

## Prioritization of Private Space Factors based on Experts and Users Opinions in Universities' Learning Environments

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### Abstract

Non-attention to users' needs can insert physiological and mental harms to them, so environmental psychological knowledge can be used to help and promote quality of academic environments. According to the researches, there are main problems in academic spaces such as lack of private spaces and not having sense of belonging in students. Hence, this research tries to notice "personal space" conception which is one of mentioned meanings in environmental psychology and studies effective factors on "academic spaces". Therefore, based on theories review and under experts' ideas were extracted effective factors as: physical, mental, personal, and social factors in desirability of private spaces. The methodology of this paper consists of a quantitative and qualitative approach to hypothesis testing. For data collection written resources and half-structured interview by experts of this field were used, which was first analyzed by content analysis method and then classified. Then in order to clarifying importance of elements it was used the survey research. The survey method has been adopted to study the key objective of the research and to assess the level of correlation between variables. The sampling population of this study consisted mainly of experts and specialists groups. The sample size was determined through statistical methods. In order to assess the individual's point of view, In-depth interviews were done with experts and specialists in the field of study. Questionnaires have been distributed among targeted respondents. By using factor analysis, main factors were identified and prioritized. Comparison of the results from the experts and users questionnaire shows that about the important effective factors they have the same opinions but in priorities of physical and mental factors they have different ideas.

**Keywords:** Academic spaces architecture; Educational development; Personal space; Privacy; Learning environments.

### Introduction

Physical environment and its effects on people daily life have been analyzed by many experts in the recent years (Canter, 1997; Cooper, 1974). Nowadays, psychological cognition of human behaviors and human interaction with environment are considered as concerned issues by architects and urban planners. Designing based on psychological pattern makes it possible for designers to make flexible environments to be responsible to people varied intentions. According to Altman, this environment is impressible and make supervision on social interactions possible (Ansari, Jamshidi, Almasifar, 2010, p: 2). People responses to their needs in environment and for each need there are special environment that make the best way to satisfy human needs. Therefore, architects, designers, and researchers seek to recognize their and users' cognition differences in designed collections to minimize gap between designer and user and get to high quality environment

(Motalebi, 2001). In recent years, the main objective of creating higher education institutions in Iran, has been the development of quantity of academic sites. In these years, in order to meet the need of young people to learn, many institutions of higher education were created in inappropriate closed spaces and lacked open spaces (Sharghi, 2011). According to lack of profession and knowledge of environmental psychology in this way can be used by all of its mental, environmental, aesthetic aspects to promote environmental quality of academic spaces. Factors such as: proper definition of private space and also lack of sense of belonging to such spaces. Fainting effective presence of students at university, lack of inviting factors to group spaces and lack of spatial attraction resulted from private space and also improper view are some problems of academic spaces leading to inefficiency of such spaces.

Lack of private spaces (privacy), security, semi-private and private spaces, space for a proper, personal locker, student participation in the development and design of spaces and also factors such as congestion, making the commute, the rigidity of space, wall and materials to share space lead to insufficiency of various academic spaces and prevents from their accurate utilization and make academic space just for students' short-term needs. John Lang as environmental designer and planner emphasizes that lack of attention to users' needs can insert mental and physiological damages to human (Mohammadi, 2015 & Azemati, Pourbagher, Mohammadi, 2018). Designing Beautiful internal spaces and private spaces are the ways to develop the sense of belonging to the learning environment in young people that there are growing (Azemati & Pourbagher, 2017). Paying attention to the physical and psychological needs of users creates a space where people feel comfortable and minimizes the environmental factors that cause distraction (Azemati, Aminifar & Pourbagher, 2016). Hence, this research tries to notice "personal space" conception which is one of mentioned meanings in environmental psychology and studies effective factors on "academic spaces" (in faculty of architecture and urban planning).

### **Importance of Personal Space in Academic Spaces**

By human communities development and change in people life styles and settlement, architect and designers have mentioned to space quality and made environments more and designing role as a tool to shape life environment and responding to human needs have become more important and many studies have been conducted about interactive effect of made space on human mentality and behaviors. (Falahat, 2006, p: 2). Gifford in his research introduced one of the most important factors in environment as lack of social attention to environment by designers and attention just focused on body elements and personal indexes without regarding to meaning factors or clearing this difference and emphasized on necessity of revision and identification meaning difference among designers and users of urban environments. (Javan Foruzandeh, 2011, p: 32).

The factors affecting the vitality in learning environments (as high schools) were evaluated in four general factors including: 1) Structural factors, 2) Environmental factors, 3) Psychological factors and 4) Social factors (Azemati, Pourbagher, Ghaempanah, 2017). A person perception and identification from a place is one of initial conditions of making sense of belonging to a location. Therefore, environments with physical tangibility and difference are favorable for users with better perception and cognition. Sense of belonging is interpreted as a location interest by phenomenologist geographers and physical region is stated with difference from surroundings or physical separation in designing and architecture. Physical factors such as indicating privacies, ownership boundaries, and neighborhoods are the most important proper perception factors of human from environment that searches and analyzes environment by his qualifications and motivations.

Designing Beautiful internal spaces and private spaces are the ways to develop the sense of belonging to the learning environment in young people that there are growing (Pourbagher, 2014). Extra small and big private space (it means if we are obliged to communicate with another person with “improper” distance, it has reciprocal negative effect on people and communications. These states lead to increase unrestsense, stress, movement and anxiety, loosing personal space and privacy, negative perceptions in mutual conservation and sadness and in permanent reciprocal relationships, it may have reactions such as less attraction to surrounding, negative perceptions, adaptive behaviors such as distancing, eye contact with state changes, and body orientation. When a private space is broken into by a stranger, he may try to leave the space or at least has reactions to adapt him to conditions. Therefore, private space is sign of a person control on environment and a part of general mental health. Private space provides a space in the world for a person to protect and separate him as boundary from the outer world. Personal space includes necessary actions to protect and keep him from outer world and communicate with others by body gestures, clothes, and speech. Therefore, we use spatial relationships among private and general places; personal space is a layer of privacy beyond what is in general or even “less private” space. (Madanipour, 2003). The scientific –empirical studies show how seeking in private space and breaking into it can put stress on people and lead to their seclusion (Greenberg and Firestone, 1977). This group of studies investigated various people perception from private spaces and their sense while their private space is broken into by others. Previously, private spaces relatively exclusively was proposed by psychologists (Altman,1975:2) but it seems after a generation that private space conception has been standardized found in encyclopedia and social psychological text books (Moghaddam, 1998) and also environmental psychology (Bell et al., 1996). What Relph stated as location nature and unconscious is a type of locational experience and perception from inside and outside physical region conversation. In addition, other people such as Twigger Ross &Uzzell confirmed Relph theory in forming personal identity as one of locational identity indexes by emphasize on locational difference.

Private spaces are personal sectors of a social space. It is a sector which a person uses to control his exclusive usage. This space is a physical shelter for body and equal to mental and personal spaces (which are portable with human). This control type gives mental and social health to humans, because it provide getting human determination dominant on outer world and makes expressing anger and subduing it possible and provides a status for human in society. Closed space and control makes it possible for human to communicate with others by expressing hiss needs, identity, and power, yet let him free and not break into others lives. Private space makes balance between what should be hidden and what should be explicit as a balance for self-perception and communicate with others. (Madanipour, 2014)

Private era is like a boundary among people. It has dialectic nature. In other worlds, separation from others or contacting with them is dominant in a certain period. Therefore, this range should be flexible in artificial world. Extravagance in this perception leads to unfavorable phenomenon of overcrowd or isolation. Private space is accomplished according to distance and angle than others and spatial region is private era setting factor that is necessary for designers to know them. Effects of artificial environments are undeniable on human behaviors. Architects beliefs are reflected to reduce or remove such obstacles and optimize adaptable environments and a close relationship between architects and environment psychologists is necessary and inevitable to get this purpose. (Namazian, 2000, p: 74 p: 81)

Consequently, definition of public era and environment is dependent on revive private sector and can't be known as independent existence from private sector and boundary conception and confrontation with it play the main role for physical embodiment. Finally, the flexible boundary

role between public and private sectors is so important in non-collapsing a person identity and yet preventing from separating social interactions. On the other hand, universities are considered as physical locations having public spaces to interact with students that space type and elements of designing influence on people social interactions value and quality and can help to develop interactions, deep and qualitative communications, promoting social sense of belonging, and providing students' emotional needs. Attributing universities to high educations is a unique feature so university space has significant importance and is not an ordinary place. Therefore, according to problems mentioned about these private spaces, this study in theoretical field mentions person locating and necessity of privacy, defects in private spaces besides reviewing on psychological and architecture approaches and theories, privacy and personal spaces and their performance, then analyze theoretical points of view and extracts physical, mental, personal, and social effective factors in desirability of private space and investigate these factors to reinforce role of these spaces in increasing presence, effective participation, and students identity and sense of belonging.

In this study, we try to answer these questions:

- 1) What are effective factors on private space?
- 2) What are the most important physical factors in desirability of students' private spaces?
- 3) What are the most important effective mental factors in desirability of private spaces of students?

### **Methodology**

Step one: The method of this research is Delphi. For data collection were used written resources and open interview of experts in this field of study. Experts include psychologist and architects, and environmental psychology professors. Therefore, objective of content was formulated by interview context and the first round obtained data was classified by content analysis method.

Step two: The researchers made questionnaire that was used to determine importance of elements and distributed among experts. After collecting questionnaires, data was inserted to Spss software and statistical summary such as quartile, median, and rating were made. Responses statistical summary was tabulated and finally importance of elements was indicated and research results were obtained.

Step three: Since the questionnaire was in the pilot phase, structured questionnaire was prepared using extracted items of second period. At this stage, the final questionnaire was distributed students of architecture.

Step four: The results of this survey were analyzed by Spss software and t-test given the nature of research questions were used. Finally, summary statistics were collected and tabulated the responses and results were obtained.

### ***The sample population***

Statistical population of this study includes 17 experts: 10 professors are from architecture field; 2 professors are from Fine Art College of Tehran University; 3 professors are from Architecture and urban planning College of Science and Industry University of Iran, 1 professor is from architecture and urban planning college of Shahid Rajaei Teacher Training University, 2 professors are from Tarbiyat Modares University, and 2 professors are from Shahid Beheshti University. Then 7 experts from psychology and educational science field; 4 professors are of Tehran University psychology and management college and 3 professors are from psychology college of Alzahra University.

Sample population from students are 48 people undergraduate and graduate students in the Shahid Rajaei Teacher Training University and there were selected randomly.

## **Results and Discussion**

After collecting data and their classification, research data was evaluated by scientific methods to conclude according to research purposes using relationships among variables and their analysis.

### ***Studying and Investigating Experts' Questionnaire***

Experts' questionnaire was formulated under professors and counselors supervision, then it was offered to architecture and psychology field experts. After collecting data, it was analyzed using Spss software.

### ***Personal Elements Obtained from Experts Questionnaire***

Obtained elements are arranged based on average. In this regard, more principal elements according to experts' idea and got more score are considered as basis.

### ***Research questions and results presentation***

According to the analysis of user questionnaires, the obtained values for the t-test for all the components in question were all significant ( $\text{sig} = 0.00$ ); and all components derived from sources and interviews with experts in terms of personal space was related academic space users. Average user questionnaire also obtained from the analysis of these components have been prioritized in terms of users.

As can be seen in the figure of physical variables, all the physical components that were questioned were associated with personal space. Due to the sigma there is significant relationship between the physical components of the questions.

But the components:

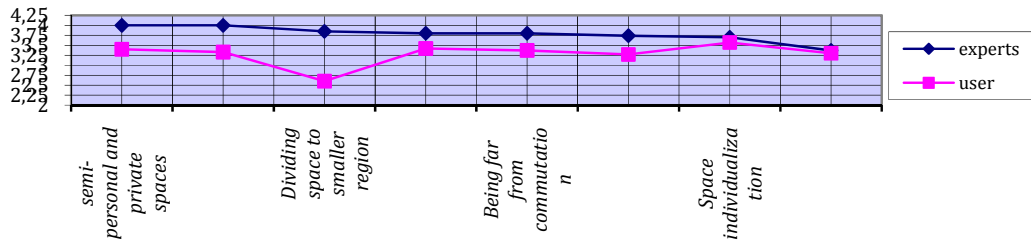
1. Personal space
2. Border
3. Semi-private and private spaces
4. Away from crowds
5. Privacy

have gained the lowest level, therefore more important in terms of users compared to other components are entitled.

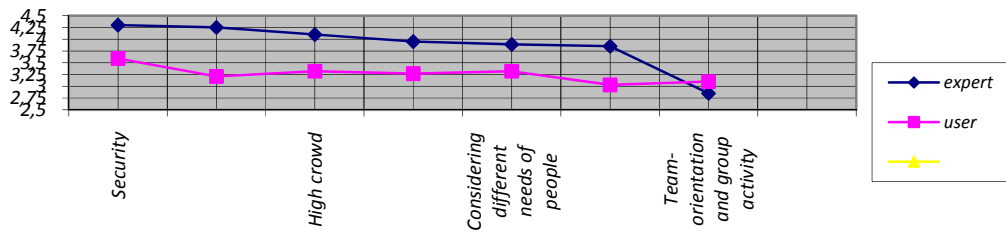
As seen in figure of mental variables, all the psychological factors that have been questioned in connection with their personal space and the main factors are:

1. Security
2. The low population densities
3. Considering the different individuals needs
4. Sense of belonging and attachment to the space

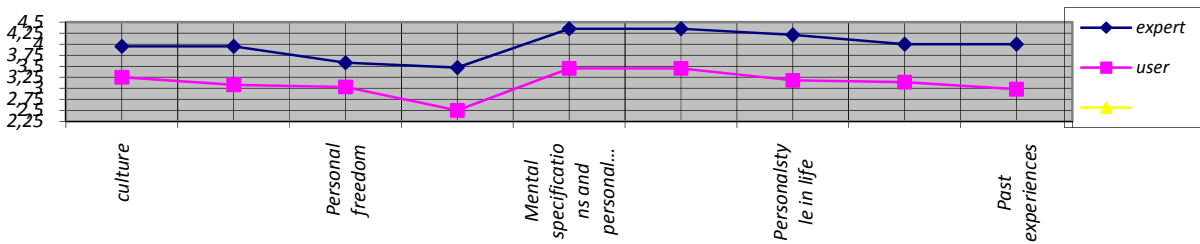
Comparison of the averages and standard deviations derived from the experts and users questionnaire are shown in the figures (Fig1 up to 6).



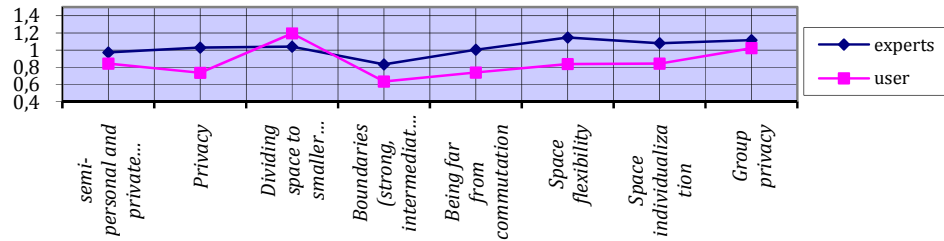
**Figure 1. Comparison of the results of the physical components average derived from the experts and users questionnaire**



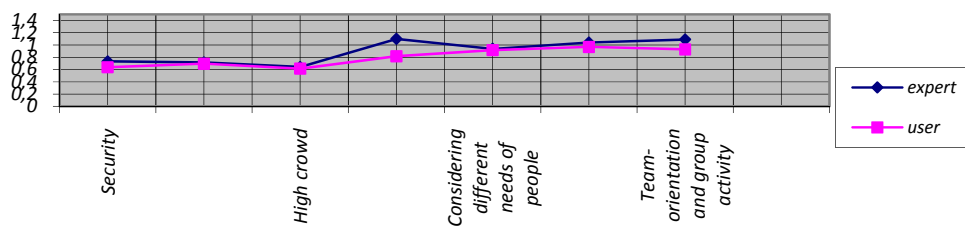
**Figure 2. Comparison of the results of the mental components average derived from the experts and users questionnaire**



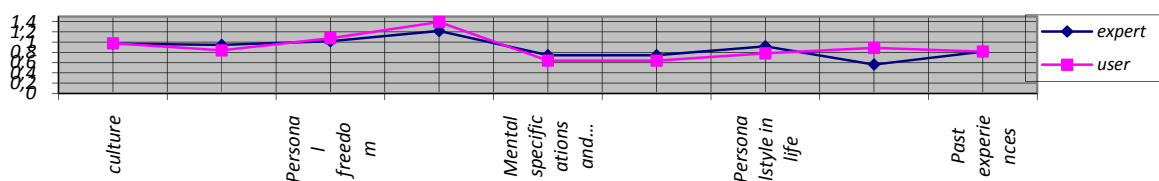
**Figure 3. Comparison of the results of the social and personal components average derived from the experts and users questionnaire**



**Figure 4. Comparison of the results of the physical components standard deviation derived from the experts and users questionnaire.**



**Figure 5. Comparison of the results of the mental components standard deviation derived from the experts and users questionnaire**



**Figure 6. Comparison of the results of the social and personal components standard deviation derived from the experts and users questionnaire**

### Conclusion

Historical look to private space and privacy in anthropology and sociology shows that they are valuable and supported in various communities and cultures, but there aren't still a unit perception, description, and conceptual unit. This is for difference in cultures, political and social changes in communities during history and also difference in attitude and look toward expression, its role and status in communities so that examples and regions of privacy and private space changes



from culture to culture and society to society. Investigations and focus on studies, it is indicated that human relationships perception and space needs to imagine physical, social, cultural, and mental fields and desirable space is where emotions are expressed and this emotion is made by connection between human and space, fields of difference, orientation, and spatial perception. Regarding to relationships among desirability factors of private space in academic space according to general classification, it is mentioned that this space has significant difference from other spaces, because in a certain field, desirability is considered as cultural-social, mental, and personal element beside physical elements. Actually, dependent factors on private spaces according to users' look (students and professors) have two dimensions, one is rooted from beliefs, cultural and mental actions including non-physical elements and has mental quality, and another is influenced by outer and physical fields that undoubtedly emphasizes on physical aspects and designer can influence on it. On the other hand, environment should have specific structure to make desirability in private space and all environments should be integrated in designing. Hence, effective factors on desirability both physical and non-physical should be considered and each effects should be investigated on another. Finally their relationship should be investigated. Hence, this part describes about personal space desirability by a general attitude toward elements.

“Physical specifications” are explicit elements increasing space quality and reinforce it, make desirability for that place and its product is users' positive evaluation. Physical, visionary, and perceptual performances return to what is made in visitors mind; these are events penetrating to visitors mind while seeing private space and perceptions from environment.

Designing proper physical spaces, proper adjacent spatial communications, and proportion among physical elements with current culture will be desirable in increasing social interactions among users. Perceiving space can be found in originated peace from presence space and its quality in social aspect to be defined together. In addition, factors with direct relationships with locational sense and state sense of location greatly return to important part of environment physical features.

Related factors to visionary coherence, visionary limitation, output, and input, landscaping, access between architectural spaces, traffic control, spaces for dialogue and free study are installed on furniture. Similar issues are such as appropriate qualitative and quantitative ratio between the extent and volume of spaces, congestion proportional to the number of men, how to use of space etc. Consequently, physical effects of this issue shows varieties; although, they have unity and share in basis, they have various implies. Therefore, the present research among these various effective factors on space investigated space physical specifications to increase personal space based on determined criterions by resources, professors, and users and the most important obtained physical elements can be used for new design by more detailed investigating these effective elements by their certain provided quality.

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