

# Revisiting the Synomorphic Historical Houses of Yazd in the Context of Third (Case Study: Nardoon Café in the Historical Fabric of Fahadan)<sup>1</sup>

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## Article Info

## ABSTRACT

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**Objective:** According to the functional decline of historic houses, spaces became deeply intertwined with behavioral patterns through adaptive reuse as collective spaces. Following that, the Third place, as one of the most important institutions of the public sphere, gave meaning to the informal life of citizens and restored social relations. These places redefined social structures and promoted the concept of interaction from ephemeral relationships to social bonds. Therefore, through interdisciplinary analysis, this research attempts to explain behavior setting based on the theory of synomorphy. Then, by applying this theory to the adaptive reuse of historical houses of Yazd, its reflection in the relationship between humans and the environment has been examined.

**Methods:** The methodology is field-based in terms of subject matter, applied-developmental in terms of purpose, and future-oriented.

Data collection was carried out by documentary and survey methods and was achieved through two methods: content-based in content analysis and evidence-based in sample evaluation (Nardoon Café) and documentary, observation and distribution of questionnaires in the Delphi method.

**Results:** The results show the overlap of physical, behavioral and functional factors in adaptive reuse of historical houses, along with the outcome of memory, historical identity and preservation of the values hidden in these buildings, which encourages the audience to observe the norms and continuously attend these places as their third chosen place and can lead to the organization and dynamism of the historical context of Yazd with the aim of strengthening behavioral patterns.

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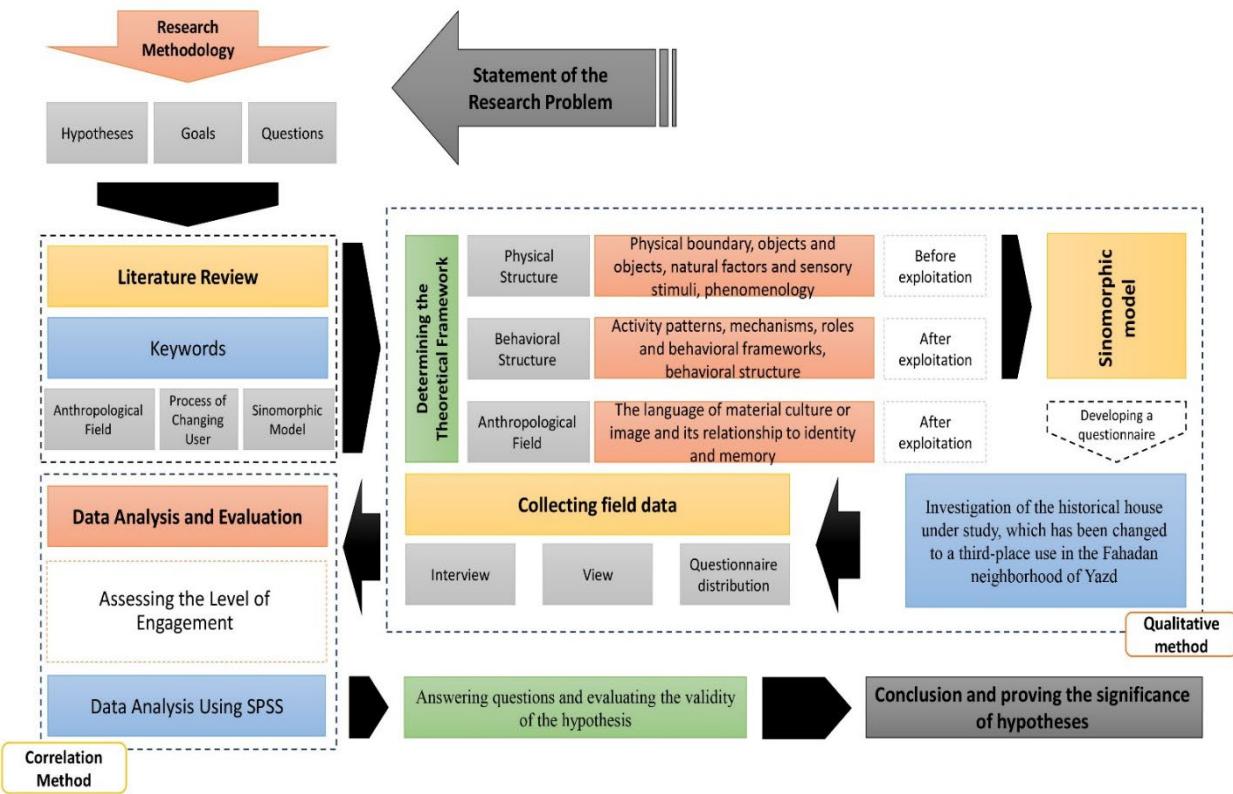
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<sup>1</sup> The present article is derived from the first author's doctoral dissertation entitled "*Recognizing Synomorphic Components in the Change of Use of Historical Houses in Yazd to a Third Place*", which is being developed under the supervision of second, and the advisor of the third author at the Islamic Azad University, Ke.C., Kerman.

## Introduction

According to the concept of place, one of Professor Ray Oldenburg's most important writings is that daily life must strike a balance among three places to foster peace and meet human needs. These include: (1) places outside the home (the first place); (2) the workplace (the second place), where people engage in conversation; and (3) the community, which serves as the arena for these interactions. The first two places are rooted in society, while the community provides the setting for their manifestation. Oldenburg claimed that the key to saving today's societies lies in creating a space for the "third place." As he explained, "third places" are informal gathering spots located between home and work, where people come into close contact with one another (Oldenburg, 1999). In this research there is the study on examining 'third places' within the historical part of Yazd. By aligning the two meanings of third place and historic part of the city, the study aims to develop an effective strategy for encouraging and preserving valuable historic houses through restoration, adaptive reuse, and spatial transformation. This strategy seeks to revitalize the spirit and well-being of individuals within an environment that aligns with the identity and culture of the city.

However, the study and implementation of this concept in Iran face significant challenges. As the pioneer of this discussion, Oldenburg primarily focused his research on American cities and European ones (Modiri and Davoudi, 2017). Therefore, examining this concept in Iran, considering its social context and lifestyle, requires a thorough understanding of the existing conditions, redefinition of third places and their characteristics based on local circumstances. This redefinition should be alongside the harmony between the physical environment and human behavior. Accordingly, it is necessary to identify the four structures of Barker—"body, time, population, and behavior"—within the environment and use 'Synomorphy Theory' to understand them better.

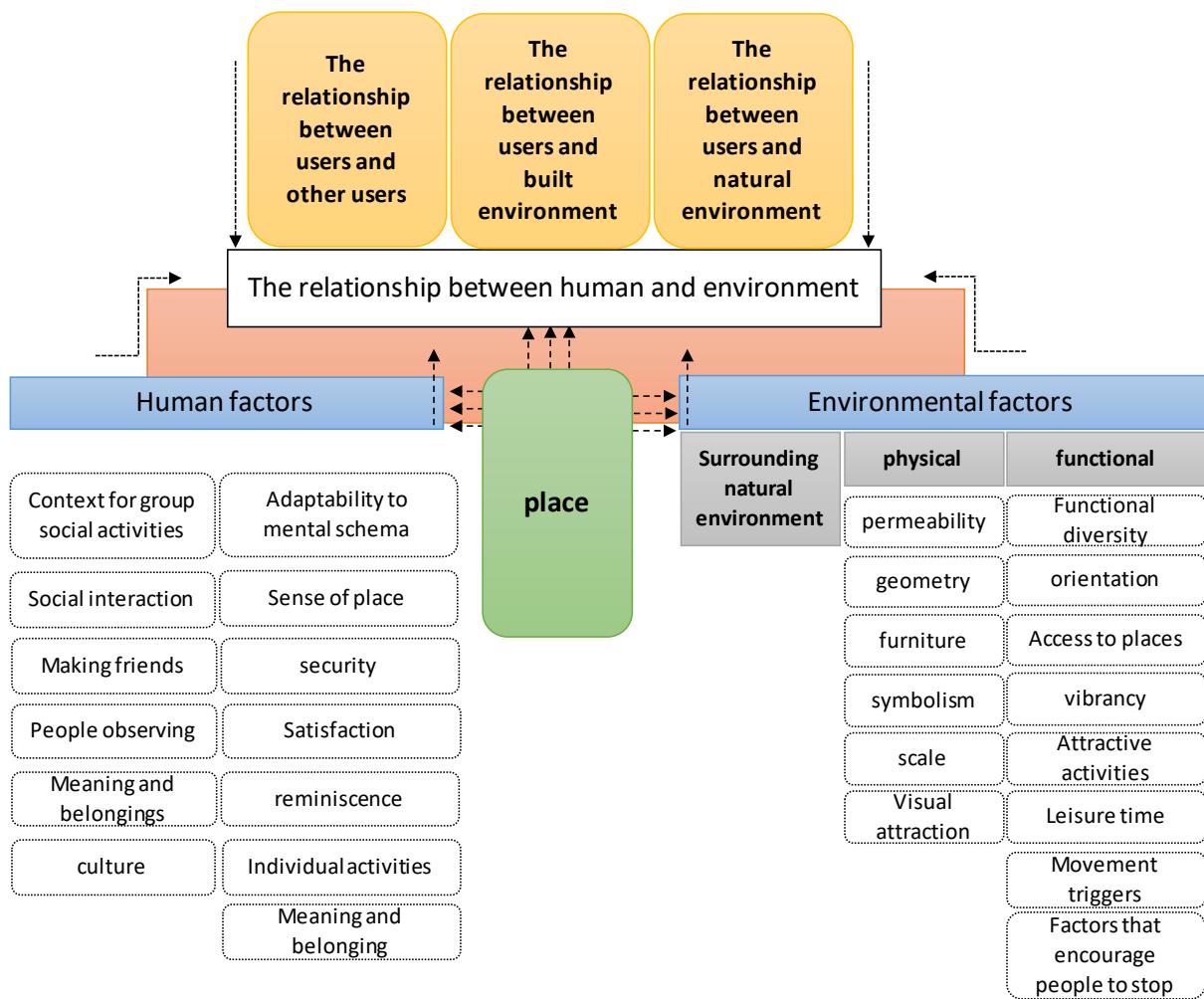


**Figure 1. Research methodology performance analysis (Source: Author, 2024)**

## Theoretical Foundation and Research Proposal

### Place

Place is the location of dwelling and the connection of humans with the world. Humans need to understand place and have a sense of belonging to their place in order to feel safe there, and this feeling only arises when an individual finds themselves in an interior created by boundaries and the manner of their emergence, which gives meaning to the place (Mousavi et al., 2018, derived from Norberg-Schulz, 2009). Places become characterized by specific features after they gain meaning, which, from the perspective of Norberg-Schulz, are divided into two categories: natural and man-made. He refers to the combination of natural places where human intervention is evident as cultural landscape and states: "Every element that ends something will begin another" (Norberg-Schulz, 2009). This leads to a correct understanding of the environment by humans and assists them in creating a place with appropriate and ideal character resulting in a cultural landscape based on an individual's understanding of their surrounding world (Partovi, 2013).



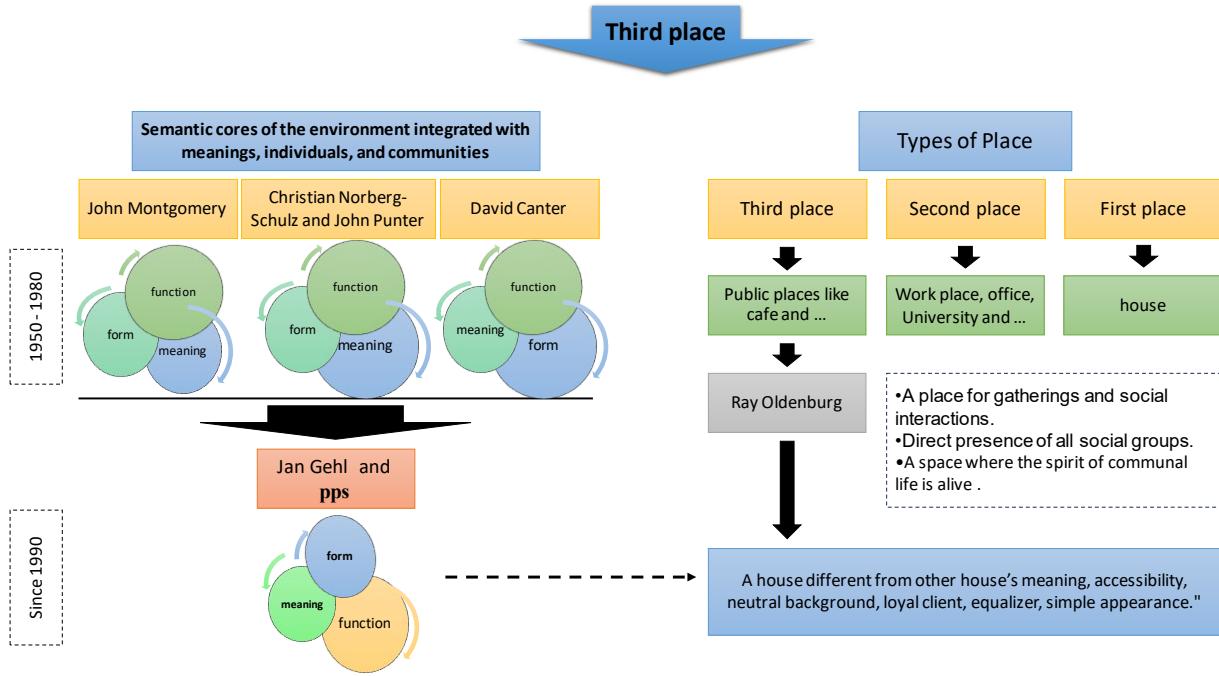
**Figure 2. Explanation of layers and components of place (Source: Author, 2024, taken from Heidari and Behdadfar, 2016).**

### Third Place

Oldenburg defines Third places as neutral ground locations. In contrast to First Places (home) and Second Places (work), Third Places provide an environment where individuals can set aside their usual concerns and simply enjoy socializing with one another (Modiri Davoodi, 2017). In today's cities, where the lack of communal spaces is evident and their absence leads to psychological pressure and frustration among citizens, (Rahmani Pakzad, 2023). Third Places can host regular, voluntary, informal, and enjoyable gatherings, beyond the home and workplace (Lumba, 2018). In other words, a Third Place is where the spirit of communal life flows, allowing individuals to come together in a relaxed atmosphere, free from Life's distractions, to engage in discussions and spend quality time with others (Iranpanah et al., 2022).

## Potential of Third Places in Enhancing Social Life

Social life encompasses social interactions that occur in the public realm. This concept is much broader than the public spaces or places in a city and refers more to a set of social relationships. Meeting, greeting, inquiring about the well-being of family and acquaintances, and discussing current issues are part of the behaviors considered within social life (Montgomery, 2006).



**Figure 3. Potential of Third Places in improving social life (Source: Author, 2024).**

The Impact of Third Places on Social Life can be explained through the following points:

- 1. Civic Indifference:** Individuals are very careful to respect the boundaries of others; however, this is different in Third places. In these locations, one can engage in normal or even lasting interactions with strangers without worrying about the boundaries that exist around them (Goffman, 1971).
- 2. Controlled Awareness:** Public spaces in the city often serve as the scene for many reactive outbursts, but Third places consistently provide a setting where attendees can initiate conversations, discussions, or even relationships by emphasizing these reactive outbursts (Modiri Davoodi, 2017).
- 3. Focused and Semi-Focused Interaction:** "Decentered Interaction" occurs when individuals are aware of each other's presence in a specific environment. In contrast, "Focused Interaction" happens when individuals pay attention to what is being said or done. The likelihood of decentralized actions turning into focused interactions in Third places is much higher than in other public spaces since the goal is to engage in conversation and establish connections (Goffman, 1981).

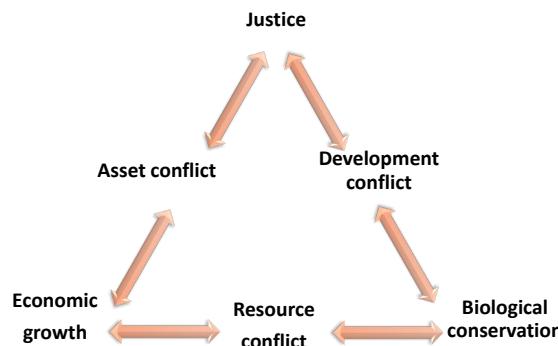
**4. Social Life On-Stage and Backstage:** "On-Stage Areas" are social situations where individuals perform formal roles, while "Backstage Areas" are spaces that provide the necessary tools for the performance. Third places serve as a backdrop for the flow of informal life, playing a backstage role for social life (Goffman, 1981).

**5. Encounters and Personal Space:** In public spaces of the city, individuals place great importance on maintaining their personal spaces; for example, when we want to sit on a bench in a park, we make sure to keep a distance from another person sitting on that bench (Giddens, 1989). However, in Third places, individuals are more willing to share their personal space and do not fear breaking distance (Modiri Davoodi, 2017).

### *Adaptive Reuse*

Land Use change is not a static quantity but rather has a pattern of gradual evolution, with the most significant and comprehensive changes occurring in the past half-century (Vahidi Borji et al., 2017). Land Use change encompasses a dynamic process that connects natural and human systems (Koomen et al., 2007). These changes may be accompanied by effects and consequences that are not aligned with sustainable development goals; thus, these conflicts can be represented in Land Use change as a triangle. At each vertex of this triangle lies a goal, and as a result of their interactions, conflicts arise along the axes:

- **Asset Conflict:** between economic growth and equitable distribution of opportunities;
- **Resource Conflict:** between economic and ecological productivity and the Preservation of historical values;
- **Development Conflict:** between social justice and environmental protection. (Karimi et al., 2021).



**Figure 3. Conflict between Land Use Change Planning and Sustainable Development Goals (Source: Karimi et al., 2021, adapted from Ababneh et al.).**

### *Adaptive Reuse of Valuable Historical Buildings*

To revitalize, protect, and modernize historical textures and ensure the material and spiritual life of valuable historical buildings in the future, permission is granted for their change of use. In

these changes establishing a balance between specialists and owners is essential. (Godschalk, 2004) This includes:

- Revitalizing urban services and activities on a small scale and relocating incompatible and disruptive uses;
- Long-term taxation on dilapidated, abandoned, and vacant houses;
- Creating dynamism in the historical center and balancing this area with the external section; (Gharabaghloou et al., 2019).

Additionally, balancing density and changing the use of historical buildings are strategies for guiding urban development toward sustainability, which is presented in the concept of "Incremental development" (Hanachi, 2011). Incremental buildings are essentially new constructions within historical contexts that seek to enhance productivity rather than compete with or undermine the identity of an area (Doratli, 2004). They can be categorized into four dimensions: "functional, economic, social, and environmental".

**Table 1. Effective Conservation Components in Changing the Use of Historical Monuments (Source: Author, 2024, adapted from Karimi et al., 2021)**

Index	Politics
Functional	Encourage and implement mixed-use development by creating functions that are compatible with the historical context, establishing a balance between preserving historical values and redevelopment, aligning old and new uses, and modernizing functions without compromising the original essence of the building.
Economic	Providing local services to enhance individuals' income levels; ensuring proper utilization of the building for long-term sustainability in maintaining and preserving the historical structure; and creating commercial and recreational spaces within or around the building.
Social	Understanding the sense of time and place; creating social vitality; enhancing social security; encouraging citizens to reside in historical contexts; and paying attention to the culture and identity of the historical part of the city during the development and revitalization of buildings.
Environmental	Limited use of non-renewable resources; recycling resources in adaptive reuse.

### ***Third Place as a Stimulus for the Preservation of Historic Homes***

Today, with the passage of time and changes in lifestyle, on one hand, the costs of repairing and maintaining historical sites, and on the other hand, the opportunity costs of preservation due to limitations on property rights and protective laws for historical sites threaten the individual interests of owners. On one side, the existence of protective laws is necessary and essential; without them, the mechanism of the free market drives these valuable elements toward destruction and renovation with the aim of maximizing financial profit. Thus, one of the responsibilities of planners and urban managers is to pay attention to individual interests and respect citizens' rights (Karimi et al., 2021). Meanwhile, the historical fabric of Yazd city is facing numerous problems, including the loss of original residents from the fabric and consequently a large volume of residential buildings becoming vacant. In response to this, various Strategies under the general title of "Revitalization" have been applied to historical

buildings. One example of these strategies is changing the usage of valuable historical houses into urban Third Places. The researcher believes that Third Places, in addition to being a venue for informal life to flow alongside formal life, can function as one of the small social phenomena beyond urban living spaces in forms such as guesthouses, cafes, etc., emphasizing the dynamism and active presence of Yazdi audiences in these locations showcasing how collective life can emerge alongside the culture and identity of the historical city of Yazd.

### ***Synomorphy: Explaining Human Relationships in the Third Place***

Humans have different images in their minds of various places. Human emotions, experiences, and historical memory can influence their perception of the environment and give identity to a place. In addition to the physical Structure of a location, individuals' memories play a significant role in attributing identity to that place (Partovi, 2013). Therefore, it can be said that all human characteristics and factors, including memory, Imaginations, experiences, beliefs, values, and human culture in a location contribute to a Person's understanding and perception of that place, which consequently leads to behaviors known as "The congruence of form and behavior" or more precisely "Synomorphy" (Tafakkor et al., 2020). Furthermore, what influences human behavior in daily environments is the physical structure; that is, the impact of the situations in which an individual finds themselves on their behavior is greater than the individual's personality traits. As a result, the compatibility and congruence between behavioral patterns and the physical structure of a place is the most important characteristic of a gathering space (Hamidani Golshan et al., 2019; Hashemian et al., 2021; Golrokh, 2012). A gathering space is formed when there is interaction between the audience and the environment:

- **Explaining The Concept of Cognition and Perception:** Cognition and perception refer to becoming aware through the senses and processing information, which is done with or without the mediation of mental imagery (Shafiei Islami, 2017). When there is interaction between the audience and the environment. There are two possible conditions for the audience. In the first condition, perception is possible for the audience through observation, while in the second condition, this is not possible (Alshirazi Alldin, 2004). Humans possess four levels of perception: sensory, imaginative, rational, and intuitive, corresponding to realms of existence. External faculties such as vision, hearing, smell, taste, and touch, as well as internal faculties like common sense, imagination, apprehension, memory, and cognition contribute to their perception (Taqdir, 2017). Therefore, it can be concluded that whether perception is possible through observation or not, perception in the environment occurs through the five senses and ultimately leads to the audience's behavior in that environment (Author, 2024).
- **The Language of Material Culture in Relation to Audience Behavior:** The language of material culture serves as a means for Establishing a relationship between humans and the world around them as well as with their peers, which can be shaped through memory and historical identity. Since humans have different images in their minds of various places, their emotions, experiences, and historical memories alongside the

historical identity of structures can influence human perceptions of the environment (Molasalehi, 2017).

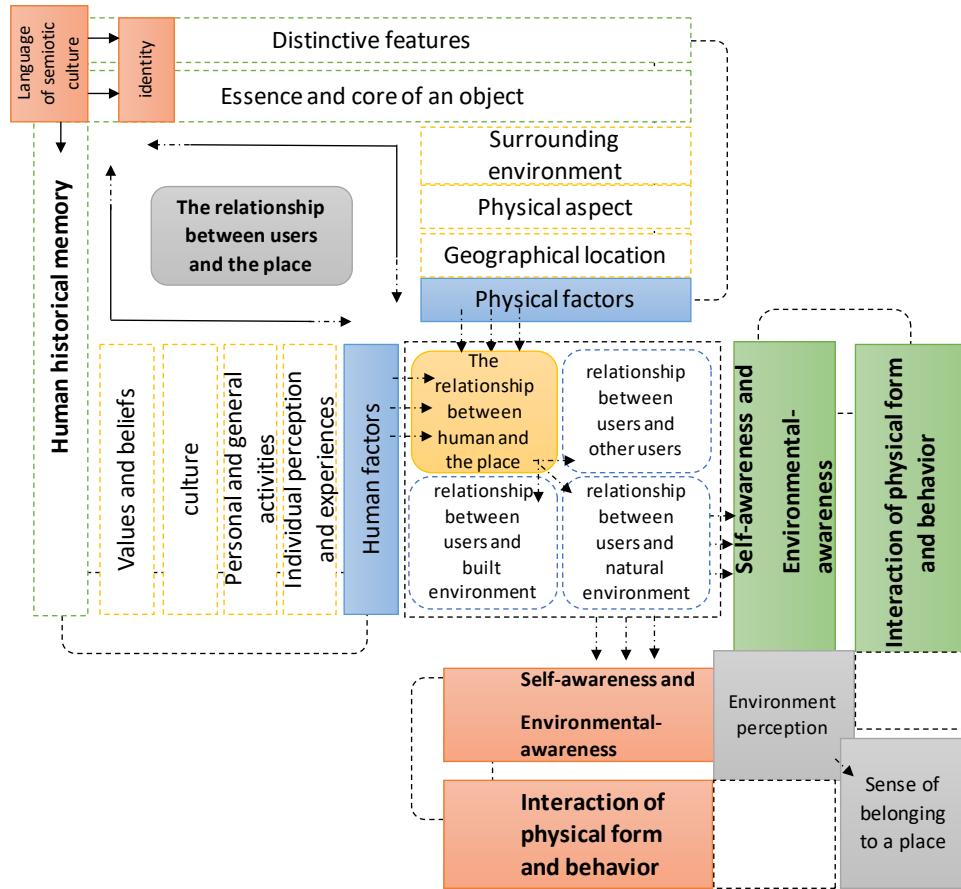


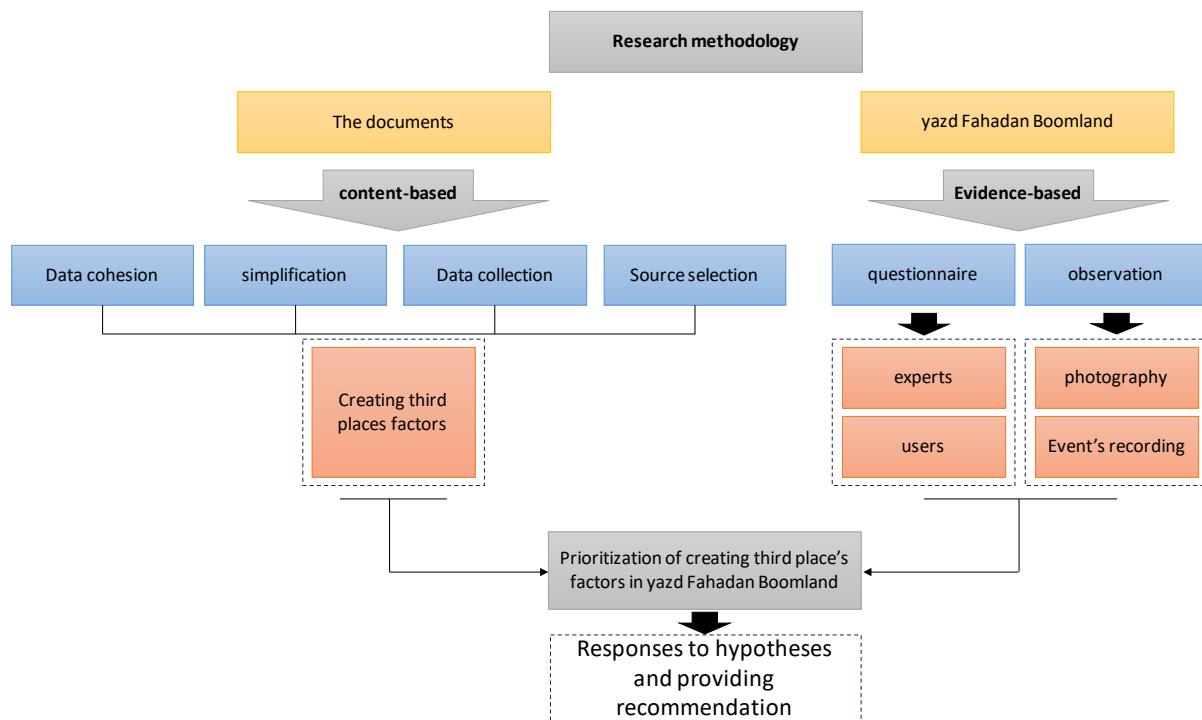
Figure 4. Homogeneity of body and behavior (Source: Author, 2024).

## Research Methodology

The methodology of the present research is field-based in terms of subject, applied and developmental in terms of purpose, and future-oriented in terms of time. Data collection is conducted using documentary and survey methods. Accordingly, two methods are employed: "Thematic Analysis" for evaluating the content of the literature and "Case-based Analysis" for evaluating case studies and surveys. The thematic content evaluation is a strategy for assessing themes and a method for simplifying data, in which qualitative data are categorized, summarized, and reconstructed, while key data are stored throughout the research process. Since the present research aims to understand the necessary characteristics for creating a successful Third place in the form of a Café from the perspectives of users and experts, its evaluation process is narrative in nature, with the users of the space serving as narrators. Therefore, the "Case-Based Approach" will be utilized. The case-based approach examines the characteristics of individuals' presence

and their everyday experiences in the Café under study (Nardoon), interpreting the evidence obtained through observation and questionnaires from a range of users and experts. This aims to achieve the research objectives by employing qualitative content evaluation methods. To this end, this research seeks to determine the degree of consistency between form and behavior in one of the historical houses repurposed as a Café named Nardoon in Yazd after its change of use, and to assess the impact of these changes on the quality of this valuable structure. The goal is to provide appropriate responses to the proposed hypotheses and to measure the insights between the user community (The general public) and experts (specialists and professionals) Concerning the creation of Third places in the historical fabric of Yazd, while also offering suggestions for future-oriented applied-developmental objectives:

1. There is a significant relationship before the change of use between the degree of consistency of physical and behavioral factors and the quality of transformation into a Third place.
2. The language of material culture, through memory and historical identity, increases the consistency between form and behavior among audiences in repurposed historical houses.



**Figure 5. Process of Conducting the Research Method (Source: Author, 2024).**

## Theoretical Findings

### Study Area

Cafés in historical contexts are among the spaces that can be examined to create a connection between historical thought, architecture, social, cultural and philosophical fields and the people of the city. These spaces are part of human life, an environment with which one can explore the geometry of social life. These cafés are one of the most important examples of the concept of the third place and are also a social place. In this regard, one of the most famous cafés in Yazd is the Nardoon Café. It has traditional and pleasant atmosphere and a view of the old and traditional context of Yazd, which provides people with a beautiful place to spend a pleasant evening in. This café is located in the Fahadan neighborhood, Ashtiknan alley. The name of the alley inspires a feeling of goodness and peace in a person. This café-restaurant is located near the Yazd Jame Mosque, Khan Bazaar, Charsouq Shahi Bazaar, Clock Tower, Kushk no water mill, Yazd Art House and Fazeli Art, Amir Chakhmaq square, and Eskandar Bazaar. Due to its proximity to the above places, it encourages visitors to use the roof cafés to experience a beautiful view of valuable historical part have relationship and interaction.

Table 2. Location and introduction of Nardoon Café Yazd (Source: Author, 2024).

Registration Number	Time span	Geographical position	Former use and function	Current use and function	Area	Aerial Map	Image
7759	Qajar	Masjed Jameh Street	Residential (Hasiri House)	Restaurant (Without Lodging Facilities)	Approximately 700 square meters		

In this study, the researcher uses questionnaires, field research, and interviews with experts and specialists to examine Café Nardoon. The aim is to determine whether this café has successfully functioned as a third place in Interaction of behavioral and physical factors and whether individuals' memories have played a role in shaping its identity.

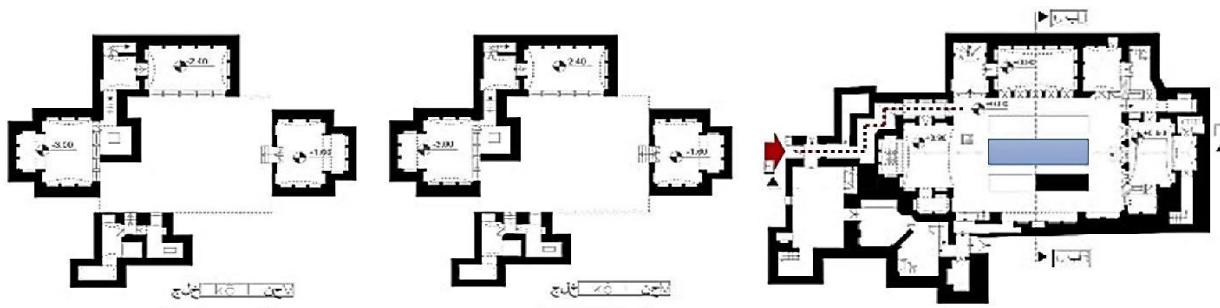
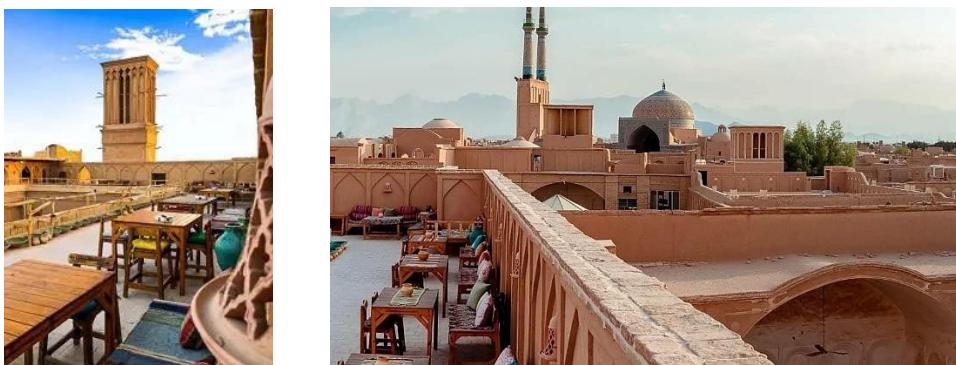


Figure 6. Location and overview of the Fahadan Hotel Boom Lounge in the Fahadan neighborhood of Yazd (Source: Google Maps, 2024; Author).

It is necessary to explain that in this study, in accordance with the purpose and conditions of the space under study in the current period of Iran, the use of the word café was considered. According to the researcher's observations and conversations with the owners and users of this issue, there are differences between the word "café" which is using in this article and general cafés. In this article the café is different and special place but the general cafés are more the place of family gathering. These two places are completely different in the way of food serving and the place designing. The word "café" is used in this study because this word and the study area are more closely related to the current definitions and the concepts.



**Figure 7. The Roof and Location of Nardoон Café in Relation to the Surrounding Environment**  
(Source: [www.gotoyazd.ir](http://www.gotoyazd.ir)).

## Findings and Discussion

In the present study, the proposed indicators were weighted and the research options were ranked using the Cronbach's alpha technique. The main goal is to determine the level of desirability and ideality of each option. The results of the calculation of each step of the calculation technique are mentioned below.

### *Calculation of Reliability and Validity of the Questionnaire*

At this stage, 40 general and specialized questions were analyzed within 24 criteria across three dimensions: physical, behavioral, and functional aspects of the Nardoон Café space. The weighting and determination of the desirability level of these criteria were based on the average opinions and perspectives of the study population. In this research, weighting was examined using a five-point scale, and all research criteria were selected as positive indicators.

**Table 3. Results of the Kolmogorov-Smirnov test (Specialized Expert Questionnaire) (Source: Author, 2024).**

	<b>Physical A</b>	<b>Behavioral B</b>	<b>Functional C</b>	<b>Individual D</b>	<b>Social E</b>	<b>Cultural F</b>
Questionnaire factors	A1 Form and geometry of building A2 Accessibility A3 The essence and core of a place	and of B1 Sustainable building B2 Activity B3 Communication	C1 Vibrancy C2 Activity C3 Relationships C4 Communication	D1 Attachment D2 adaptability D3 Meeting friend D4 Making memories D5 Security	E1 interaction E2 Making E3 Observing E4 Group activity E5 Attachment	F1 Mindset F2 People's belief F3 Cultural sign F4 Value F5 Approved behavior
Kolmogorov-Smirnov value	1.968 1.854 2.032	1.646 1.633 2.438	2.164 1.573 1.845	1.652 2.036 1.854 1.612 2.676	1.598 1.334 2.393 2.537 1.974	2.476 1.439 1.299 2.318 1.103
Significance level Sig	0.001 0.002 0.001	0.009 0.010 0.000	0.000 0.014 0.002	0.009 0.001 0.002 0.011 0.000	0.012 0.057 0.000 0.000 0.001	0.000 0.032 0.068 0.000 0.175

**Table 4. Results of the Kolmogorov-Smirnov Test (General User Questionnaire) (Source: Author, 2024).**

<b>Questionnaire factors</b>	<b>Kolmogorov-Smirnov Z value</b>	<b>Significance level Sig</b>
G1 Presence in a historical site	1.465	0.027
G2 Spatial or behavioral positioning	1.688	0.007
G3 Space management and furniture type	1.700	0.006
G4 Furniture Size, shape, and volume in space	1.787	0.003
G5 Lighting design	1.878	0.002
G6 Color	1.691	0.007
G7 Hosting special events	1.942	0.001
G8 The presence of beautiful elements	1.779	0.004
G9 Flexibility of furniture	1.113	0.168
G10 Creating a sense of belonging to Place	1.615	0.011
G11 Cozy place	1.417	0.036
G12 Making friend in a place	1.398	0.040
G13 Preserving culture in a place	2.036	0.001
G14 Restoring the spirit of life and sense of belonging	1.632	0.010
G15 Mastery over individual and behavioral norms	1.310	0.065
G16 Frequency of presence in a place	1.190	0.117

The results of the Kolmogorov-Smirnov test for both questionnaires indicate that the micro criteria are significant with a 95% confidence level. In other micro criteria, a Sig value of  $\leq 0.05$  confirms the existence of a significant relationship. Overall, the results of the Kolmogorov-

Smirnov test table for both the general and specialized questionnaires suggest that the data distribution is non-normal and that the questionnaire is non-parametric. Therefore, the researcher can use non-parametric tests such as Friedman correlation coefficient, Chi-square, McNemar, Kendall, Kruskal-Wallis, and other similar tests. For questionnaires using the Likert scale and ordinal measurement, the most suitable method is non-parametric testing. Accordingly, given the use of the Likert scale in this study, the researcher applies the Delphi method and analyzes the data using Kendall's W correlation coefficient and Friedman's Chi-square test.

### **Verification of the First Hypothesis of the Research**

First step: The results of the (Sig) P-value in both the specialized and general questionnaires indicate a significant relationship between the variables assessed in the questionnaire.

**Table 5. Results of the P-value (Sig.) in Both Specialized and General Questionnaires (Source: Author, 2024).**

Questionnaire test	Kendall's w	Friedman Chi Square	Sig
Specialized	0.964	665.118	0.000
General	0.858	386.05	0.000

In the second step: in each questionnaire, the value of ( $\text{Sig} \leq 0.05$ ) confirms the significant relationship between the micro-criteria of the categories of physical, behavioral, and functional criteria. Therefore, the null hypothesis ( $H_0$ ) is confirmed.

- $H_0$ : There is a significant relationship between the degree of Interaction of behavioral and physical factors and the quality of conversion to the third place.
- $H_1$ : There is no significant relationship between the degree of Interaction of behavioral and physical factors and the quality of conversion to the third place.

As shown in the results obtained from the Kendall's Tau correlation coefficient, the value of Sig is less than 0.05, so the null hypothesis ( $H_0$ ) is confirmed with 95% confidence. The results obtained from the correlation coefficient in the Kendall's Tau and Friedman tests confirm the existence of a significant relationship with very strong predictive power.

**Table 6. Measuring the Strength of the Relationship (Source: Author, 2024).**

Measurement of the relationship level	
Zero	No connection
Zero to 0.3	Weak connection
0.3 to 0.6	Medium
0.6 to one	Strong
One	Full connection

Step three: Based on the table above, the correlation coefficient in the Kendall's W test indicates a strong and nearly perfect relationship, while in the Friedman test, a completely strong

and highly significant relationship is confirmed. It is worth noting that a correlation coefficient of 0.7 or higher is generally considered a strong and perfect relationship.

**Table 7. Levels of specialized and general correlation coefficients in Kendall's W and Friedman tests**  
(Source: Author, 2024).

Test	Specialized correlation coefficient value	The general correlation coefficient value
Kendall's w	0.964	0.858
Friedman Chi Square	665.118	386.05

Step Four: the results of the prioritization of criteria in the final stage show that respondents preferred physical factors combined with behavioral and functional factors when selecting a third place for their leisure time. This suggests that the overlap of these criteria in the adaptive reuse of historical houses can meet the users' needs and be considered as a third place for leisure purposes.

#### Verification of second research hypothesis

The results from Table 7 show that the Sig value, Kendall's W correlation coefficient, and Friedman Chi-Square confirm the existence of a significant relationship and the acceptance of the null hypothesis ( $H_0$ ) with a 95% probability for this hypothesis.

$H_1$ : There is a significant relationship between the semiotic culture language through memory and historical identity and the increase in interaction between the physical and behavioral aspects of the historical house's users.

$H_0$ : There is no significant relationship between the semiotic culture language through memory and historical identity and the increase in interaction between the physical and behavioral aspects of the historical house's users.

On the other hand, the strength of this significant relationship is confirmed at a strong level in the Kendall's W test and at a very strong level in the Friedman Chi-Square test. Furthermore, the prioritization of criteria based on the ranking of expert respondents and citizens clearly illustrates the impact of the physical characteristics of the Nardoon café's building on the behavioral and functional aspects of its users. Among these, experts prioritized behavioral and functional criteria first, followed by physical criteria, whereas other citizens emphasized the impact of the physical characteristics of the Nardoon café alongside behavioral and functional factors.

This difference in perspectives indicates that expert users, upon entering the Nardoon café, initially focus on the essence and identity of the place, its meaning, culture, and the preservation of its inherent values. In contrast, regular users, upon entry, are more influenced by physical factors such as color, lighting, and aesthetic elements like gardens and fountains. These factors, combined with a sense of belonging, cultural preservation, and environmental vibrancy, capture their attention.

## Conclusion

In the view of Roger Barker's behavioral settlement theory, behavioral patterns are more stable than physical patterns and change very slowly. This is why the study of stable patterns of environmental behaviors provides a good foundation for analyzing, evaluating, and predicting the functioning of the environment. By rereading Barker's synomorphy theory and through content analysis, this research has developed a theoretical model consisting of four fundamental structures "body, time, population, and behavior" and their three sub-components including "components, relationships, and rules controlling relationships" with an ecological approach in line with the reading and analysis of collective settlements. In the second step, based on the theoretical model developed above, with a combined and forward-looking approach of two methods: content-based in content analysis and evidence-based in sample evaluation and documentation, the research directly observed and recorded ecological characteristics in the café under study (Nardoon) as a lively collective camp. Finally, the research was completed using the field sampling method with reasoning and inference of six structural links influenced by the Synomorphy theory of "physical, behavioral, functional, individual, social, and cultural" on the occurrence of various adaptive and maladaptive behaviors in the environment by observing and distributing questionnaires in the Delphi method.

The results of systematic observations of the environment-behavior in the Nardoon Café show that a variety of synomorphic links can be identified to establish behaviors consistent with the functional plan. In addition, there are meaningful relationships between physical, behavioral, and functional criteria in the change of use of historical monuments. Also, prioritizing the above-mentioned criteria based on the level of rank is evidence of the tendency of Yazd citizens, including experts and the public, to accept changed historical monuments with the aim of a third place in order to meet the needs of citizens, which, considering the value of such buildings in terms of identity, the existence of hidden values in the body of the building, the essence and substance of the place, creating a sense of belonging, meaning, and attachment, and preserving material culture, along with the physical factors of the Nardoon Café, provides the basis for a kind of memory-making in a safe environment that encourages interaction and collective behavior and encourages citizens to continuously attend this place. This is not possible except with the overlap of synomorphic factors (physical, behavioral, and functional) together in order to meet the needs of users in creating a third place.

Finally, it must be acknowledged that serious rethinking of collective settlements in order to resolve physical-behavioral problems in valuable historical houses that have been converted through the study of environment-behavior synomorphism is possible and necessary. Therefore, developing more precise observational formats to develop physical-behavioral relationships and adding valuable observation-based results alongside behavioral components to the converted

patterns to bring the indigenous and traditional designs of yesterday closer to the lived experience of today's users is considered a requirement for research in the fields of preservation, restoration, architecture, and urban design.

### **Author Contributions**

All authors contributed equally to the conceptualization of the article and writing of the original and subsequent drafts.

### **Data Availability Statement**

Data available on request from the authors.

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### **Ethical considerations**

The study was approved by the Ethics Committee of the Islamic Azad University, Ke.C. The authors avoided data fabrication, falsification, plagiarism, and misconduct.

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### **Conflict of interest**

The authors declare no conflict of interest.

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