



The architectural voids' reflections as a model of non-verbal communication in influencing the personal space of Algerian family members: A comparative study between inhabitants of apartment buildings and owners of independent houses according to Edward Hall's contemporary theory

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Abstract

According to Edward Hall's contemporary theory, this study aims to reveal the importance of architectural voids in influencing the personal Space of Algerian family members. It considers architecture as a model of nonverbal communication that reflects peoples' cultures, their standard of living, and the degree of privacy they enjoy.

This study adopted the descriptive method for a random sample of 120 Algerian families divided equally between residents of condominium apartments and residents of independent houses. The goal was to identify the interrelationship between the physical factor (building) and the social factor (family) using the tools of field investigation, namely free-form interviews and Hall's spatial satisfaction scale.

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1. *Introduction*

Human communication has been essential since the existence of humans, evolving and continuing through the years to take on various forms. It has been studied across diverse fields, as spoken language is merely an extension of a more comprehensive communicative system. In most cases, this includes nonverbal language, which undoubtedly serves as an expressive naming system.

Non-verbal language, or what is known as silent language, encompasses various forms, such as body movements, gestures, and postures. However, it extends beyond these to each individual's personal Space—the physical or aerial distance needed by each person in their interactions with others. This extends to appearances and habitats, utilizing supportive complements like clothing, adornments, architecture, and other aspects. Additionally, folk heritage and customs highlight the identities of individuals and communities without the need for verbal expression. The study of all this aims to grasp the significance of non-verbal communication in elucidating intentions and objectives manifest within its contexts.

It concerns communication and the transmission or reception of information without spoken language, encompassing behavioral or expressive channels such as facial expressions and body movements. Moreover, it extends to urban planning and the art of architecture, considered among the most crucial symbolic communicative forms of expression. Edward T. Hall's studies on nonverbal communication

emphasize this, which is evident in numerous articles and books like "The Hidden Dimension" and "The Silent Language."

In this research paper, we focused on residential Space and its impact on social relationships within Algerian families. This impact could lead to a deeper understanding of the communication process among individuals with diverse contexts and references. Most Algerian residential neighborhoods have recently witnessed the proliferation and exacerbation of many social problems, increasingly troubling Algerian families. Substantial evidence indicates the worsening and complication of these problems, suggesting an escalating crisis of civilization and portraying a bleak cement city that thrives on releasing its crises and contradicts the elements and components of its social organization.

Over decades, architectural design and its usage meanings were analyzed through semiotics, the study of architecture from a superficial aesthetic perspective that does not translate the message that can guide us through the material architecture as a symbolic communication phenomenon that reflects the identity and culture of the peoples that relate to each other through many different meanings and symbols. This research paper focused on measuring the satisfaction with personal Space that the prevailing architectural pattern in the urban northern region of Algiers gives to comparing apartments and homeowners. In an attempt to understand the role of architectural pattern and form in influencing the personal Space of Algerian

families, the weight of social, economic, and environmental conditions that have taken severe dimensions predicting more degradation and deterioration to the core of society, which is the family, a matter that would make it challenging to own a home that preserves the privacy of its members and gives them appropriate Space for their activities, mainly since the values of Algerian society rely on the idea of connected families in their formation, which obscured the concept of personal Space and crowded personal Space among its members regardless of residential spaces.

Based on the above, we will try to embody what we have previously mentioned by posing the main question that will determine the general direction of this study, which we have formulated as follows:

What is the role of architectural space in influencing the personal space of Algerian families?

This central question has led to several subsidiary questions that we will try to answer through this study, as follows:

According to Edward Hall, what dimensions make architecture a model for non-verbal communication?

How does residential Space affect the social relationships among family members?

How does architectural Space affect the communicative process within Algerian families?

Do indoor spaces affect the regulations governing family relationships within the home?

This study aims to achieve a set of objectives, summarized as follows:

- Identifying the most critical dimensions and indicators that make residential Space a model for non-verbal communication.
- Revealing the preferences of Algerian families for specific residential spaces over others and the importance of place in creating interaction.
- Revealing the role of architecture in social change by influencing family and communicative relationships within the home.

2. Architecture as a model for non-verbal

communication, according to Edward T. Hall Like all other aspects of life, architecture is influenced by variables over time, such as social and economic environments, to fit the period and its circumstances. The writer Craigor Balsun pointed out that each architectural element translates people's concepts and values (Becker, 1980). Greek architecture was influenced by its religious beliefs, with the human body being the main subject in shaping their buildings. On the other hand, Romans focused on building massive structures to accommodate large numbers of people, resulting in theaters, libraries, courts, entertainment venues, and sports arenas. From the extension of Roman civilization comes Ottoman civilization, reminiscent of Roman civilization in some aspects, characterized by what is called a vertical void, implying ascension to the sky and symbolizing paradise, where voids are constructed vertically, ending with domes of great width and height (Yagmour, 2019) Architecture is not limited to mere construction but encompasses additions and complements that give a place its aesthetic and unique significance.

Decorations and Arabic calligraphy are among the added features of Islamic architecture, reflecting a disdain for voids and symbolizing strength and power. They extend beyond stone buildings to include carpentry, pottery, metals, and ivory, decorating textiles and clothing. These decorations and calligraphy, drawings, geometric shapes, and botanical drawings are based on precise and complex mathematical relationships, resulting in exquisite harmony.

Among the additions to famous heritage are those related to beliefs and folk traditions intended to bring good fortune and provision or to ward off evil and envy. Examples include the hand and finger motifs carved or drawn on house doors, sometimes stained with sacrificial blood, or small shoes placed on doorsteps or hung at the back of cars.

Edward T. Hall is considered one of the most essential consultants for architectural engineers in America due to his research on studying interpersonal distances and their various psychological and social effects on individuals in different cultures around the world. According to Hall, like every other person in the world, Arabs cannot formulate specific rules for their informal behavioral patterns, denying the existence of any rules. Hall conducted several comparisons between various cultures, revealing distinctive behavioral patterns among Arabs. For example, Arabs find it impolite for guests to wander through their homes inspecting things, a sentiment shared by Algerians.

Hall notes that during his interviews with Arabs, the term "grave" continued to be associated with enclosed spaces. Arabs do

not mind crowded with people but dislike feeling confined by walls, demonstrating a public sensitivity to architectural congestion.

Hall suggests that proxemic patterns can reveal hidden cultural frameworks that shape a particular person's sensory-perceptual world. This means that organizers should think in the language of different urban worlds, cities matching the proxemic patterns of the people living in them (HALL, 1969).

Hall believes that the city has existed in various forms for about five thousand years and appears different from what would be a ready-made alternative. He believes the city:

Expresses the culture produced by the people.

An extension of a society that performs many complex functions and relationships, some of which we are unaware of.

Thoughtful planning of our cities is necessary as the future awaits us.

Edward T. Hall provided a set of recommendations for urban planners in America regarding some crucial points in finding solutions to many problems, such as urban planning, which can be summarized as follows:

Finding appropriate ways to calculate and measure human scale in all its dimensions, including the hidden dimensions of culture. The complete harmony of human scale and the scale imposed by the car poses a significant challenge.

Utilizing racial pockets constructively, as there is a close match in one way or another between the image one has of oneself and the space one life in and most of today's literature is dedicated to the search for

identity, reflecting these relationships. A very active effort should be made to discover and satisfy the needs of Americans, Hispanics, Blacks, and other minority groups so that the places they inhabit meet their needs and enhance the positive elements of their culture, providing identity and strength.

- Preserving large and easily accessible outdoor spaces. London, Paris, and Stockholm are models that, if adopted correctly, urban planners in America may find useful.

- Protecting useful and satisfying old buildings and neighborhoods from the urban renewal bomb. Not all new things are necessarily good, nor are all old things bad. Many places deserve preservation, providing continuity with the past and offering diversity to the scenes of these cities.

3. Architectural Space and Communication The architectural space is closely related to communication as the space has its own language through which the user can understand and grasp the meanings it carries.

Additionally, it conveys the architect's intended meanings to the user. What distinguishes architecture is its ability to convey these meanings through space. For an architect, space is akin to movement or body language for an actor. Space design should effectively facilitate communication while being an integral part of it. It serves as a vocabulary of the language while also encompassing the entire communicative process.

The most distinguishing aspect of spatial language from human languages is the user's significant role in assigning

meanings to it. These meanings reflect the behavior of the users, who require comfort and security in the space, easy access to tools and furniture, and clear guidance on how to use the space. This user interaction is essential as space organizes our communicative operations within the home. As Bryan Lawson pointed out, architecture organizes this space to accommodate and structure human activity. Spatial language is a non-verbal language that requires sensory perception. Messages reach the user by interacting with all their senses, including sight, hearing, smell, and internal and external sensations. These sensory inputs stimulate the communication process. For example, the kitchen's proximity to other rooms in a house stimulates our sense of smell, prompting us to interact with the space and engage in conversation with family members.

Through residential space design, social messages, whether positive or negative, can be conveyed and understood, affecting the user's comfort and perception. Architects manipulate various elements of space, such as boundaries, materials, lighting, and ventilation, to evoke feelings of comfort or discomfort, providing natural lighting and ventilation for comfort. Space is the primary medium for conveying messages through architectural design.

Designing a home's interior or exterior spaces serves as a visual indicator for people, either attracting or repelling individuals. According to Bryan Lawson, no building can be completely devoid of symbolic content. Architects employ symbolic shapes as guidelines for building use or to evoke specific feelings or

impressions. Modern architectural schools, like deconstructivist architecture, utilize surprise elements to convey different messages to users through change or contradiction.

4. Methods and Materials

4.1 Edward Hall's Contemporary Theory

On Architecture and Family Relationships Edward Hall addressed the connection between spatial relationships within the home (spatial dimension) and their impact on family ties (interpersonal communication model), particularly in light of the technological revolution's disruption and disintegration of family relationships. In his book "The Silent Language" Hall pointed out that what people do is often more important than what they say and that an individual's interaction with their environment is a sign of life, whereas the opposite indicates death. Interaction patterns have evolved from primary forms of life to increasingly complex forms in all aspects of development.

He emphasized that "time and space are dimensions for creating interaction and acquiring knowledge; education, play, and defense are also specific forms of interaction." (Deloula, 2017). Furthermore, in his book *The Hidden Dimension*, Hall discussed the importance of nonverbal communication in spatial relationships, stating, "During our existence, we literally learn thousands of spatial signs, each of which has a specific meaning in a particular context." He also discussed the nature of space suitable for human activities, defining social distances and attaching

great importance to personal distances between individuals.

4.2 Research Methodology

This study falls within the realm of descriptive studies. The comparative method was chosen as the most suitable for our study, considering that the field study involved comparing residents of apartment buildings with owners of detached houses. Data and information were collected, compared, and analyzed to reveal the relationship between architectural space and individuals' personal space.

4.3 Research Community and Sample

The research community consists of all residents of apartment buildings and owners of independent housing in Skikda. Due to its large size and expansive geographic scope, the researchers opted for a random sample of **120** housing units in the municipality of Filfila, Skikda, one of the northeastern states of Algeria.

Since our study focused on architectural space as a model of non-verbal communication and its role in influencing personal space, we selected **120** families evenly distributed among households targeted from residents of independent houses. These houses are single-story dwellings occupying an area equal to or greater than **350 m²**. Also included were apartment dwellers residing in units with an average area of **100 m²**, located in four-story buildings where each floor contains two opposite-facing apartments. The average population in each apartment is 42 individuals, totaling an average of 5.25 persons per housing unit.

Families with four or more children were chosen, ensuring that at least one child aged 18 or older was included, representing the

researchers' targeted demographic. One hundred twenty scale copies were distributed, all retrieved and validated.

Table 2. Represents the Sample

Distribution

Building types	Number of rooms	Simple Size
Building Apartments	03 Rooms	60
Independent houses	More than 03 rooms	60
TOTAL		120

4.4 Data Collection Tools

We relied on a scale measuring satisfaction levels regarding personal and residential spaces among the study sample. The scale consisted of 26 statements divided into six basic dimensions: spatial dimension, organization, arrangement, distance, preferences, and interactivity. We used a Likert four-point scale to measure the preferences and satisfaction of apartment dwellers and detached house owners, consisting of 4 options: strongly agree, agree, disagree, and strongly disagree.

4.5 Reliability and Validity of the Scale

4.5.1 Validity

The validity of the questionnaire was ensured through face validity, which means that the questions effectively measured what they were intended to measure. This

includes clarity of wording, vocabulary, and suitability for the study's sample population. A panel of experts, whose guidance was crucial, reviewed the questionnaire. Based on their advice, some questionnaire items were modified and re-submitted to them multiple times until final approval was obtained for all dimensions and questions.

4.5.2 Reliability

Reliability refers to the stability of results when the scale is repeated with the same individuals. The researchers measured the test-retest reliability by administering the questionnaire twice to a sample of 30 individuals selected randomly and evenly from residents of apartment buildings and independent housing. The test was repeated after two weeks with the same sample. The correlation coefficient between the two test administrations was calculated to be (0.987), which is considered high and indicates a high level of stability. This level of stability is deemed suitable for reliance in the current study. According to Cronbach, the minimum acceptable value for Cronbach's alpha is (0.6), which confirms the reliability of the scale.

5. Quantitative and qualitative data processing

Table 02. The level of satisfaction with the spatial space for the residents of the Building Apartments

Building Apartments				
Level of satisfaction with the following variables	Very Agree	Agree	Disagree	Very disagree
Feeling of discomfort and annoyance when sharing the same room	53	3	4	0
Mum gets annoyed when sharing the kitchen	40	4	16	0
Being cramped for space in the house	58	2	0	0
Desire to have a private room	47	10	3	0
I share a room with my family members with satisfaction and love	12	13	35	0
Overall axis average	Arithmetic mean 3.51	Standard Deviation 0.8	Percentage 87.75	Sample trend Very Agree

Source: Output from spss programme

From the results of the above table, it can be seen that 95.5% of the respondents agreed that they feel uncomfortable when they share a room with their family members. The majority of the respondents (85%) confirmed that the mother feels uncomfortable when she shares the kitchen: 85% of the respondents agreed that the mother feels annoyed when her family members share the kitchen with her, which can be attributed to the small spaces that make up the rooms or kitchens of the apartments, as agreed by 99.25% of the respondents: 99.25% of respondents highlighted the limited size of the house they live in in general, and most of them

(93.25%) stressed that they would like to share the kitchen with their family members: 93.25 percent wanted to have their room without sharing it with others. The low percentage of 65 indicates that there are some reservations about sharing space with love and satisfaction among family members who want to enjoy some privacy and personal comfort inside the house by having their own rooms. This is a clear indication of the need for better spatial design in housing. Despite the current challenges, there is hope for improvement, which can significantly enhance the living experience and satisfaction of the residents.

Table 03. The level of satisfaction with the spatial space for the residents of the independent houses

Level of satisfaction with the following variables	Independent houses					Sample trend	Percentage	Standard Deviation	Arithmetic mean	Very disagree	Disagree	Agree	Very Agree
Feeling of discomfort and annoyance when sharing the same room	43	8	4	5	3,48	Very Agree	87	0,94					
Mum gets annoyed when sharing the kitchen	44	3	5	8	3,38	Very Agree	84,5	1,1					
Being cramped for space in the house	0	1	45	14	1,78	Disagree	44,5	0,45					
Desire to have a private room	52	4	3	1	3,78	Very Agree	94,5	0,61					
I share a room with my family members with satisfaction and love	2	3	48	7	2	Disagree	50	0,55					
Overall axis average	Arithmetic mean	Standard Deviation	Percentage	Sample trend									
	2.89	1.13	72.25	Agree									

Source:Output from spss programme.

A careful reading of the above table indicates that both residents of apartments and independent residences share the same desires and preferences regarding the spatial space they live in, which is available to this sample compared to respondents living in condominiums, where they have their own rooms for their children individually or shared with brothers and sisters of the same sex, which explains the desire of 94% of the respondents: 94.5 % said that they always want to have a room of their own without sharing it with others, which is explained by the above

percentages and the feeling of discomfort and discomfort in the event of sharing the same room with family members by an estimated percentage of: 87%, especially with the availability of enough space to fulfil all individuals' aspirations to own a single room, which indicates a strong desire for privacy and personal comfort, as having an independent personal space contributes to mental health and general well-being, as well as helping to strengthen family relationships and provide a comfortable environment to help

individuals cope with daily challenges better.

Table 04. The level of satisfaction with the spatial space for the residents of the condominium flats

Building Apartments								
Level of satisfaction with the following variables	Sample trend	Percentage	Standard Deviation	Arithmetic mean	Very disagree	Disagree	Agree	Very Agree
	Very Agree	93,75	0,6	3,75	1	2	8	49
	Very Agree	99,25	0,18	3,97	0	0	2	58
	Very Agree	91,75	0,7	3,67	2	2	10	46
	Very Agree	81,25	0,92	3,25	2	14	11	33
	Overall axis average	Sample trend	Percentage	Standard Deviation	Arithmetic mean			
	Very Agree	91.5	0.71	3.66				

Source: Output from spss programme

The results presented in the table above shed light on Edward Hall's approach to highlighting the impact of the experience of living in apartment buildings on the depth of family relationships and personal satisfaction. The extent of parents' possession of feelings of love, respect, and closeness within the same family exceeded 90% each time, despite the limited space and lack of necessary privacy. This may be attributed to the values and customs of Algerian society, where children harbor positive feelings towards their parents. Moreover, living within a small space

contributes to enhancing mutual respect, respecting individuals' personal space, and bringing family members closer together, despite reports of feeling discomfort with their parents' behaviors and actions and the lack of a private space for them to isolate themselves and avoid confrontation when conflicts arise.

Table 05: The level of satisfaction with the spatial space for the residents of the independent houses

Level of satisfaction with the following variables	Independent houses				Arithmetic mean	Standard Deviation	Percentage	Sample trend
	Very Agree	Agree	Disagree	Very disagree				
Do your parents have the most love in your family	49	4	3	4	3,63	0,86	90,75	Very Agree
Do your parents have the most respect among your family members	54	3	2	1	3,83	0,55	95,75	Very Agree
Do your parents have the most closeness in your family	51	5	2	2	3,75	0,67	93,75	Very Agree
Do you get annoyed by your parents' actions and behaviours towards you	27	25	7	1	3,3	0,74	82,5	Very Agree
Overall axis average					Arithmetic mean 3.63	Standard Deviation 0.74	Percentage 90.75	Sample trend Very Agree

Source: Output from spss programme

As the table above demonstrates, the nature of family relationships in the context of suitable personal space is of significant importance, as highlighted by Edward Hall. This element is a fundamental component in creating a healthy and comfortable environment for individuals, enhancing their sense of belonging and, importantly, their emotional security. The results, as seen in table number (04), confirm that providing personal space, while crucial, does not necessarily reflect negative

feelings or behaviors towards parents. Instead, these behaviors are often a result of the influence of religious, cultural, and social backgrounds, as well as the impact of strong family traditions and values. These values play a crucial role in shaping positive behaviors towards parents and maximizing their role in the family. Despite the challenges posed by spatial and dimensional constraints within the home, this factor is instrumental in achieving both personal and family satisfaction.

Table 06. The level of satisfaction with the spatial space for the residents of the Building Apartments

Building Apartments		Building Apartments				
Level of satisfaction with the following variables	Very Agree	Agree	Disagree	Very disagree	Arithmetic mean	Standard Deviation
Do you need privacy	56	4	4	0	3,93	0,25
Are you happy with the layout of your home	12	7	7	1	2,5	0,83
Indoor spaces are utilised according to a set system	4	8	8	0	2,27	0,57
No disagreements or conflicts between children over the use of space	3	2	2	3	2,08	0,53
Overall axis average	Arithmetic mean		Standard Deviation		Percentage	
	2.7		0.93		67.5	
					Sample trend	
					Agree	

Source: Output from spss programme

The results presented in the table above evaluate the satisfaction level with the current home division system for the study sample. An apparent variation in satisfaction levels is observed, indicating low satisfaction levels with the current space division system within the apartment. This could lead to conflicts and disputes among family members regarding the use and distribution of spaces.

Most of the respondents expressed dissatisfaction with the division of internal spaces within the home, which are used for various communal activities. This suggests a near-total lack of privacy for individuals and a violation of their personal spaces,

highlighting the urgent need for a change in the current home division system. Many of the surveyed families informed us that most of their children do not have rooms of their own, and that a single room is utilized for various family activities, potentially leading to escalated conflicts and tensions within the family.

Furthermore, some mothers and fathers may make significant sacrifices for their children, such as giving up their own bedrooms for their children in later stages of life or even converting household spaces like the kitchen into bedrooms to provide additional space within the apartment. These interferences and sacrifices may

result from limited available space in the home and the family's desire to utilize every inch of it fully. They may also reflect societal values prevalent in some cultures,

encouraging sacrifice for the family and mutual support among its members, underscoring the cultural significance of the home division system.

Table 08. The level of satisfaction with the spatial space for the residents of the independent houses

Independent houses									
Level of satisfaction with the following variables	Very Agree	Agree	Disagree	Very disagree	Arithmetic mean	Standard Deviation	Percentage	Sample trend	Very disa
Do you need privacy	2	3	12	43	1,4	0,73	35		
Are you happy with the layout of your home	45	10	4	1	3,65	0,68	91,25		
Indoor spaces are utilised according to a set system	39	15	3	3	3,5	0,81	87,5		
No disagreements or conflicts between children over the use of space	41	11	6	2	3,52	0,81	88		
Overall axis average	Arithmetic mean		Standard Deviation		Percentage		Sample trend		
	3.02		1.2		75.5		Agree		

Source: Output from spss programme

The results above, about residents of independent houses, contrast with those of apartment dwellers. Most of the study sample affirmed that they do not require privacy as they already possess it; having their rooms ensures the privacy of their environment. Additionally, the results recorded high satisfaction levels with the house division method, exceeding 91%. This fosters comfort, independence, and the ability to maintain personal space while

providing opportunities for interaction and participation in family activities within communal spaces like the living room or garden, away from their private rooms. Furthermore, 87.5% confirmed that the available spaces in the house are utilized according to their designated activities, significantly reducing conflicts among children within the household over these spaces, as confirmed by the majority of respondents, reaching 88%.

Table 09. The level of satisfaction with the spatial space for the residents of the condominium flats

Level of satisfaction with the following variables	Building Apartments				Arithmetic mean	Standard Deviation	Percentage	Sample trend
	Very Agree	Agree	Disagree	Very disagree				
Fulfilment and self-actualisation	15	13	32	0	2,72	0,84	68	Agree
Family relationships are influenced by space	31	27	2	0	3,48	0,56	87	Very Agree
My family members are keen to gather in the living room	35	22	3	0	3,53	0,59	88,25	Very Agree
I am close to my parents or children	53	7	0	0	3,88	0,32	97	Very Agree
I feel comfortable talking to my family and speak with respect	51	8	1	0	3,83	0,42	95,75	Very Agree
Violence and quarrels call for isolation	56	4	0	0	3,93	0,25	98,25	Very Agree
Overall axis average					Arithmetic mean	Standard Deviation	Percentage	Sample trend
					3.56	0.68	89	Very Agree

Source: Output from spss programme

The above results affirm a convergence and openness to dialogue among family members, with a 97% agreement rate. This indicates solid and healthy family relationships, as most respondents, comprising 88.25%, confirmed gathering and interacting within the living room. This underscores the importance of this room as a hub for family communication and interaction, providing opportunities for exchanging news and daily events and sharing opinions and experiences, thus

enhancing emotional bonds among them. This sentiment was further reinforced by 98.25% of the sample regarding feelings of comfort, support, and belonging when conversing with family members. However, this closeness faces numerous challenges that weigh heavily on family relationships, significantly influenced by the size of available spaces in the home and the multitude of activities held within them. Particularly in cramped apartments, which typically occupy no more than 100 square

meters, conflicts arise over the allocation of spaces such as preferred sitting areas, study spaces, or suitable storage places. These challenges in cramped living spaces are urgent and need to be addressed. Additionally, differences emerge regarding the usage of these spaces and who has the right to frequent and permanent access. The results also indicate individuals' strong need for solitude and isolation when specific problems arise within the

household, affirmed by the researchers at a rate exceeding 98%. This is considered essential to avoid conflicts, calm situations, and prevent clashes with family members. However, respondents informed the researchers that there is no place within the home that allows for individual seclusion due to the cramped space and the large number of occupants, leading to decreased levels of self-fulfillment as indicated by the above results.

Table 10. The level of satisfaction with the spatial space for the residents of the condominium flats

Level of satisfaction with the following variables	Independent houses				Arithmetic mean	Standard Deviation	Percentage	Sample trend
	Very Agree	Agree	Disagree	Very disagree				
Fulfilment and self-actualisation	31	27	1	1	3,47	0,62	86,75	Very Agree
Family relationships are influenced by space	25	23	7	5	3,13	0,92	78,25	Agree
My family members are keen to gather in the living room	12	6	39	3	2,45	0,86	61,25	Disagree
I am close to my parents or children	29	21	4	6	3,22	0,95	80,5	Agree
I feel comfortable talking to my family and speak with respect	27	23	7	3	3,23	0,84	80,75	Agree
Violence and quarrels call for isolation	41	11	5	3	3,5	0,85	87,5	Very Agree
Overall axis average					Arithmetic mean	Standard Deviation	Percentage	Sample trend
					3.17	0.92	79.25	Agree

Source: Output from spss programme

The results above confirm the presence of high levels of achieving desired aspirations and self-actualization among residents of independent housing, with a rate of 86.75%. The respondents confirmed an impact of the architectural space within their homes on their family relationships, estimated at 78.25%. High levels of satisfaction were recorded regarding the nature of relationships governing these families, despite the diminished opportunities for gathering in the living room due to having their private rooms where they spend most of their time engaging in personal educational or recreational activities without affecting other family members. This reduces friction and conflicts arising from a lack of privacy, which is noted to be high among residents of apartment buildings. The large spaces allow for a better distribution of activities and tasks, reducing the chances of

overlap and conflict among family members.

The spaces within independent housing are interconnected by a series of separating and movement elements, creating a logical sequence from public to private spaces. These large spaces, a hallmark of independent housing, also play a significant role in providing isolation and tranquility during family disputes. A staggering 87.5% of respondents expressed a desire for isolation in the event of a quarrel within the home. This spatial layout helps calm nerves, facilitates thinking, and enables conflicts to be resolved calmly and separately from other family members. It meets various living needs more freely and flexibly by providing a type of visual, auditory, and even physical isolation, and then reconnecting with the family once calm and a desire to communicate to solve the problem is achieved.

Table 11. The level of satisfaction with the spatial space for the residents of the condominium flats

Level of satisfaction with the following variables	Building Apartments					Arithmetic mean	Standard Deviation	Percentage	Sample trend
	Very Agree	Agree	Disagree	Very disagree	Agree				
Occasional access to the balcony or terrace	24	20	1	15	Agree	2,88	1,18	72	
I prefer to have my own room	42	7	11	0	Very Agree	3,52	0,79	88	
Do you like the interior of your home?	2	13	42	3	Disagree	2,23	0,59	55,75	

The family neglects the space for religious ceremonies	55	5	0	0	3,92	0,28	98	Very Agree
Overall axis average	Arithmetic mean 3.14	Standard Deviation 1.01	Percentage 78.5		Sample trend Agree			

Source: Output from spss programme

The results above indicate that residents of apartment buildings express varying levels of satisfaction with different aspects of daily activities conducted within their private residences. Specifically, 72% of the study sample expressed satisfaction with using the balcony or patio on special occasions. This high level of satisfaction suggests that the balcony or patio plays an essential role in the respondents' lives and is desirable for celebrations and social and family gatherings. Additionally, there is a very high level of satisfaction, at 88%, regarding the desire to have a private room. This reflects the high importance placed on privacy and personal space by the respondents, indicating that having a private space within the home is highly desirable but mainly unavailable to these families due to the limited space of their homes.

The statistics also show that apartment residents are dissatisfied with the internal spaces of their homes, indicating discomfort with the design of their home's

interior spaces, which they are forced to accept. The results revealed that 98% of respondents reported needing a dedicated space for religious practices in their homes. Even though having a space to practice religious rituals is essential to family life and the Islamic community, the limited spaces within apartments do not allow for this provision. Consequently, religious practices are conducted in shared family spaces.

It is important to note that the concept of privacy in Islamic society differs from that in Western society. In Islam, privacy is fundamental in shaping personal and communal spaces. Privacy in Islamic society means balancing individual and group privacy; it does not prevent social communication or imply complete isolation and separation from the community. Therefore, privacy serves as a tool to regulate communication and interaction, guided by the principles of religion and the behaviors of the individual's society.

Table 12: The level of satisfaction with the spatial space for the residents of the condominium flats

Level of satisfaction with the following variables	Independent houses				Arithmetic mean	Standard Deviation	Percentage	Sample trend
	Very Agree	Agree	Disagree	Very disagree				
Occasional access to the balcony or terrace	3	4	12	41	1,48	0,83	37	Very disagree
I prefer to have my own room	33	19	3	5	3,33	0,91	83,25	Very Agree
Do you like the interior of your home?	41	14	3	2	3,57	0,74	89,25	Very Agree
The family neglects the space for religious ceremonies	2	3	21	34	1,55	0,74	38,75	Disagree
Overall axis average					Arithmetic mean 2.48	Standard Deviation 1.26	Percentage 62	Sample trend Disagree

Source: Output from spss programme

The results indicate dissatisfaction with using the balcony or courtyard during special occasions, showing a lack of interest among the study sample in using outdoor spaces for social or recreational purposes. However, 83.25% of respondents expressed satisfaction with the importance of privacy and personal space within the home, facilitated by having a private room, which this type of housing allows.

Moreover, the results demonstrate a resounding success in meeting residents' needs with a high satisfaction rate of 89.25% regarding the interior design of their homes. This indicates that the interior spaces of their homes are not just appreciated, but they also sufficiently meet their communication and interaction needs.

These spaces align well with the residents' aspirations due to the compatibility of the design models with their lifestyle, culture, and related customs and traditions.

The results also underscore the importance of efficiently directing and organizing relationships through spaces. The support for religious activities within the home, by allocating suitable space for such purposes, which can be used by the entire family, suggests that the design of the homes considers the creation of spaces suitable for both individual and collective activities. Since people engage in various activities on both public and private levels, which are significantly influenced by individual and group participation and interaction, it is essential to efficiently direct and organize

relationships through spaces that accommodate the multiple uses of family members in terms of size and function.

Table 13: The level of satisfaction with the spatial space for the residents of the condominium flats

Building Apartments				
Level of satisfaction with the following variables	Very Agree	Agree	Disagree	Very disagree
Set times for dialogue and discussion between children and parents	4	6	43	7
Enough room to play and play all the time	8	10	42	0
Utilise the living room to watch TV, relax and socialise	50	4	6	0
				Arithmetic mean
				2,12
				Standard Deviation
				0,69
				Percentage
				53
				Sample trend
				e
				Disagree
				Disagree
				Very Agree
Overall axis average	Arithmetic mean	Standard Deviation	Percentage	Sample trend
	2.76	0.97	69	Agree

Source: Output from spss programme

Our analysis of the results from the SPSS program reveals a clear opportunity for improvement in the daily interactive aspects within apartment complexes. This includes enhancing family interaction spaces and providing suitable areas for children's play. The data also underscores the versatility of living rooms as multi-functional spaces, catering to residents' needs for entertainment, comfort, and social interaction. The findings indicate a 53% dissatisfaction rate, suggesting a significant number of families struggle to find time for dialogue and discussion with

their children. This could be a result of communication challenges or difficulties in organizing family participation due to a lack of appropriate spaces.

Additionally, deficient satisfaction levels were recorded at 60.75% regarding recreational opportunities and play available for children in the complexes. This may indicate a need for designated play areas or insufficient recreational and safety facilities in residential complexes. On the other hand, the study sample's responses noted high satisfaction levels (93.25%) regarding using living rooms for

various purposes such as watching TV, relaxation, and social gatherings. This could signify the communal space's importance in meeting residents' needs for

entertainment, relaxation, and sharing family opinions, concerns, and daily updates.

Table 14. The level of satisfaction with the spatial space for the residents of the condominium flats

Level of satisfaction with the following variables	Independent houses					Arithmetic mean	Standard Deviation	Percentage	Sample trend
	Very Agree	Agree	Disagree	Very disagree					
Set times for dialogue and discussion between children and parents	21	24	11	4		3,03	0,89	75,75	Agree
Enough room to play and play all the time	32	21	5	2		3,38	0,78	84,5	Very Agree
Utilise the living room to watch TV, relax and socialise	12	11	29	8		2,45	0,96	61,25	Disagree
Overall axis average	Arithmetic mean		Standard Deviation		Percentage		Sample trend		
	2.96		0.96		74		Agree		

Source: Output from spss programme

Analyzing the satisfaction levels of independent housing units can help understand the needs and preferences of residents in these residential units.

The above percentages indicate high satisfaction levels, reaching 75.75%, suggesting that the respondents strongly agree on setting times for dialogue and discussion between children and parents. This reflects the importance of family communication and intergenerational understanding within households, with a recorded percentage of 84.5%.

Regarding recreational opportunities and play available for children in independent

housing, the sample expressed satisfaction at 84.5%, indicating the importance of providing suitable spaces for play and entertainment within the home, achievable due to sufficient indoor or outdoor space surrounding the residence.

Conversely, there was a low satisfaction level of 61.25% regarding the last item, indicating that residents do not use the living room for activities such as watching TV, relaxation, and socializing. Most respondents preferred relaxing and watching television in their rooms, often using social media and digital media platforms for news, sports updates, and

entertainment. The living room is typically reserved for guests, carefully maintained, and furnished for readiness at any time. On the other hand, family gatherings usually occur in other rooms or around the dining table in the kitchen.

Discussion and Results:

Based on the preceding analysis, it can be concluded that architectural space plays a significant role in shaping the nature of family social relationships. The art of architecture and the design of interior spaces have garnered considerable attention from researchers and can be relied upon to interpret and analyze the cultures of different societies. This study yields several key findings, including:

- The prevailing architectural construction in northern Algeria has been implemented without regard for the cultural context, as evidenced by apartment buildings that starkly contrast with Algerian Islamic identity by failing to respect individual and particularly women's privacy. These apartments reflect Western values, which is also observed in independently designed homes by their owners or builders who often bypass professional architects to reduce costs.
- There is a direct relationship between belonging to a space and social communication. The lack of privacy negatively impacts individuals' relationships with their homes, thereby harming social relations. Urban housing organization plays an important role in shaping social interaction patterns among family members.
- Providing personal space at home is essential for the health and happiness of individuals and families. Investing in home

design and organization that enhances privacy and comfort can significantly improve family life quality.

- Investing in the design of interior spaces and the physical structure of the home greatly influences individuals' experience of personal space. Homes should be designed to enhance privacy and comfort for their occupants.

- Ample indoor space can help avoid family conflicts by providing privacy and personal space, distributing activities and tasks, and creating shared spaces for social interaction. This reduces daily frictions, allowing each family member to choose a private area for personal activities without interfering with others.

- Shared spaces for social interaction, such as large living rooms or open kitchens, foster the exchange of ideas and opinions among family members. These areas promote positive communication and interaction, reducing the likelihood of conflicts.

- Living in apartments or independent homes reflects different social conditions and translates the family's living standards.

- The study confirmed that residents of independent homes have the ability to create play and recreational spaces for their children, provide separate rooms for their children, and facilitate more effective communication channels compared to apartment dwellers. Limited space in apartments encroaches on personal space, leading to disputes and conflicts.

- According to the study participants, mothers are disturbed when sharing the kitchen, whether in apartments or independent homes. This reflects the perception of the kitchen as part of their

personal space, which they are unwilling to share with others, including their family members.

- Privacy in independent housing, which offers an acceptable living space, does not imply complete isolation within an enclosed space. Such isolation can have a detrimental effect on mental health, as humans are inherently social beings who cannot live in isolation from others. The challenge in this type of housing lies in achieving the necessary level of privacy that allows for the desired isolation while also maintaining reasonable interaction with different environmental elements. There are no specific standards to determine the required level of privacy for each individual, as it varies from person to person.

7. Conclusion

From our analysis of the study results, it is evident that the family's dwelling has become a reflection of their economic and social status. Algerian families have lost many of their cultural values, particularly with the adoption of Western-style housing models that are limited in space compared to the number of family members. This has directly impacted personal space, forcing family members to share many architectural spaces, significantly altering the nature of relationships, roles, functions, control, authority, and communication within the family. Despite the differences between apartment dwellers and independent home residents, they share many values according to Edward Hall's indicators, which can be summarized as follows:

- Boundaries: Most study participants prefer to have their own private space,

feeling discomfort when sharing a room with others. These boundaries can expand in shared spaces like the kitchen and living room.

- Proximity and Closeness: Algerian family relationships are characterized by depth and cohesion, as extended families, while each member desires their own private space, they strive to maintain values of closeness and connection, reflecting the religious and cultural traditions of Algerian society.

- Order: Participants, regardless of their type of dwelling, share a pattern of authority distribution within the family. Authority is generally shared between parents and sometimes extends to children in a descending order, with older children having more authority than younger ones. Functional relationships and gender-specific roles (female/male) significantly influence how the home is divided to ensure privacy, order, and organization.

- Reception Room: This space serves as a public area within the home, designated for guests and rarely used in daily family life. Mothers often keep this room closed to maintain its cleanliness and readiness for visitors.

- Living Room: The living room is the family gathering place, where all family interactions and daily activities occur, such as sharing news and discussing important family matters.

- Kitchen: The kitchen is typically controlled by the mother, who is the primary actor within it. She considers it a personal space rather than a communal area that meets the daily needs of family members.

•Bedroom: The bedroom is the intimate personal space for each family member. The larger and more isolated this space, the greater the individual's sense of freedom and comfort.

•Distance:

- Intimacy: Seen in the couple's bedroom and individual children's rooms.
- Personal: Relates to shared rooms, which are divided based on gender (female space/male space).
- Social: Found in areas designated for family conversations and interactions, such as the living room, sitting room, kitchen, courtyard, roof, and balcony.
- Public: Refers to spaces reserved for guests and relatives, such as the reception room.

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