

CORRELATIONAL STUDY ON COURTYARD AND ITS EMOTIONAL EXPERIENCE AMONG THE RESIDENTS OF THIRUVARUR – INDIA

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Abstract

The purpose of the study is to investigate how courtyard design and presence relate to one another, and their impact on resident's well-being, stress levels, and social interactions. As part of the research study sample of various houses representing the rich diversity of Tamilnadu vernacular architecture was selected. Qualitative and quantitative research methods were employed, including interviews, surveys, and on-site observations. The descriptive analysis focused on identifying common characteristics of courtyards in these houses and their corresponding psychological effects on the residents. Highlighting the significant role of courtyards in shaping residents' psychological behaviour. Courtyards with adequate greenery, open spaces, and natural elements enhanced resident's well-being and reduced stress levels. Furthermore, the presence of well-designed and functional courtyards promoted social interactions among residents, fostering a sense of community and belonging. These findings advance our comprehension of how architectural elements, such as courtyards, and resident's psychological well-being interact. The findings advocate for integrating well-planned and aesthetically pleasing housing spaces into Tamilnadu vernacular architecture houses to positively influence resident's psychological behaviour and create more sustainable and harmonious living environments.

Keywords Dwelling Spaces, Vernacular architecture, Courtyard, psychodynamics, Descriptive analysis.

1. Introduction

Over an intensive study, it was proven that the strategy of housing space is highly psychological-centric. With the flow of research, various psychological metrics are analyzed. The statistical analysis gives strong judgment in proving the psychological dynamic of people who belong to the study area. However, as part of the overall study, the effect of the courtyard was analyzed here. Thiruvvarur was considered for the study as this place contains people from various communities the research data will be more diversified. A descriptive type of study was selected to validate the assumptions and prove the hypothesis. This establishes the connection between warmth and the courtyard to find out the impact of physical setting in inducing the experience of positive effects like heavenly and pleasant affect among the residents. This analysis and quantified data can be used as a reference by upcoming architects to consider resident's psychological requirements to make the home much more adaptable. Knowing that incorporating these vernacular spaces in modern housing is tedious, it was suggested to optimize the housing design so that these housing spaces can be included.

2. Background Research

2.1 Vernacular architecture

The aim of Nil Pasaoglulari Sahin et al [1] was to ascertain the health and well-being of residents in a residential setting by examining their quality of life a person's psychological well-being, adjustment, thoughts, feelings, self-control, pursuit of personal values, spiritual beliefs, and compatibility with their surroundings (home, school, workplace, community, or neighbourhood) can also be evaluated in order to assess their degree of happiness and freedom. By examining the physical attributes of the public exterior and assessing the area's general attractiveness, one can ascertain the degree of quality of life. The degree of quality of life in the Selimiye Quarter can be ascertained by analysing the findings of the assessment that was conducted there in terms of the seven indicators: standard of living, environmental health and access to goods, happiness/freedom, functional attributes, social attributes, physical attributes, and economic condition. The way of still up in the air is exceptionally low since they have extremely low pay, poor natural cleanliness nearby, and a

deficient number of well-being administrations which causes the personal satisfaction in the space adversely regarding ecological well-being and financial circumstances.

Kalaivani et al [2] with regard to Tamilnadu vernacular architecture, it is expected to examine these space plan, capability, and social importance. The review might look into the structure, the layout of the space, and the role that development spaces play in working with development and connecting different parts of the house. It could likewise investigate the social and social parts of these spots, giving an understanding of how individuals used to live previously and the social qualities that are reflected in Tamilnadu engineering.

J H Alanbaki [3], in their assessment article, took apart the difference in the temporary areas of Iraqi homes and talked about how local households' spaces changed throughout time in terms of capability. Change in the number of progress spaces, which we note in the super numerous years and the sixth 10 years of the twentieth century the number of transitory spaces is high while lessening in the eighth 10 years, but in a Deficient way, the range of its spaces has been diminished in the first and Second 10 years of the 21st 100 years, impacting the course remaining about a public more. The foreordained number of brief spaces in most local house in the twenty-first century has provoked issues, for instance, nonappearance of safety and nonattendance of safety and shade from public to private this makes issues at the level of family members and at the level of society generally speaking.

2.2 Architectural Impact on human psychology

Herzog et al [4] explore the mental cycles engaged with perceiving and assessing structural plans, drawing on mental speculations. The survey investigates the effect of factors like shared characteristics, discernment, complexity, and visual tendency on individuals' tendency for vernacular plans. The findings suggest that mental variables play a significant role in shaping vernacular design preferences, highlighting the significance of understanding hidden building preferences based on mental cycles. The exploration adds to a more profound understanding of the mental elements that impact individuals' fascination with vernacular design styles.

An underlying overview of the issues by Vellinga et al [5] gives a broad layout of the association between vernacular plan and mental prosperity. The creators explore what emotional well-being is meant for by vernacular design's spatial association, materiality, and social setting. When designing therapeutic environments, they talk about the potential benefits that vernacular architecture can provide, such as a sense of place, identity, and social connection. This overview fills in as an early phase for extra investigation on the impact of vernacular plans on close-to-home prosperity and features its significance in propelling flourishing. Vernacular Architecture forms the backbone of the social and cultural setup of any region. Amos Rapport et al [6] state that, understanding the culture of the neighbourhood is crucial while building a home because it is one of the primary determinants of the house. It demonstrates how a community can organise spaces, provide a solid architectural foundation, and improve lives through sociocultural manifestations. Therefore, culture and socioeconomics are the most important aspects of any community. Vernacular, self-built houses to convey their socio-cultural identity. The research delves into the role of architecture and interior decoration in expressing identity, communication, and social hierarchy. It considers aspects like housing construction, resident's values attached to different home elements, and how they evaluate peers' dwellings using specific criteria. Christien Klaufus et al [7] notably, this anthropological research gains significance in a country where the government prioritizes alleviating housing shortages. It offers insights for improved housing policies that account for dwelling quality and values.

2.3 Significance of courtyard

Using an earlier source on the psychology of architecture, the author discusses how architecture affects humans with three architectural examples. A fitness center in Denmark, a health club in Sweden, and a public space in Berlin. The psychological effects of various architectural styles are conceptualized on the basis of a health-focused existential approach. Following Kaya's et al [8] ideas,

as a symptom and harmful outcome of functional design that puts aesthetics above meaning, Berlin depicted emotional solitude. The kaya claims that coherence is the main way that Alnarp Garden is expressed. Alnarp's healing garden is used as a gathering spot for research and instruction at Malmö University's faculty of landscape planning, horticulture, and agriculture. The hypothesis that gender differences exist in regard to desires, obstacles, and expectations regarding indoor and outdoor architectural facilities serves as the foundation for the investigation. It makes it abundantly clear that people's feelings varied from location to location. This is entirely based on a location's architecture, including its psychological issues. Shikha Patidat [9] explains that A township called BHEL, a planned urban settlement in Bhopal, was created specifically for the workers and has amenities like marketplaces, schools, colleges, and a sports complex. Traditional communities and vernacular patterns have no place in urban development. The author provides a comprehensive explanation of the layout of a traditional potter's home in Damnod district Dhar, Madhya Pradesh, which contains a living and working area, a donkey shade area, a selling area, a bedroom area, and a courtyard area. Policymakers, planners, and architects can use the research to gain insight into old crafts and trades, comprehend vernacular traditions, and integrate them into modern planning.

2.4 The courtyard's effect on human psychology

Courtyards have a significant impact on human emotions, providing a space for relaxation, socialization, and indoor activities. Access to nature and fresh air can reduce stress and improve mood, while indoor activities promote physical health and well-being. Well-designed courtyards can also increase the value and enjoyment of a home. Nuno Lacerda et al [10] lopes detailed the situations of emotional spaces that can occur in our lifestyle. Architectural space importance with proper evidence has been observed. The author strongly judges the uncertainty of construction involves in the sense of imbalances. The cause of the emotion is just a surprise, it happens when the mismatch of timing and our reactions to situations we come across. The space reveals that everything has to be in a visual experience to resolve theatrical situations. Townsend et al [11] explain that the courtyard serves as a personal haven for relaxation, reflection, and escape from daily stressors. The presence of natural elements and greenery promotes tranquillity, reduces anxiety, and improves mental well-being. Ford states that the courtyard also encourages physical activity, social interactions, and a sense of community, fostering a deeper connection with nature and a greater appreciation for the architectural and cultural heritage, ultimately enhancing the overall human experience.

Xavier [12] explains that courtyard can provide the impacts that can be communicated as immediate or roundabout wellbeing impact of the personal satisfaction of inhabitants. Lodging is known as the combination of Abiding, the home, the quick climate, and the local area. This shows lodging is a significant piece of human existence. Lodging availability and convenience, lodging conditions, actual activity, and stoutness, energy utilization, warming, and abundance winter passing, lodging and emotional wellness, home security and mishaps, commotion openness and rest aggravation, indoor air quality, form development, impression of wellbeing and feeling of dread toward wrongdoing, lodging and private climate, vermin and pervasions. Parisa Akbari [13] Knowledge and awareness are used to build the built environment in a variety of ways before relying on individual sentiments and attitudes. Acquainting designers with information that either directly or indirectly benefits design experts gives them the chance to produce more consistent plans.

2.5 Emotional connection with the courtyard

To state that human emotions are highly dependent on spaces referred to Hamed Moztarzadeh et al [14] manuscript named impact of green spaces on resident's attachment to their homes. The author studies nature's role in residential attachment via environmental psychology. Aims to link nature and attachment for better well-being and community. The qualitative method extracts place attachment criteria from psychology and nature interactions. Findings show space affects emotions, environment, and social bonds. Nature's importance in fostering residential attachment is highlighted. Lazarus et al [15] environmental factors play a crucial role in stress research and hypotheses must focus on them.

Natural circumstances directly trigger stress responses, while the environment, past and present, provides resources for coping. Hence, it's fitting for a study on human behaviour and the environment to include a section on environmental stress. The aim is to offer a perspective that underscores stress as a part of the intricate interplay between individuals and their surroundings.

Ali et al [16] mentions in their study that a variety of definitions, perspectives, and preferences surrounding vernacular architecture has led to diverse approaches in recent years. Understanding these differences aids in grasping current conditions and future research directions. Using a qualitative and descriptive methodology, this study aimed to categorise prevalent perspectives on vernacular architecture. The findings revealed five viewpoints: anthropological investigation, physical-material interpretation, biological consideration kinds and evolution, aesthetic focus, and cultural-societal comprehension. These signify changes in research from documentation to interpretation, subjectivity to objectivity, and archaic to mainstream.

2.6 Study area

Shanthi Priya et al [17] explain that Thiruvavarur is still a great place to conduct research in vernacular engineering because it has a diverse and rich social history that is deeply entwined with its compositional texture known for its standard craftsmanship and building quality, Thiruvavarur grandstands a load of vernacular compositional designs, reflecting the district's obvious, social, and normal settings. The town's irrefutable significance joined with it's a lot of safeguarded ordinary designs and metropolitan surface, gives an extraordinary entryway for researchers to jump into the intricacies of the vernacular plan. This study was inspired by a related study on traditional design in Nagappattinam's coastal district, which is renowned for its environmental responsiveness, conducted by Shantipriya. In order to determine the role of the environment in the construction of the structures, this research examines traditional design in the waterfront region of Nagappattinam, India. Additionally, the plan methods in this district's typical design are contrasted with mahoney tables that offer plan recommendations on the building configuration.

Komagal Anupama et al [18] clearly stated that Thiruvavarur vibrant community, with its deeply rooted cultural practices and architectural traditions, provides an immersive environment for studying the vernacular built environment and comprehending the ways in which architecture shapes and is shaped by local identities and practices. Analysts can look at the vernacular engineering of Thiruvavarur, archive its particular highlights, analyze development techniques, and add to the conservation and manageable improvement of this precious structural legacy by leading examination there. The authors also point out that Thiruvavarur is a great place for experts to participate in comprehensive studies on vernacular design because of the abundance of configuration jewels and the encouraging evaluation atmosphere.

2.7 Descriptive analysis

LaMarre et al [19] entitled that the rise of qualitative research in Psychology has sparked interest but has also led to formulaic approaches due to rigid checklists. This advocates for more innovative qualitative research and introduces a collection of articles exemplifying such innovation. Categorized into addressing evolving challenges, ethical considerations, dynamic data collection, and analytical rethinking, the articles aim to inspire readers to embrace new practices, break from convention, and foster creativity in their research. Loeb et al [20] strongly state that in psychology research, descriptive analysis is frequently regarded as one of the most effective methods. By methodically looking at and summing up information, it permits scientists to acquire a far-reaching comprehension of mental peculiarities and uncover significant experiences. The exhaustive investigation of examples, patterns, and connections through unmistakable examination empowers specialists to lay out a strong starting point for additional examination and speculation improvement. Additionally, the author confirms descriptive analysis provides a quantitative description of variables, which contributes to evidence-based practice and assists in the creation of psychological theories. The general consensus in the field recognizes the significance of descriptive analysis in advancing our

understanding of psychology, despite the fact that specific research papers can provide more in-depth data.

3. Methodology

3.1 Significance of courtyards

In the Indian state of Tamilnadu, the design of vernacular homes heavily incorporates courtyards. They are an essential component of the region's architectural and cultural heritage. The following are some of the primary purposes that courtyards serve in Tamilnadu vernacular houses.

3.1.1 Security and privacy

In Tamilnadu vernacular houses, courtyards are frequently enclosed within the building's walls, providing residents with a private and secure space. They go about as a support zone between the inside of the house and the rest of the world, permitting tenants to participate in different exercises without being straightforwardly presented to the public look.

3.1.2 Family connection and social interaction

Social gatherings and family get-togethers are centered in courtyards. They give a mutual space where relatives can meet up, participate in discussions, and offer dinners. Courtyards frequently feature seating arrangements as well as adornments such as swings or hammocks, resulting in a setting that is inviting and comfortable for socializing.

3.1.3 Cultural relevance

In Tamilnadu, courtyards have religious and cultural significance. They are frequently enhanced with conventional components, like kolam (enriching floor designs), decorative layouts, and strict images. Patios are likewise utilized for performing customs, festivities, and strict services, associating the residents with their social and profound practices.

3.1.4 Visual appeal and aesthetics

Courtyards enhance the vernacular houses of Tamilnadu overall beauty. They frequently include multifaceted building subtleties, like cut points of support, fancy screens, and water highlights like wellsprings or lakes. These components not just improve the visual allure of the patio yet, in addition, add to the building legacy of the area.

3.1.5 Managing the climate

Since the climate in Tamilnadu is hot and tropical, courtyards are made to let natural air flow through and cool things down. In the middle of the house, courtyards serve as open spaces that allow air to circulate and create a microclimate that helps lower the temperature inside the building. The courtyard's open layout also lets natural light in, making the people who live there more comfortable.

In addition to serving as places for social interaction, cultural practices, and aesthetic delight, they also provide climate control, privacy, and security. Because their architecture reflects the local climate, way of life, and cultural values, these courtyards are an essential component of Tamilnadu's architectural fabric. The ways in which the design and construction of a building can support the psychological and emotional well-being of its residents could be investigated using a conceptual model of vernacular architecture based on psychodynamics.

3.2 Various types of courtyards

The vernacular houses of Tamilnadu, a state in the southern part of India, have their own distinct architectural style that reflects the culture, climate, and way of life there. In Tamilnadu vernacular houses, and courtyards are designed for a variety of uses and frequently feature distinctive characteristics. In this section, we will investigate various kinds of courtyards that are typical of vernacular houses in Tamilnadu.

3.2.1 Courtyard garden

Kitchen garden occupies a large portion of the courtyard in many Tamilnadu vernacular homes. A variety of plants and herbs that are used in local cuisine can be found in this kind of courtyard. The kitchen garden lets homeowners grow vegetables and fruits for their daily cooking needs and provides

a sustainable source of fresh produce. It likewise advances independence and an association with nature. These gardens are meticulously maintained and feature ornamental shrubs, flowering plants, and lush greenery as shown in fig 1. As the house's visual focal point and a place to unwind and reflect, the courtyard garden creates a tranquil and inviting atmosphere.

3.2.2 Patio paved

Some Tamilnadu vernacular houses have a cleared porch on the lawn. These porches are commonly made of stone or block and give a strong surface for open-air seating, eating, and get-togethers. They are built to withstand the tropical climate of the area and offer a cozy and useful place for friends and family to get together.

3.2.3 Open play area

In Tamilnadu vernacular homes, courtyards frequently feature open play areas for children. This space is left revealed or may have a little green fix where children can participate in different outside exercises. It permits kids to play, go around, and partake in the natural air, adding to their actual turn of events and general prosperity as shown in fig 2.

3.2.4 Utility area

A utility area may be designated in the courtyard of vernacular houses in Tamilnadu. This space is utilized for common sense undertakings like washing garments, and utensils or putting away instruments and hardware. In order to simplify daily tasks and maintain cleanliness, it frequently includes a washbasin, washing stones, and storage units.

3.2.5 Storage space

Storage structures such as small sheds or lean-to structures can be found in some courtyards of Tamilnadu vernacular homes. These regions act as capacity units for planting devices, rural gear, or family things that are not every now and again utilized. They assist with keeping the super living regions coordinated and mess-free.

3.2.6 Livestock shelter

Courtyards often contain shelters or enclosures for livestock like cows, goats, or chickens in rural Tamilnadu. The animal's safety and comfort are ensured by these structures, which also contribute to the agricultural or farming activities of the household.

In Tamilnadu vernacular homes, every type of courtyard serves a specific purpose, whether it's for food production, recreation, socializing, or practical needs. These courtyards show how vernacular houses incorporate nature, culture, and practicality into their design. They are a reflection of the distinctive way of life and values of the people who live in Tamilnadu.



Figure 1 Courtyard garden (Source – Author)



Figure 2 Open play areas for children (Source – Author)

3.3 Regional Analysis: Thiruvavarur

In order to demonstrate the significance of the courtyard as a crucial housing space in Tamilnadu vernacular housing, Thiruvavarur in Tamilnadu, India, stands out as the ideal location. Thiruvavarur is known for its extensive cultural heritage and traditional architectural practices. It is home to a lot of vernacular houses that show how the courtyard is integral to the overall design of the house. The unique vernacular housing styles of the town, such as courtyard houses and traditional layouts, provide a unique opportunity to investigate the courtyard's social, emotional, and functional aspects. Thiruvavarur provides a rich setting for theoretical study methodologies like ethnographic research, architectural analysis, and cultural investigations due to its diverse community and deeply ingrained cultural traditions. This study aims to demonstrate the significance of the courtyard in Tamilnadu vernacular housing by focusing on Thiruvavarur and highlighting its role in fostering resident's well-being, cultural practices, and sense of place.

3.4 Courtyard's impact on human emotions

3.4.1 The Therapeutic Effects of Nature

The courtyard provides residents with a therapeutic setting and a direct connection to nature as shown in fig 3. The presence of trees, plants, and open space makes a tranquil and quiet climate, which can assist with diminishing pressure, tension, and weakness. Residents can find solace in the splendour of nature and escape the bustle of daily life by spending time in the courtyard.

Residents can retreat to the courtyard to unwind and rebalance their emotions after spending time inside. The mind and senses are energized and stimulated by being outside in the fresh air and surrounded by greenery. Gardening, yoga, or simply sitting back and taking in the natural surroundings are some of the activities that residents can participate in, which can help them feel rejuvenated and refreshed emotionally. Lawns in Tamilnadu vernacular houses frequently offer a feeling of security and isolation. The courtyard is enclosed, providing residents with privacy away from the public eye. This protection advances sensations of solace, security, and unwinding, empowering residents to reflect, introspect, and take part in exercises without outside interruptions.

The patio likewise assumes a part in cultivating social associations among residents. It can be used for parties, celebrations, and other leisure activities. The courtyard provides an intimate and inviting setting for social interactions, strengthening the family's emotional bonds. This can be accomplished by enjoying a meal together, playing games, or having conversations. The courtyards of vernacular houses in Tamilnadu often inspire pride in their owners. Residents are able to express their individuality and creativity because they are able to personalize and maintain the space. A positive emotional experience is created when one takes care of the plants, tends to the garden, and creates a welcoming atmosphere. This gives one a sense of ownership and accomplishment as shown in fig 3.

3.4.3 Heritage and Identity in Culture

The plan and components of the lawn in vernacular houses frequently mirror the neighbourhood culture and legacy. A sense of pride, belonging, and emotional attachment can arise as a result of this connection to cultural identity and tradition as shown in fig 5. A stronger emotional connection to

one's roots is facilitated by courtyard cultural practices, religious symbols, or traditional décor. In conclusion, the residents of a vernacular house in Tamilnadu are profoundly affected by the courtyard. It gives a restorative climate, profound reward, security, social holding potential open doors, a feeling of pride, and social character.

A nicely planned and very much kept up with terrace can significantly improve the close-to-home insight and by and large personal satisfaction for those remaining in Tamilnadu vernacular houses as shown in fig 4.

3.5 Study methodology

To show the significance of the courtyard as a huge housing space in Tamilnadu vernacular architecture, a few hypothetical review philosophies can be utilized. These methods may provide insights into the practical, and social aspects of the lawn. The following are some types of studies that can be used as shown in table -1.



Figure 3 Connection to nature (Source – Author)



Figure 4 Creates a welcoming atmosphere (Source – Author)

3.5.1 Ethnographic examinations

Engage in ethnographic research by observing and interviewing people who live in vernacular houses in Tamilnadu. Qualitative information regarding resident's perceptions, experiences, and emotional connections with the courtyard should be gathered through participant observation and in-depth interviews. Investigate their exercises, customs, and the effect the terrace has on their regular routines and prosperity.

3.5.2 Comparative analyses

To highlight the distinctive characteristics and significance of the courtyard, conduct a comparative analysis between contemporary and vernacular homes in Tamilnadu. The courtyard in vernacular versus modern housing designs is associated with functionality, social interactions, emotional well-being, and a sense of place.

3.5.3 Quantitative and survey analysis

Plan and regulate studies to gather quantitative information on resident's insights, and inclinations, and use designs connected with the patio. Dissect the overview results to distinguish patterns, relationships,

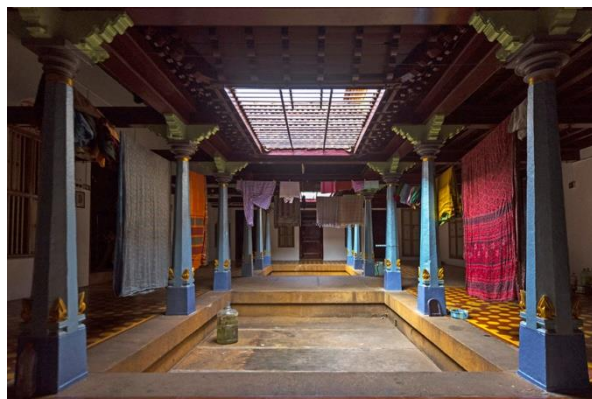


Figure 5 Heritage and Identity in Culture (Source – Author)

Table 1 Various emotions triggered by housing spaces

S.No	Emotions	
E- 1	Joyfulness	A light and happy feeling that lifts the mood regardless of the situation.
E- 2	Tranquility	A peaceful and composed state of mind unaffected by outside factors.
E- 3	Motivation	An inner drive that sparks interest and willingness to take initiative.
E- 4	comfort	The feeling of getting rid of certain unplanned consequences
E- 5	Hopefulness	A positive belief in oneself and in the ability to move ahead with confidence.
E- 6	Alertness	A condition of being mentally and physically ready to act.
E- 7	Eagerness	Strong interest and energy directed toward achieving or completing something.
E- 8	Security	The feeling of being protected and shielded from potential harm.

and factual importance in how the patio adds to resident's close-to-home prosperity, fulfilment, and personal satisfaction.

3.5.4 Contextual investigations

Direct itemized contextual investigations of explicit Tamilnadu vernacular houses that embody the meaning of the lawn. Investigate the structural plan, spatial setup, social practices, and resident's encounters in these particular cases. Case studies can shed light on the emotional and practical functions of courtyards in traditional homes.

Researchers can gather empirical evidence and insights to support the significance of the courtyard as a significant housing space in Tamilnadu vernacular housing by employing these theoretical study methodologies. Validating the courtyard's role in enhancing resident's well-being and quality of life, these studies may contribute to a deeper comprehension of its cultural, social, and emotional dimensions.

4. Data and Results

A hypothetical report focused on demonstrating the significance of the patio as a crucial lodging space in Tamilnadu vernacular lodging has chosen Thiruvavur, a lively town in Tamilnadu, India, as the ideal location. Thiruvavur offers a rich tapestry of cultural heritage thanks to its historical significance and traditional architecture that is deeply rooted in the region's vernacular housing

practices. The town's diverse collection of vernacular homes, which are distinguished by their distinctive design features and layout, provides an intriguing setting for examining the role that the courtyard plays in improving resident's emotional well-being and quality of life. The concentrate in Thiruvavur plans to reveal insight into the social, social, and practical elements of the lawn, building up its significance as a principal and loved part of Tamilnadu vernacular lodging by utilizing hypothetical review procedures like ethnographic exploration, design examination, and near examinations.

As per the table 3, In order to thoroughly examine the courtyard's relevance as a major living area in Tamilnadu vernacular dwelling, study techniques consider all genders, ages, and occupations. The review's inclusion of members from various backgrounds ensures a comprehensive understanding of the patio's function.

Table 2 Number of homes examined

No of the homes taken into account for the research	230
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As mentioned in above table 2 for the hypothetical review pointed toward demonstrating the meaning of the lawn as a significant lodging space in Tamilnadu vernacular lodging, a sum of 230 houses have been chosen for examination. A robust and representative sample is ensured by the inclusion of a significant number of houses, making it possible to examine the significance of the courtyard in Tamilnadu vernacular housing in depth.

To demonstrate the significance of the courtyard as an important housing space in Tamilnadu vernacular housing, the study employs a variety of theoretical study methods. Ethnographic research, architectural analysis, cultural contextualization, comparative research, and quantitative survey analysis are all examples of these approaches. The study aims to gather comprehensive data and insights into the functional, cultural, and emotional aspects of the courtyard using these various approaches. A comprehensive investigation into the significance of the courtyard in enhancing the social interactions, and this multidimensional method can be used to improve the general quality of life of people living in Tamilnadu vernacular housing.

Table 3 Occupational data considered for research

Occupation	Occupants count
Architect	55
Farmer	34
Homemaker	46
professor	72
Self-Employee	107
Student	86
Total	400

Ethnographic research was the primary method used to examine the significance of the courtyard as a crucial housing space in Tamilnadu vernacular housing. This method was used to completely immerse residents in the day-to-day lives of the residents, observe their actions, and conduct in-depth interviews in order to obtain rich qualitative data. To record courtyard-based activities like gardening, social gatherings, and cultural practices, researchers observed residents. We have investigated how the resident's emotional ties to the courtyard, their sense of place there, and their overall health were affected by the courtyard as per table 4.

Ethnographic research revealed the cultural, social, and emotional aspects of the courtyard, highlighting its significance as a crucial space for cultivating community, cultural identity, and personal well-being.

Table 4 Factors considered for ethnographic research

Environment
Emotions
Activities
Cultures
Experiences

The findings of these investigations shed light on the numerous aspects of the courtyard's significance in Tamilnadu vernacular housing as well as its contribution to improving the quality of life for resident's.

To investigate more about the significance of the courtyard as a significant housing space in Tamilnadu vernacular housing, comparative analyses were also carried out. As shown in the below figure 6, various courtyard characteristics compared various vernacular and architectural styles. The courtyard's design, utility, and cultural significance were compared and contrasted in various communities and regions. Through these comparative analyses, to identify regional variations in the utilization of the courtyard as well as common patterns, distinctive characteristics, and other aspects.

In the vernacular housing of Tamilnadu, the extensive cultural practices, traditions, and rituals associated with



Figure 6 Regional variations (Source – Author)

the courtyard were investigated. It considered the courtyard's role in preserving cultural heritage and community identity as they investigated its historical use and value. By research, a deeper comprehension of the courtyard's symbolic, social, and emotional meanings by immersing ourselves in the local context. In addition, investigated the ways in which the courtyard fosters social interactions, community cohesion, and group activities. Additionally, the impact that the courtyard had on the resident's cultural sense of place, belonging, and well-being was investigated.



Figure 7 Fosters community cohesion (Source – Author)

The courtyard's spatial organization, design principles, and architectural elements were examined through contextual investigations in the vernacular housing context. They investigated how the layout, vegetation, and functional spaces of the courtyard reflect cultural practices and day-to-day routines. The use of the courtyard, social dynamics, and cultural norms were clearly linked in this investigation. Contextual studies shed light on the significance of courtyards in the vernacular housing of Tamilnadu by fully comprehending the cultural and historical context. The results uncovered how critical the porch is to the resident's way of life, the bonds they structure with one another, and their overall prosperity. These investigation's findings laid the groundwork for comprehending the numerous aspects of the courtyard's significance as an essential housing space in Tamilnadu vernacular housing.



Figure 8 Courtyard's symbolic meaning (Source – Author)



Figure 9 Reflect cultural practices (Source – Author)

5. Conclusion

Positive psychodynamic emotions either emotional or physical have the capacity to strengthen relationships, inspire change, and foster trust between individuals. Here in this study the term human connections refer to the bonding of humans to the Physical world (Ecology and people) this can be either emotional or physical. However, all the associations among people happen within a selected environment. As per the figures 7,8,9,10 and 11, based on the research questionnaires with various people it is found that human connections have tremendous potential to reduce anxiety and sadness, assist us in better emotion regulation, foster a sense of self-worth, and increase empathy. It is also suggested that these effects may improve our immune systems. Perhaps, although modern buildings and technology appear to bring us closer together than ever, the blue-light-generating screens separate us from the outside world, from ourselves, and from other people human connections and healthy relationships are the top two factors influencing longevity.



Figure 10 Social dynamics (Source – Author)



Figure 11 Resident's cultural sense of place (Source – Author)

In this regard, Vernacular architecture planning helps us to plan housing with optimal privacy and desirable exposure to the natural environment. The most important way to affect the people who live in a house or any other location is to strike a balance between privacy and exposure. According to this study, there is a clear positive correlation between resident's behavior and the built environment. A mediating variable between the independent and dependent variables is then the physical environments. In particular, the physical environment's quality i.e., the courtyard (mutram) of the house is significant in inducing the home multiple emotional dimension for the setting like inspired/proud/interested effect among the resident's. As a result of the analysis, it is found that the positive effect is more prominent and significantly provoked by the physical setting: the courtyard of

the house. Thereby, it is evident that the courtyard mediates to elicit positive affect among the residents.

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