, visibility in the sequence of space components), which in turn affects optional spatial behavior activities.

3- It is recommended to focus on the diversity and function of optional behavioral activities (walking, eating, sitting, exercising, running).

4- It is recommended to pay attention to recovery-supportive design (simplicity of message symbols for easy visual reading, placement of symbols in clear places, use of colors to attract attention to guidance panels, control of unpleasant odors, reduction of the impact of annoying sounds, consideration of large proportions and scale in gathering places to enhance social interaction, promotion of closeness in small scale to encourage walking) in local urban spaces.

*** References**

Bamberg J, Hitchings R, and Latham A. (2018). Landscape and Urban Planning Enriching green exercise research Landscape and Urban Planning 178.

Jon Lang. (1987). the role of the environmental sciences in environmental design. new york: Van Nostrand Reinhold.

Mohammad Alaa Al-Jafan, and Soulaiman Mahanna. (2020). urban health method and checklist.

Sherman SA, Varni JW, Ulrich RS, & Malcarne VL. (2005). Post-occupancy evaluation of healing gardens in a pediatric cancer center Landscape and Urban Planning.

Robert Irwin. (1997). Islamic Art. Laurance King Publisher.

David Talbot Rice. (2002). Islamic Art. (Fakhri Khalil, The Translators) Beirut: Arab

Foundation for Studies and Publishing.

Sarah Alaa Baqir Bayram Al-Assadi. (2015). Design requirements supporting recovery in interior spaces for nursing homes. University of Technology, Iraq.

Shamail Muhammad Al-Dabbagh, and Lina Kifah Al-Khazali. (18 January 2017). Negative distraction and positive distraction in the interior space of administrative office buildings. Baghdad, Iraq.

Ali bin Al-Hussein Al-Masoudi. (2005). Meadows of gold and gem minerals. Beirut: Dar Al-Maarifa.

Nights of Muhammad Abdel Halim. (March 2, 2022). The impact of urban and architectural design of the residential environment on human behavior. Greater Salt Municipality, Amman, Jordan.

Maha Mahmoud Ibrahim. (2021). Beyond sustainability towards restorative interior spaces through biophilic designbeyond sustainability towards restorative interior spaces through biophilic design. Egypt .

Maha Mahmoud Ibrahim. (2019). Mutual influence between humans and the environment: the concept of vernacular design and its relationship to sustainability in interior space. Cairo, Helwan University. Retrieved from Journal of Architecture, Arts, and Humanities, 4(17), 484-502.

Hoda Abdel-Sahib Alwan. (2013). The effect of the spatial organization of the (social behavioral) structure of residential complexes in stimulating the sense of spatial belonging. Journal of the Association of Arab Universities for Engineering Studies and Research, page 87.

Ihsan Abbas Jassim. (April, 2018). The impact of city planning on environmental pollution. Al-Kut, Damok.

Razan Saleh. (July 19, 2018). Safety and security. Retrieved from the largest international Arabic website:https\\ .mawdoo3,com.

Reem Mohammed Al-Sarouji. (2019). The role of site coordination in supporting the hospital environment in children’s hospitals. Cairo.

Zaidoun Najah Mahdi. (2023). Urban immunity and its impact on the built environment (Hilla city as an example). Baghdad, Iraq.

Sarah Alaa Baqir Bayram Al-Assadi. (2015). Design requirements supporting recovery in interior spaces for nursing homes. University of Technology, Iraq.

Sufyan Munther Saleh. (2014). Characteristics of the healthy city and the possibility of its application in Iraq (Rawa city/case study). Baghdad University.

Suleiman Muhanna, and Muhammad Alaa Bassam Al-Jaffan. (12/31, 2020). Urban health implementation and validation methodologiesUrban Health's Methods and Checklist.

Sadiq Al-Taie. (December 24, 2022). The Iraqi Medhatiya is a city built by Medhat Pasha in the land of Babylon. Retrieved date: July 12, 2023, from Al-Quds Al-Arabi:https://www.alquds.co.uk

M.D. Shamail Muhammad Wajih Ibrahim Al-Dabbagh, and Sarah Alaa Baqir Bayram Al-Asadi. (2015). The concept of feeling in control and being in control of recovery-supportive design (interior spaces of nursing homes).

Manal Ali Hassan Muhammad. (March, 2022). A proposed program in light of the dimensions of sustainable development and the green economy and its impact on developing sustainable thinking. Sohag University.

Yasmine Haqqi Hassan. (2017). Harmony of architecture with nature, sustainable design towards human health and well-being.