DESIGN STUDIO AS A LIFE SPACE IN ARCHITECTURAL EDUCATION: PRIVACY REQUIREMENTS

A THESIS
SUBMITTED TO THE DEPARTMENT OF
INTERIOR ARCHITECTURE AND ENVIRONMENTAL DESIGN
AND THE INSTITUTE OF FINE ARTS
OF BILKENT UNIVERSITY
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF
MASTER OF FINE ARTS

By
Özgen Osman Demirbaş
June, 1997

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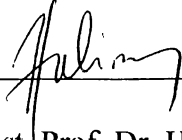
MASTER OF FINE ARTS

Özgen Osman Demirbaş.

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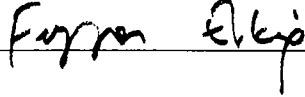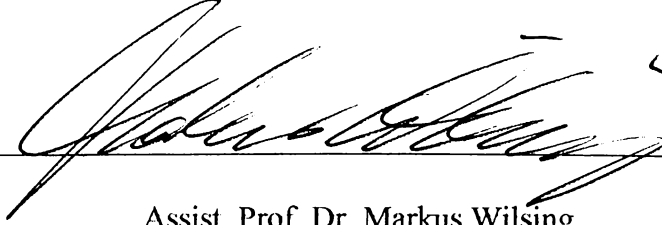

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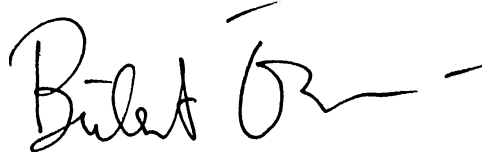

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ABSTRACT

DESIGN STUDIO AS A LIFE SPACE IN
ARCHITECTURAL EDUCATION: PRIVACY REQUIREMENTS

Özgen Osman Demirbaş
M.F.A. in Interior Architecture and Environmental Design
Supervisor: Assist. Prof. Dr. Halime Demirkan
June, 1997

There is a very important relationship between the educational outcomes and the architectural design of educational facilities. The most commonly used space in an architectural education is the design studio. Therefore, it is claimed that there should be a living process in a design studio. This process can only be achieved by the conjunction of two functions of the design studio which are serving as a learning center and a complex social organization .

The quality of a design studio can be considered by evaluating its functional, technical and behavioral elements. Considering the environmental psychology concept; namely privacy, personal space, territoriality and crowding, the behavioral elements in the design studio are analyzed. A case study was conducted to evaluate the differences between the desired and actual conditions of a design studio at Bilkent University, Faculty of Art, Design and Architecture, Interior Architecture and Environmental Design Department. The expectations and preferences of the interior architecture students pertaining to the design studio are analyzed. The outcomes of the study are expected to be inputs for the new design studio which functions as a living life space.

ÖZET

MİMARLIK EĞİTİMİNDE YAŞAMA MEKANI OLARAK TASARIM STÜDYOSU

Özgen Osman Demirbaş
İç Mimari ve Çevre Tasarımı Bölümü Yüksek Lisans Çalışması
Danışman: Yrd. Doç. Dr. Halime Demirkan
Haziran, 1997

Eğitim yapılarının eğitimsel içerikleri ve mimari tasarımları arasında çok önemlibir ilişki vardır. Mimari eğitimde en çok kullanılan mekanlar, tasarım stüdyolarıdır. Bu bağlamda, tasarım stüdyosunda bir yaşam süreci olması gerektiği vurgulanmıştır. Bu süreç ancak, tasarım stüdyosunun iki fonksyonu olan, öğrenim merkezi hizmeti ve komplex bir sosyal organizasyon oluşunun, bir arada ele alınması ile sağlanabilir.

Tasarım stüdyosunun kalitesi; mekanın fonksyonel, teknik ve davranışsal elemanlarının değerlendirilmesi ile ele alınabilinir. Çevresel psikoloji kavramları olan; mahremiyet, kişisel alan, alansallık ve kalabalıklık göz önünde tutularak, tasarım stüdyosunun davranışsal elemanları analiz edilmiştir. Bilkent Üniversitesi, Güzel Sanatlar, Tasarım ve Mimarlık Fakültesi, İç Mimarlık ve Çevre Tasarımı Bölümü'nde ki bir tasarım stüdyosu için arzulanan ve esas olan şartların farklarını değerlendiren bir alan çalışması yapılmıştır. İç mimari öğrencilerinin, tasarım stüdyosundan bekelntileri ve tercihleri analiz edilmiştir. Bu çalışmanın sonuçlarının, yaşama mekanı olarak işlev görecek yeni bir tasarım stüdyosu için kaynak oluşturması ümit edilmektedir.

Keywords: Tasarım Stüdyosu, Çevresel Psikoloji, Mimari Eğitim

ACKNOWLEDGMENTS

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1. INTRODUCTION

1.1 Problem

Learning is a lifelong process, and some of this process takes place in the learning environments, so these environments are very essential for human development (Deasy, 1985). The physical characteristics and the psychological perceptions of the these environments are important issues in evaluation of these environments. While thinking of the learning environments, designers should employ all the available resources expedite and enhance the learning environment. Deasy (1985), claimed that in the classroom, the learning resources are boundless, such as training equipment, some instruments, models, reference works, data banks, etc. All of these items relate to learning environments, and affect the learning experience.

Learning environment functions both as a learning center and a complex social organization. There is a knowledge transfer through this space, in other words learning environment functions as a communication channel.

The quality of an educational environment can be considered by evaluating its functional, technical and behavioral elements (Demirkan, 1996). These elements are interrelated and studied with the post occupancy evaluation process. These factors will be discussed in the following chapters.

Usually, the task and the curriculum in a learning environment are boring (Mehrabian, 1976). The environment can become a dull and disfavored place for its users because of these factors. As a result, an avoidance from that environment comes out. Since, in general, it is not possible to change the task and/or the curriculum, the important thing is to make the distinction between the school task and the school environment. A more attractive environment for an educational facility can reduce the dull and boring atmosphere of these places. Without any change in the task and/or the curriculum, by a more attractive environment, the satisfaction of the users may increase and, also, this may affect the increase of the participation level to the environment.

Moore (1993) claims that there is a very important relationship between the educational outcomes and the architectural design of educational facilities. The physical environmental factors of the educational environment are very crucial for the satisfaction and the achievement of the occupants. The quality of the school environment directly affects the quality of student life and quality of education. The perceptions of the students about their environment as supportive or hostile, interesting or boring are the integral to an understanding of the school environment (Sanoff, 1993). Galvin (1993) proposed that the main aim should be to create an environment which is attractive to its users and encouraging a feeling of integration with the surrounding environment. Additionally, Taylor (1993) claimed that learning environments can be more educationally and optimally useful if the architecture of the built, natural and cultural environment can be used as a teaching

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tool. The physical space of the learning environment is the marker for launching creative thinking (Nelson, 1993).

The learning environments in architectural education function both as an educational center, and a complex social organization, similar to the other educational environments. The most important space in an architectural education is the design studio. Most of the practice based lessons in architectural education are held on in the design studio. Design lessons are the primary functions in the design studio. Besides these courses, the design studio is open to use of the design students and design students are expected to work in those areas not only in class hours but also in their free times. From this point of view, it is claimed that there should be a living process in the design studio or in other words the design studio should be a life space.

The concept of *Life Space* was described by Kurt Lewin. According to Lewin (1939), life space consists of the psychological environment as it exits for an individual. The definition of the concept included all determinants of behavior that have demonstrable effects for an individual or a group, and the definition excludes those determinants which do not have demonstrable effects for the individual or group (cited in Wendler and Rogers, 1995). The life space endures through time, is modified by events, and is the product of history, but only the demonstrated contemporaneous system can have effects at any time (Cartwright, 1951; cited in Wendler and Rogers, 1995).

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There was not enough research on architectural education until the last decade because it is legged behind other disciplines, but among the research studies about the topic, there are several pedagogical aspect studies about the design studio (Wendler and Rogers, 1995). From these studies it can be proposed that there are significant differences between the design studio and a regular classrooms, but still the cognitive approach to knowledge and information transfer are similar in two settings.

There are two main activities in the design studio; the thinking process of design and critics about the design ideas and their effects on learning. For this reason, while talking about design studio and evaluating its features, the activities in the design studio should be well analyzed. The thinking process and communication in the design studio are the crucial features of a design studio. Another important feature of it is to be an interesting and supportive environment. Otherwise, the participation level decreases and the design studio cannot function as expected.

For these reasons, design studio should be analyzed through post occupancy evaluation. Post occupancy evaluation focuses on building occupants and their needs together with providing insights into the consequences of past design decisions and the resulting building performance. From the three elements of post occupancy evaluation; technical, functional and behavioral, behavioral elements are the center of attention in this study, since it is dealing with the perceptions and the

psychological needs of the studio users and how these interact with facility of the studio.

The social processes of environmental psychology; privacy, personal space, territoriality, and crowding, should be well analyzed for the studio environment because these are the factors which make an environment appealing or not. Most of the design students claim about behavioral elements as a reason of avoiding to stay and/or work in design studio besides the functional and technical elements. It should not be forgotten that although these elements are discussed separately, they depend on each other while making evaluations about the living environment that surrounds the humans.

The insufficient environmental psychology conditions are the basic reason of not using the studio properly for most of the design students. Since the individual characteristics of each student differ from each other, their expectancies are different from each other, so the design studio should be appropriate for all of these different expectations. In order to understand the expectations and the conditions of the design studio, the privacy preferences of the students, personal space and territoriality definitions and regulations of them, and lastly their perception of crowding and precautions against it, should be studied and clearly defined.

1.2. Scope of the Thesis

Within the scope of the thesis, first of all the design studio will be defined. While defining the design studio, its philosophical and physical characteristics are considered together. The importance of the design studio in architectural education and the differences of it from the other education environments will be examined. Through this explanations, the post occupancy evaluation for the design studio and the important factors of these evaluations will be discussed. Then, the importance of environmental psychology within the studio environment will be stated under two different point of views: a) factors related to the space conditions, and b) factors related to the individual characteristics.

In the next phase, the environmental psychology will be studied, and the social processes of it; privacy, personal space, territoriality, and crowding will be proposed. Then, the importance of them in child development and in educational process will be discussed. The importance of the social processes in young adults' life, mostly when they are in their university or college environments will be explained.

Lastly, in the light of these explanations and proposals, the results of the case study which was dealing with the effects of environmental psychology in the design studio on young adults, and the privacy preferences in relation with the other social processes of environmental psychology, will be discussed. First, there will be a description for the study by defining the physical nature, procedure, selected site,

and participants of the study. The fourth year design studio of Interior Architecture and Environmental Design Department of Faculty of Art, Design and Architecture of Bilkent University was chosen as the site and the occupants of this studio were chosen as the subjects of this research. It was observed previously that, this studio was not used as it was expected to be and the occupants of this studio claimed about the insufficient environmental and psychological factors that affected their attendance to the studio. Next, the evaluation of the first part of the questionnaire which consists of the definitions of the participants about privacy, personal space, territoriality, and crowding will be done. The second part contains questions which are based on the environmental characteristics and the attitudes of the participants to the different situations within this space. While conducting this part of the study, six states of privacy -- solitude, reserve, intimacy with family, intimacy with friends, isolation and anonymity -- were used. The differences of the preferences of different sexes in privacy preferences was be studied. and will be discussed in the coming chapters.

As a result, it is found that the design students of the selected studio do not use the studio generally in their free times. The reasons of this is the mismatch of the existing space conditions of the studio and the preferences and desires of its occupants. If the existing conditions of the space will be improved, the dissatisfaction with the space can be decreased and the participation to the space can be increased.

2. THE DESIGN STUDIO

2.1. Definition of Design Studio in Architectural Education

In this section, two components of the main subject, architectural education and design studio are defined separately. First, it will be discussed what the architecture mean and the special characteristics of architectural education. In the following part, design studio will be defined, and the role of it will be pointed out especially in architectural education.

2.1.1. Architectural Education

Architectural education has some special characteristics among other professional education. In architectural education, there are the effects of other disciplines and science. To describe what architectural education means and specify its features without understanding the relationship of it with other professions, will be a failure.

Teymur (1992) stated architecture as a discipline and/or a professional practice of design and building. First statement that considers the architecture as a discipline, emphasizes the study of architecture, and the second statement about the architecture as a professional practice emphasizes the doing practice of it. Different bodies of knowledge, skills, cultures and divisions of labor are involved by the two distinct sets which are architecture as a discipline and/or professional practice. Where in the academic structure architecture is placed for example in faculties of

arts, social studied, environmental studies, engineering or design, or in colleges of art, is also the dependent factor of the previous two sets (Teymur, 1992).

Throughout the centuries, there has been a desire between the researchers to identify architecture as technology or craft or science or art. Architecture is a combination of these four. All of these characteristics are correlating with each other, so within the architectural education, student should learn how to deal with all of these factors. So, the true consumption about the architectural education will be; architecture is a multi-disciplinary, multi-skilled, multi dimensional and multi-media practice and it is a self-sufficient profession that behaves as it already possesses all the knowledge that it needs (Teymur, 1992).

This short description about architecture and its education is crucial while discussing the design studio, in other words, the environment in which architectural education is hold on because together with the curriculum, all these knowledge is transferred to the architecture students through this environment. In this point, environmental and social psychology should be considered while constructing the design studio in order to create more attractive, more creative and more functioning spaces for the design students who will be the space designers and creators in the future.

2.1.2. Design Studio

Differing from other professions, in design and art education, there should be special classrooms which are called design studios. In architectural education,

design studio is a very crucial element. Most of the design students' time is spent in these environments. Design studio is the basic element of the architectural education; through the design studio process, students gain practical and theoretical knowledge and learn to transform this knowledge together with the imagination to a design (Yıldırım and Güvenç, 1995). Main difference of a design studio from other kinds of classroom environments is that, there should be a living process within these environments. This means, design students should spend most of the times in these environments, not only during the class hours but also in their free time. Stamps (1994) mentioned that 1/3 or 1/2 of the education process of a design student is spent in the design studio. In a regular classroom in any profession, there is a course and when it is over the process also ends within that environment. There are different student groups who are using the same classroom in different slots during a day for different courses or activities. In design education, the appropriate situation is that the occupants of the design studio are constant for a long time such as for one year or for a whole design education. For this reason, it is mentioned that there should be a living process within this environment. Through this process, there is a knowledge flow between the occupants of this environment. The basic education style in the design studio depends on the knowledge flow and critics which are held by one by one or group interactions (Uluoğlu, 1990).

As Deasy and Lasswell (1985) claimed that a learning environment both functions as a learning center and a complex social organization. This statement is also valid for design studios and it can be said that this is the most essential characteristic of

design studios. As previously mentioned, there should be a living process within the studio environment. This process can be provided only by conjunction of the two functions which are serving as a learning center and a complex social organization. In fact, these two factors are functioning together in the design studio. The process held in a design studio is not only a lecture given, but besides a social interaction between the teacher and the students and among the students should be occur. In a way, communication is the key word while defining the design studio. As Wendler and Roger (1995) claimed, the significant component of a design studio in architectural education is the verbal interaction between the occupants (student to student, student to teacher). According to Jung (cited in Stamps, 1994), students can think, feel, perceive, and imagine both individually or in a group. This statement also shows the importance of a design studio as a communication channel.

Wendler and Roger (1995) proposed the design studio as the "Design Life Space", and claimed that each design project exits and develops in response to the construction and the dimensions of the individual and shared Design Life Space. The concept of Design Life Space was similar to the concept of *Life Space* which had been described by Kurt Lewin as mentioned in the first chapter. Unlikely with the Lewin's definition, Wendler and Rogers did not ignore the undemonstrable determinants which were excluded in Lewin's concept of Life Space. According to Wendler and Rogers (1995), any definition of Design Life Space must recognize the determinants which are not always perceived or capable of being demonstrated, and by this way the richness of their study should not be limited. Design Life Space is

formed as a response of several factors: namely, the design project, the studio environment, the internal and external expectations of both the student and the teacher, and lastly the attributes and process of both the student and teacher. The authors (1995) define it as a dynamic psychological-intellectual realm created by both the teacher and the student.

Although, it is claimed that design studio and a regular classroom are different from each other, the cognitive approach to knowledge and information are similar in these two settings. The actions in the studio during an education process can be summarized by dividing them into two; the thinking process while working, and the critique process between the teacher and the student (Wendler and Roger, 1995). There are also some sub-activities within the design studio such as gathering , jury examinations and others.

In the case studies about design studio, the current emphasis on architectural education is to socialize its participants into an artistic paradigm which is intuitive, introverted, and feeling process (Stamps, 1994).

In sum, it is obvious that, the design studio and the communication levels in a design studio are the most crucial elements in the architectural design education. Teaching and learning in an architectural design studio depend upon the communication of creative ideas. The complexity and the richness, the expansiveness and the accessibility of the design Life Space enhance teaching and

learning in the design studio, and likely contributes to the success of a design professional (Wendler and Roger, 1995).

2.2. Post Occupancy Evaluation for Design Studio

Preiser (1988) and his colleagues defined post occupancy evaluation as the process of evaluating buildings in a systematic and rigorous manner after they have been built and occupied for some time. Despite this explanation, post occupancy evaluation is not only useful for evaluating an existing space which is occupied previously, but also, the designers can find out better solutions for new projects by considering the factors which are taken from the post occupancy evaluation. Post occupancy evaluation focuses on building occupants and their needs together with providing insights into the consequences of past design decisions and the resulting building performance. The knowledge taken from this process, forms a sound basis for creating better environments in the future.

Therefore, post occupancy evaluation, is crucial in considering a design studio in architectural education. As mentioned in the Section 2.1.2., the design studio has an important role in architectural education. The space in which the education of designing spaces for people, should be well designed, since it is the first abstract feature that design students face with in their design education. Another factor is that no matter if it is a design studio or any educational space, an unsatisfactory environment does not encourage education but discourages it.

Through these information, it is obvious that in order to create high quality design environments in architectural education, there should be an evaluation of the existing settings. Since, learning environments should function both as a learning center and a complex social organization (Demirkan, 1996), and design studio should function the same, both psychological and sociological factors should be considered in relation to design process. Together with these considerations, three elements of building performance can be identified while evaluating the requirements of a design studio (Preiser et al., 1988):

- *technical elements,*

- *functional element,*

- *behavioral elements.*

Since the focus of the thesis is the psychological well-being of the design students through the privacy regulations in the studio, behavioral elements are the basic considerations.

2.2.1. Technical Elements

As it is clear from the title, technical elements include the technical features of the space (Preiser et al., 1988). These technical features are the building performance considerations and basic survival issues. Building performance factors are durability, acoustics, lighting, and thermal comfort of the built environment. Basic survival issues are fire safety, structural integrity, and sanitation of the built environment.

While designing any space for any use, one of the most important step is the decision of the technical elements of the space. The function, location, dimensions, and the cultural issues of the space are the basic factors while deciding the technical elements. Also, the developing technology, and as a result of this new products, and new technologies in building industry, is affecting the decisions on technical element (Preiser et al., 1988).

In the design studio, technical elements should have an important role. Like, in other occupancies there should be some common building performance issues within the design studio, such as to provide active and passive fire protection precautions; true thermal comfort conditions etc. Besides these, some factors are more crucial and need special considerations and applications for the design studio, such as lighting, and acoustics.

For a design studio it can be said that there should be an optimum level of heating and/or cooling system. The fire safety conditions should be well solved, and together with the active protection for fire risk such as sprinkler systems or fire hoses, the passive precautions should be well defined, such as the escape routes, exit openings etc.

As mentioned previously, lighting is another important factor for the design studio. Most of the activity in the studio is dealing with the perception. In order to perceive something, one should be able to see, and in order to see there is the need of light.

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Any light can provide seeing, but since the perceptions are very crucial in the design studio, there should be the use of correct lighting. In the design studio, most of the activities are based on drawings and colors, so in order to perceive the drawings, there should be an adequate lighting; and in order to perceive the colors the kind of the lighting is very important. For this reasons, while considering these lighting needs of the studio, the designer should decide the amount of light that the space needs and the type of the lighting by deciding the color rendering index and color temperature of the lighting. One other important issues of lighting is related to the psychological perception of the space. By making true considerations about lighting, the space can be become a more attractive space and the participation to the space will increase. Also by using different lighting systems, the privacy regulations within the studio will be developed.

One other important technical issue in the studio is the acoustical considerations. Although any space which is considered as a successful space for the use, by insufficient acoustical conditions, it becomes a insufficiently designed space. Since design studio is also communication space besides other functions, the acoustical conditions within the space are very crucial. Design studio works as an communication channel between the students and the teachers (Stamps, 1994; Wendler and Roger, 1995). There is a verbal interaction between the occupants of the studio, and through this interaction, there should not be any distraction for the others in the same space. So the acoustical dimensions should be well designed.

Like by lighting, by the use of acoustics, privacy in the studio can be increased or decreased.

2.2.2. Functional Elements

In short, the fit between the building and the users' activities is related with the functional elements (Preiser et al., 1988). The physical characteristics of the space is related with the functional elements of that space. In order to create rich environments, functional elements should be well considered. As clear from the name, it is related with the functions of the space; such as operational efficiency, productivity, workflow, organization, circulation paths, location of the furniture, partitions etc. To understand the functions of the space is the first step of deciding the functional elements. So before designing the space, the functions of it should be well considered and after the construction each function should work.

In design studio, like technical elements, functional elements are very important. Some functional requirements of design studio are; there should be enough working space for each individual, there should be gathering areas, there should be appropriate areas for group works and discussions, there should be appropriate areas for project representations etc. Besides these factors, circulation in the studio is very important, every part of the studio can be easily accessible but circulation should not disturb the occupants. According to the dimensions of the studio, the importance of each factor that is related with the functional elements, can be decreased or increased, and also some other factors can be added.

In privacy regulations, the use of functional elements are also essential. The sufficiently solved space organization of any space can increase the privacy level within the space or it can decrease it. To reduce the unwanted feelings within the studio and to provide more attractive studio environments for the users, functional elements should be well evaluated for the design studio.

2.2.3. Behavioral Elements

Preiser and his colleagues (1988) claimed that since 70s post occupancy evaluation has been developed and a critical mass of expertise, findings, applications, and credibility has been accumulated. Through this development, the new issues of post occupancy evaluation has been considered as behavioral elements, such as the symbolism of the spaces, privacy, social interactions, perception of density, security, and territoriality. In sum, behavioral elements deal with the perceptions and the psychological needs of the space users and how these interact with the facility of the space.

A space which is stressful for its users is not an appropriate space for the occupants since the insufficient conditions in the space affects the psychology and well being of the occupants. If the conditions of the design studio provide appropriate behavioral elements, the space will become more attractive for the users; and also the achievement of the students will increase by the sufficient conditions of behavioral elements.

While evaluating the behavioral elements, first of all the functions within the space and requirements of the occupants should be considered. Then the conditions for the optimal levels of requirements should be provided for the space. If the provided conditions are more or less than optimal level there can be some dissatisfaction within the space.

Two factors can be considered while studying the behavioral elements in the studio. First one is the environmental context within the studio, and the other is the individual characteristics of the occupants. Both because of the environmental differences and the different characteristics of individuals, behavioral elements of each occupant differs. While behavioral elements are the subject of attention, two questions can be considered. The first questions can be, what the social processes of the individuals are; and the second can be, if the environment supports or not the behavioral elements.

These two are dependent factors on each other, any little change in one of them directly affect the other. For example, any place can be identified by one individual as having sufficient privacy since another thinks it is insufficient for privacy point of view. This is because, privacy does not have a simple definition, there can be several aspects for the term which have been discussed in the third chapter. The perceptions of the individuals within the space is very crucial. As an other example,

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for a single individual, any change within the environment can cause different perceptions and as a result the attitude of the individual to the space will change.

While considering these, one thing should not be forgotten; the activity in the environment is the basic consideration while studying the behavioral elements of that environment. According to the activity, both the environmental characteristics and the individual characteristics will change. As an example, although, the density is stressful for most of the individuals as crowding, in a party, no one can feel the crowding effect of the same density.

2.2.3.1. Characteristics of the Space

Environmental conditions are one of the two important factors that have effects in behavioral elements. As described previously, according to the different environmental context, the definitions and regulations of behavioral elements differ. The environmental context should be formed by considering the activity type and by providing the necessary privacy levels for the occupants.

An important point of the design studio is that students should spend more of their time in the design studio comparing with the other types of classrooms in other education types. Each student should create a living territory within the design studio for himself/herself. The two basic activities are thinking and communication. The ideas of the individuals transferred to others by some kind of communication

through the space. For these reasons, the features of the space are important and directly affect the factors that are claimed above.

Design studio environment was approached by Bernstein as a means of social control and he argued that this space could operate in two ways (cited in Peatross and Peponis, 1995). First, there is the open plan which is a more generous provision of space, and it can permit or encourage unplanned interactions and promote flexible teaching and interacting groups. Secondly, there is the traditional type which Bernstein (cited in Peatross and Peponis, 1995) identified as the subdivision of the space in which the activities, groups of people, and/or the subject of study are differentiated. In the first case, there is the opportunity for creating smaller spaces within the space. Since the boundaries are not constant, in a space like this it is easier to define territories. Just the opposite, traditional type is too strict with its defined boundaries. The most important disadvantage of the open plan is that there is the great risk of disturbtion by the movement or conversation of the other groups within the same space. This can create the problem of less privacy, distraction, etc. In both cases, the important thing is to provide the expectations of the occupants. This means not to create totally isolated spaces or spaces lack of any kind of privacy and starts to function as a public space.

There should not be any social and spatial density within the design space, because these can create the perception of crowding which promotes a loss in privacy. Such a condition will affect the attitudes of the participants to the space. An avoidance

from the space can occur because of this insufficient density, and the design studio can loose its social interacting center characteristic but becomes a place in which the participants should stay for a period of time.

Peatross and Peponis (1995) claimed that the layout and use of the architectural education space plays a role as a pedagogical device by impacting social interaction and communication. The configuration of the space should be considered both as a dependent variable reflecting pedagogical principles, but as well it should be considered as an independent variable capable of generating its own pedagogical effects.

Peatross and Peponis (1995) conducted a research in which they compare two design schools; *The Atlanta College of Art (ACA)* and *The Georgia Tech College of Architecture (COA)*. The spatial configuration of the ACA gives the impression of disorder and complexity because all the departments were located in the same building and there is free access between the different departments of art. COA is only an architecture school, so there is no other department at the same building, but there is an open plan organization which gives the opportunity to the students to rearrange their education environments. According to the authors (1995), ACA provided a spatial domain that accommodated distinct educational programs in a haphazard layout. The socialization extended both outside and inside departmental territories and it was systematically correlated to the overall spatial configuration and more specifically to the pattern of spatial integration. There was obvious

ordering principles in the space organization of the COA. The overall pattern of the spatial organization seemed diffuse and spatially unpredictable, and not strongly correlated with layout or with spatial integration. In this research their aim was that the space may generate tensions and even shifts in pedagogical codes. In both cases they found out some advantages and disadvantages of the space organization for the students. They concluded that spatial layout and space use in design educational environments must be considered both as reflections of the underlying pedagogical code and also as independent variables that generate their own effects on pedagogy and its outputs (Peatross and Peponis, 1995).

2.2.3.2. Individual Characteristics of the Occupants

Peatross and Peponis (1995) also proposed, education is a process of socialization because of the connection between social cohesion and educational transmission. Through the process of this socialization, individual characteristics of the occupants with their privacy regulations, personal space and territory requirements and crowding perceptions are very important. These processes are also very crucial, since everybody has different characteristics. So, it can be said that every individual can make his/her definition for social processes of environmental psychology, and the definitions and regulations each individual holds on differ from individual to individual. As mentioned previously, any place can create the feeling of crowding for any one of the occupants, since another thinks there is too much privacy and lack of interaction.

In design education, sufficient conditions of social processes of environmental psychology is very crucial. In order to provide a preferable design environment for the design studio, there should be the opportunity for each student to regulate his/her own privacy by rearranging and organizing his/her near surrounding, in other words by identifying his/her territory.

As described, earlier in this chapter, there is a Design Life Space in which each design project exists and develops in response to the construction and the dimensions of an individual and shared design Life Spaces. Every single person, in the studio has a design Life Space, and when there is group interaction, there is the development of a shared design Life Space (Wendler and Roger, 1995). Although the aims of the design Life Spaces differ between a teacher and a student, they function similarly. Design Life Space is created as a component of the privacy regulations of the occupants. By considering the privacy mechanisms, it is easy to make a relation between the two concepts design Life Space and territoriality. The Design Life Space is a more abstract statement while territoriality is more concrete in definition. While territoriality can be physically defined, the design Life Space is a conceptual notion.

In sum, both of them define the abstract and concrete area that surrounds the individual in the studio and through this area, social interaction so communication and the exchange of design ideas exists.

3. ENVIRONMENTAL PSYCHOLOGY

3.1. Definition of Environmental Psychology

As a field, environmental psychology is very new but it is very familiar with the individuals in their daily life. It is called to be a new field but most of the social psychologists have worked on it for a long time. The first psychological studies about this topic were mostly concentrated on processes within persons rather than person-environment processes. Environments and the features of them are very important factors that affects human psychology and behavior, for this reason person and environment should be studied together, as Winston Churchill figured out in 1943; "We shape our buildings and afterwards our buildings shape us" (cited in Gifford, 1987:1).

Mehrabian (1976) defined environmental psychology as a way of defining any environment. According to him, environments can be defined in several ways, for example to list the physical features of the environment is a way of defining it but any change within this environment cause some differences in this list and the definition becomes useless. As a result, this changes make the existing definition useless, and great revisions should be needed to define the space again. This is a hard and long process to hold on. For this reason, the definitions of the environments are done by environmental psychologists who define the environment as a whole.

In sum, environmental psychology is the science which studies the effects of all the outcomes of the environments on humans and from this point of view the comparison of the different environments. Gifford, in his book *Environmental Psychology* (1987:2), gave a good definition to the term:

> Environmental Psychology is the study of transaction between individuals and their physical settings. In these transactions, individuals change the environment and their behavior and experience are changed by the environment. Environmental psychology includes research and practice aimed at using and improving the process by which human setting are designed.

Gifford (1987) claimed that since 1960s, there have been several studies that dealt with twelve major topics which he gave in his book through the chapters to follow. He claimed that (Gifford, 1987:2)

> ... Much of this work has been stimulated by the recognition of environmental problems such as pollution, energy shortages, and unsuitable buildings. Other research is motivated by pure curiosity about how and why humans act and feel in their natural settings...

Mehrabian (1976) pointed out the importance of a corresponding taxonomy of people for environmental psychologists aside from the necessity for a taxonomy of places. The same environment affects different people in different ways. Environmental psychologists have been challenged to develop succinct, comprehensive method to describe the differences in individuals' reactions to places, and they classified this under two categories; *approach and avoidance* (Mehrabian, 1976). Approach is the positive attitude of the individual to the

environment, and avoidance is the negative attitude of the individual to the space, in a way because of the unwanted characteristics of the environment, avoidance is the escape from that unsatisfactory conditions.

Mehrabian (1976) pointed another factor which is the performance of the individuals in their living and working environments. He described the importance of performance by the approach and avoidance aspects. If the performance of the individual is below the average, it means there is the approach aspect to the environment. If the performance level is above the average, there is the avoidance aspect by the individual to the environment. It should not be forgotten that any environment can be approach aspect for an activity, but for another activity it can be avoidance aspect.

In this study, four topics among twelve major topics of environmental psychology, were studied under the main topic of *Social Processes of Environmental Psychology* by Gifford (1987). These social processes of environmental psychology are *privacy, personal space, territoriality,* and *crowding.* These four are very familiar with the daily life of humans and they are interrelated with each other. The preferences and desires of the humans vary and the perceptions of them about the environments differ so these four topics should be evaluated together by both considering the individual in the environment. While evaluating the environment, the privacy regulations, personal space and territoriality definitions and crowding perceptions of the individuals are crucial.

The definitions of the terms, their relation with each other, their relation with human life in the environment are studied and represented by the sections to follow in this chapter.

3.2. Social Processes in Environmental Psychology

In this section, the four processes which were defined as the social processes of the individuals in environmental psychology by Gifford (1987), will be disucessed.

3.2.1. Privacy

Privacy is a very crucial concept for the researchers for many years. Especially, environmental and social psychologists have been dealing with the term while evaluating the human life in living environment. In this section, definitions of privacy by different authors will be discussed and then the six-states of privacy proposed by Pedersen (1979) will be studied.

3.2.1.1. Definitions of Privacy

There is not an agreement about what privacy actually is by the theorists. Margulis (cited in Newell, 1995) claimed that theorists do not agree on whether privacy is a behavior or an attitude or a process or a goal or a phenomenon or a state or whatever. Hence, some

definitions about the term can be given. The reason of this disagreement is that, privacy is present in every part of daily life and in relation with most of the scientific subjects about human beings such as anthropology, ethology, political science, psychology, sociology, and other disciplines. Since, the author is an interior architect and aiming to determine the effects of privacy on human behavior, the psychological and behavioral dimensions of the term are more concerned. Also, it should be mentioned that despite of all the scientific relationships of privacy with human life, it is an human right which is given to every individual by the laws.

The agreement is that, privacy is a human need and it is necessary for well-being, both psychologically and physiologically. As Newell (1995) claimed, still there is a disagreement in the literature, whether privacy is a condition of the individual, quality of the place/space, process, goal, individual or group attitude or just an observable behavior. Whatever it is, two things are constant; firstly, privacy has a direct relation with the individual, so the type of privacy or the definition of it varies from individual to individual as each one has different personal characteristics and cultural background. Secondly, the environmental context has a determined relationship with privacy, both physical and the psychological feelings within this context can create the feeling of seeking privacy. This means, privacy can be

examined through the both points as individual characteristics and environmental context. The different definitions about privacy in the literature have changed whether it is a function of the development of the individual or the specific environmental context. For this reason, the definitions in the literature can be clustered into two. In the fisrt case, there are authors such as Chaplin (1951), Rexroth (1963), Westin (1967), Fischer (1971), Velecky (1978), Bailey (1979), Weis (1983), Schoeman (1984), and Gavison (1984) who defined privacy as an individualistic approach (cited in Newell, 1995). All of the different perspectives that are related to the domain of the individual's psychology and condition, are similar. Since there is little disagreement between the perspectives about whether the condition should be regarded as neutral in value or of value in itself all of which implies that privacy is beneficial, that it involves or facilitates accountability, responsibility, personal development and self-realisation (Newell, 1995). Secondly, there are authors such as Chermayeff and Alexander (1963), Hall (1969), Canter and Canter (1971), Webster (1979), Gold (1980), Dunall-Early and Banedict (1982), Fischer and his colleagues (1984) who defined privacy in the environmental context (cited in Newell, 1995). Harris claimed that if the environment supports the privacy regulation of the individual instead of preventing it, the attachement to that environment will be more (1995). Pedersen (1987) studied these two states together in his

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research and pointed out that both environmental variables and the individual characteristics are likely to influence a person's immediate choice of a certain kind of privacy. He suggested that they should not be considered seperately in making a definition of privacy. In spite of these ideas, it should not be forgotten that privacy in the contexts of human's social relations protects him/her from the social overreaching and limits the control of others over the individual's life (Schoeman, 1992). This statement reveals that privacy is rather an individualistic concept.

The privacy preferences of individuals are variable related to some factors. Since most of the individuals could not obtain their desired privacy levels, they choose some other levels of privacy by force. Even if these forcing factors will be eliminated, individuals still prefer some special privacy preferences due to their habits from their background experiences. Besides, the urban-rural setting, age, sex, economical background, and educational background are also other factors while preffering privacy levels (Pedersen, 1987). The cultural background of the individual should also be considered as a factor in privacy. It is very important as a result of cultural differentiation, the reasons and occasions of seeking privacy and the mechanisms to obtain privacy are changing. Harris and his colleagues (1995) mentioned the differences in privacy regulations among individuals

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belonging to different cultures, and evaluated their ideas by making a research about relocation and privacy regulations of both American residents and Asian residents living together in a university student family housing facility in the USA. Although privacy needs are universal, the exact mechanisms used to regulate privacy can vary considerably from culture to culture. The relocation, both within the cultures and between the cultures is a stressful event, because for an individual, relocation means to continue living in a different space with different neighbors in a new environment (Harris et al., 1995). If this happens between different cultures there is an additional factor that the new people around you, are also from other cultural backgrounds, so there is the difficulty of having communication with each other. Harris and his colleagues (1995) pointed out that effective privacy regulation is fundamental to effective functioning and psychological well being of the individual. In this research, they found out that Asian residents had difficulties outside home, but they had better family relationships since American residents did not have too much difficulties outside their house. From this outcome they have realized that although cross-cultural relocation may disrupt certain forms of privacy regulation, it may not relate to all aspects of privacy, say, privacy regulation among family members within the home is an intra-cultural experience that does not involve any cross-cultural differences.

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Newell (1995) prepared a review of literature about privacy and she pointed out to privacy in some historical settings in her article. She stated that from the very early ages there was the concept of privacy as from 3rd centrury B.C. or it may be earlier. For example, Chinese thinkers had developed a sharp distinction between the concepts of public and private, and by this distinction they can define what was private for them. Like in Chinese culture, in most of the ancient cultures there was the distinction between public and private by using different terms that were related with the term private and oppossed to the term public.

As the concepts *private* and *public*, and in connection to privacy have been present since the early ages. In environmental psychology literature, there are lots of different definitions which are related and similar to each other for the same term. It is better to review some different definitions, since different points of views are crucial while defining any concept and also, different ideas and statements can be complementary to each other. Ittelson and his colleagues (1974) defined privacy as an individual's freedom to choose what will communicate about himself and to whom he will communicate it in a given circumstance. The situations and the purpose of the individual are important factors while the individual define and choose his freedom of choice and condition of privacy.

Altman (1976) discussed similar ideas with the previous definitions, according to him, privacy is a selective control of access to the self or to one's group and this explanation brings a few properties; a) it allows for a variety of social units in privacy phenomena; b) it permits an analysis of privacy as a bidirectional process; c)the definition implies selective control or an active and dynamic regulatory process. According to Westin (cited in Altman, 1976), privacy is seeking a balance between the openness and closedness which means both social interaction and physical withdrawal when desired. There should be a balance between these two, since when there is too much openness than desired or when there is too much closedness than desired this situation creates discomfort and unsatisfaction. There should be an optimal level of social interaction, too much privacy or total lack of privacy can create total isolation or crowding effects both of which are unsatisfactory for the individual. These terms will be disccussed in the following parts of this chapter (Figure 3.1.).

It can be said that privacy is an interpersonal event, involving some linkage between combinations of persons or groups. Also, it is a continually changing process which reflects a momentary ideal level

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                    ┌──────────┐
                    │  social  │
                    │ isolation│
            ┌──────→│(achieved │←──────┐
            │       │privacy is│       │
            │       │more than │       │
            │       │ desired  │       │
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            │            │             │
            │            ↓             │
┌─────────┐ │    ┌──────────────┐ ┌──────────┐  ┌───────────┐
│ desired │ │    │ interpersonal│ │ achieved │  │  optimum  │
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│ (ideal) │ │    │  mechanism   │ │(outcome) │  │privacy=   │
└─────────┘ │    │personal space│ └──────────┘  │desired    │
            │    │  territory   │               │ privacy)  │
            │    │verbal bahavior│              └───────────┘
            │    │  nonverbal   │
            │    │  behavior    │
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            └──────←│(achieved │←──────┘
                    │privacy is│
                    │less than │
                    │ desired  │
                    │ privacy) │
                    └──────────┘
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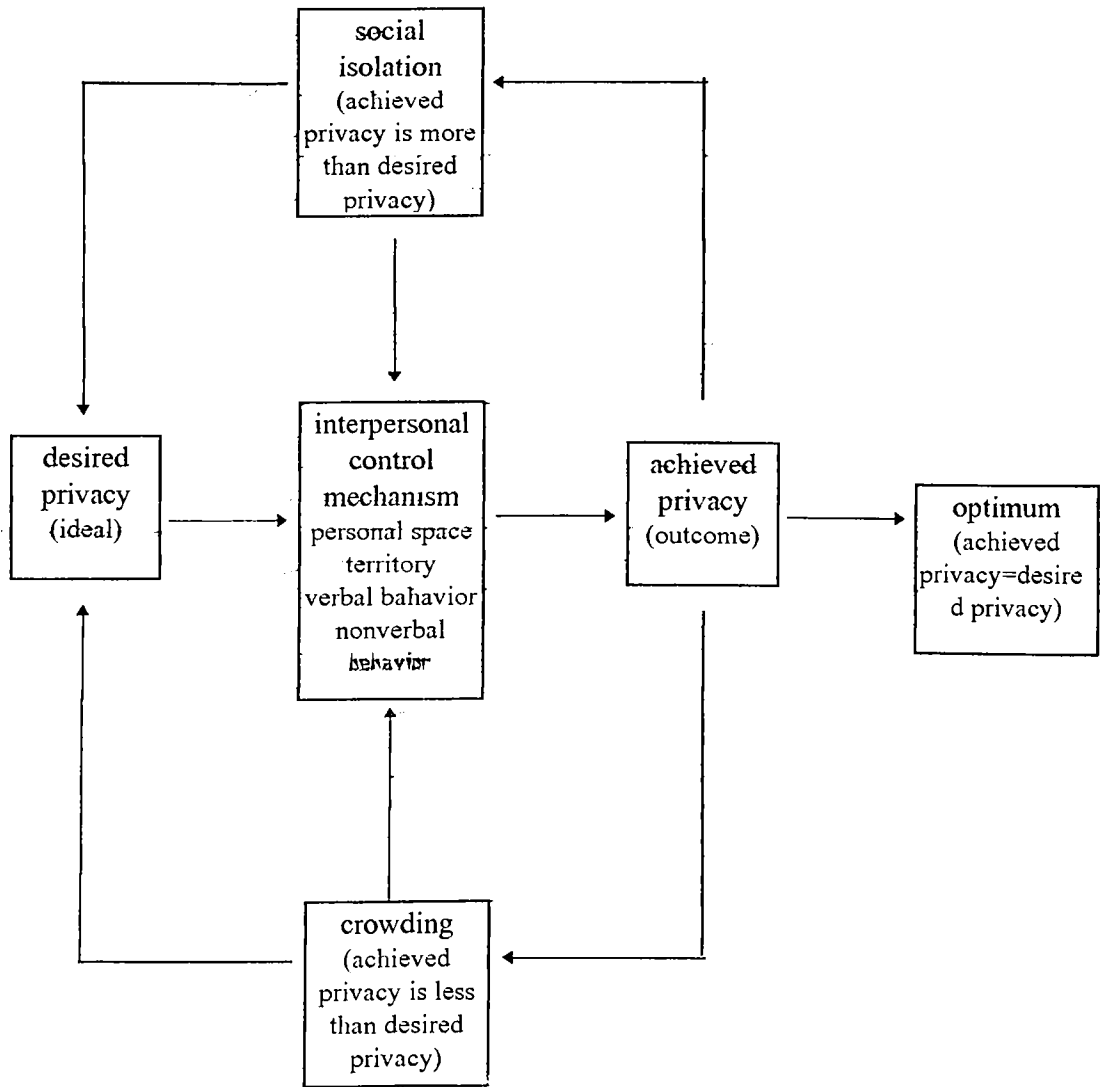
Figure 3.1 Perspective on Privacy as Central Process among Humans'
Space-Regulation Behavior Processes from Altman,
Irwin. *The Environment and Social Behavior*
(California: Wadsworth, 1975); rpt. in Robert Gifford,
Environmental Psychology (Massachusette: Allyn and
Bacon, 1987) 212.

of interpersonal contact which can range from wanting to be

accessible by others, to wanting to be alone. Privacy, is always

described as withdrawal of the individual, isolation process of the

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individual or psychological barriers of the individual to protect or close himself/herself, but besides these factors, choosing some close relationships with some special people, in other words some intimacies with selected people are also other factors of the privacy regulations. Through time and by having new experiences, the preferences of each individual to desire and seek for privacy will change. Also, the location where the individual exists is another factor that effects the preferences of privacy.

In this point, the important thing is not to find a proper definition for privacy, but to understand the function of privacy, to identify antecedent conditions which triggered the desire for privacy or to examine the process, philosophy, or legal implications of privacy (Newell, 1995).

Newell (1994), pointed out that function of privacy is necessary to provide protection for two states; a) system maintanance, and b) system development of human beings. Newell (1994), considers the human being as a stationary open system which is subject to the influence of both internal and external conditions. System maintanance is related with the protection of the individual against the external threats. System development involves the opportunity to develop freely, individually, and optimally without coercion. In this

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point, Newell concluded a fair assumption that, circumstances which promote system maintanance or system development will be selected or preferred and those which threaten the system will be avoided (1994).

Everyone has his/her own ways to obtain privacy, the level of privacy is up to the one who is seeking it. There are several different definitions of privacy in the literature (Table 3.1.), as cited in the paper of Newel (1995). But one point should be noted as, privacy is not totally an escape from the pubic domain.

Seeking for privacy is changing from people to people since the circumstances are changing while seeking privacy. Any time in which one individual seeks for privacy, for another individual there is no reason for it. The reason of this is, as Lowethal (1975) pointed out, the post-experiences including childhood influences, cultural norms, previous success with obtaining privacy when desired, while contributing to the present people, were coloured by the current environment and expectancies (cited in Newel, 1995).

Newell (1995) discusses privacy by making the perspectives of privacy similar to a segmented circle which "is made up of some

Table 3.1.Definitions of Privacy in the Literature

Privacy is:
a) not in principle detectable by everyone in the same way (Bailey,1979)
b) the source of activities (Weiss, 1983)
c) an instrument for achieving individual goals of self- realization (Westin, 1967)
d) a compound of withdrawal, self-reliance, solitude, contemplation, and concentration (Chermayeff & Alexander, 1963)
e) an attribute of place (Webster, 1979)
f) a state of being (Fischer, 1971; Bailey, 1979; Weiss, 1983; Schoeman, 1984)
g) a zero relationship between a group and a person (Kelvin, 1973)
h) freedom to choose what, when and to whom one communicates (Westin, 1967; Ittelson et al.,1970)
i) personal control over personal information (Westin, 1967; Greenawalt, 1971)
j) negation of potential power-relationships (Kelvin, 1973)
k) the right to be left alone (Cooley, 1880; Brandeis & Warren, 1890)
l) control of personal space (Hall, 1969; Canter & Canter, 1971; Canter, 1975; Gold, 1980; Fisher et al., 1984; Duvall-Early & Benedict, 1982)
m) a central regulatory process (Altman,1975)
n) a voluntary and temporary condition of separation from the public domain (Newell, 1992)
o) a valued commodity (Loo & Ong, 1984)
p) a state in which persons may find themselves (Velecky, 1978)
q) a value that should be considered in reaching legal decisions (Gavison, 1984)

Source: P.B. Newell, "Perspectives on Privacy" *Journal of Environmental Psychology*, 1995:88.

sections for works that are either (a)people-centered; (b)place-centered; (c)interested in person-environment interaction with primary interest in place; (d)interested in person-environment interaction with a primary interest in person or (e)interested in the person-environment interaction with a balanced interest in the person, the place, and the interaction itself" (88). So, it is obvious that both

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personal feelings, and the space characteristics and also, the interaction of these are the factors that create the desire of privacy, as mentioned before.

Privacy cannot be discussed by itself, there are some dimensions and mechanisms which are functioning with and within the privacy process. Well-being is a very crucial state of the human being during every part of his/her life, so each individual has many desires and goals to achieve the optimal life style with appropriate social interaction and with appropriate withdrawal, in short, with an optimal level of privacy.

3.2.1.2. Privacy Dimensions - States of Privacy

At the begining, the concept of privacy in psychology literature was considered one-dimensional, as stated by Pedersen (1987). Westin, systematicly worked on this subject and by making a theorical analysis on the functions of privacy, he suggested that there was four different kinds of privacy instead of one type (cited in Pedersen, 1987). These four kinds were; solitude, reserve, intimacy, and anonymity.

Afterwards, Marshall determined emprically the Westin's four states of privacy and found out two additional states; "Not-Neighboring, and Seclusion" (Pedersen, 1987:1239). Although the aim of Marshall, was

not to prove the explanations of Westin, but after his factorial analysis, the results showed that the non-emprical findings of Westin's reseach were also empirically correct.

After these two researchers, Pedersen (1979) found out some states of privacy by an emprical study. The results of the research were similar with the previous two studies. Like Marshall's results (Pedersen, 1987), Pedersen found out six states of privacy. In Pedersen's classification there was not seclusion and not-neighboring, instead, like Westin's classification there were solitude, reserve, anonymity, and intimacy. Differently from Westin's classification; Pedersen extended the classification of Westin's research and found out isolation that was similar to solitude but more strict, and he divided Westin's intimacy into two; intimacy with friends and intimacy with family (1987).

Both Newell (1995), and Rüstemli and Kökdemir (1993) cited Westin's (1967) four types of privacy which are solitude, reserve, intimacy, and anonymity. *Solitude* is the condition of being alone and unobserved by others, and it is a condition which is either desirable or neutral. In solitude there is no need of being geographically removed from others. For Pastalan (1975) the distinguishing characteristics of solitude were solitariness and physical isolation (cited in Newel,

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1995). *Reserve* proposed by Westin (1970) involved the establishment of pychological barriers against intrusion (cited in Altman, 1976). According to Pastalan (1975), it was the most subtable form of privacy, because of its reciprocal nature and willing discretion of significant others (cited in Newel, 1995). *Intimacy* is a type of privacy that was related to an individual's or group's desire to promote close personal relationships. As claimed by Newell (1995), if people do not have an opportunity for privacy, intimacy could not exist. *Anonymity* is a type of privacy which gives the individual an opportunity to move around in public, without being recognized or the subject of attention. Pedersen (1979) extended this four stated privacy list to a six stated one as mentioned previosly. According to Pedersen's (1979) explanations about the types privacy cited in Rüstemli's and Kökdemir's (1993) paper, one of the new states is *isolation* which is similar to solitude, but refers to physical separation of self from others as a way of life which means being by oneself and geographically removed from others (Pedersen, 1982). Secondly, he divided intimacy into two which are *intimacy with family* and *intimacy with friends*. Intimacy with family is the desire of being alone by family, where intimacy with friends is the desire of being alone with friends. These two factors are very important while conducting an emprical study between different cultures.

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Pedersen (1982) discussed some individual characteristics which direct the individual to prefer any kind of privacy. Individuals who are low in self-esteem are more inclined to be reserve and to seek solitude and anonymity. The low esteem of others around the individual creates to seek intimacy with friends and family. Generally, intrspective and meditative peoeple are more likely to be nondisclosing and to seek isolation or intimacy with family members. The social and impulsive nature of happy-go-lucky persons lead them to avoid too much seperation from others, so they do not like isolation, solitude, intimacy with family, or anonymity. Their less social counterparts tend to seek those kins of removal from others. More tolerant persons to self and others have a tendency to choose anonymity. Pedersen (1982) pointed out that, the emotional instability is not associated with any particular privacy preference.

The states of privacy discussed above are valid for most of the environmental psychology researchers. All of those authors' ideas are similar that these states sum up the physical, social, and psychological means of achieving privacy.

3.2.2. Personal Space

The awareness of the individuals about their personal space, was pointed out that "Most of the time , when our personal space is not

abused, violated, or mishandled, we are not aware of its existence..."
(Gifford, 1987:104).

Personal space is important while talking about privacy mechanisms.
The term *personal* refers to "of or relating to a particular person;
individual; private." (Macmillan Dictionary, 1973). This means
personal space is a space that is related to a particular person. It is an
invisible area which surrounds the individual. Personal space is like
an invisible bubble that embrances each individual. The dimension of
this invisible bubble depends on the owner's personal space definition
and the distance regulations of the individual with the others.
According to Hall (1966), personal space is a small protective sphere
or bubble which an organism maintains between itself and others
(cited in Ittelson et al., 1974). According to Robert Sommer, it refers
to an area which has invisible boundaries surrounding an individual's
body into which intruders may not come (cited in Gifford, 1987). As
an other point of view, it can be defined as the distance component of
interpersonal relations (Gifford,1987). It is both an indicator of and
an integral part of growth, maintanance, and decline of the
interpersonal relations as seen in Figure 3.2.

Gifford (1987) discussed the three aspects of personal space. The first
aspect is that, the personal space is personal and it is a portable
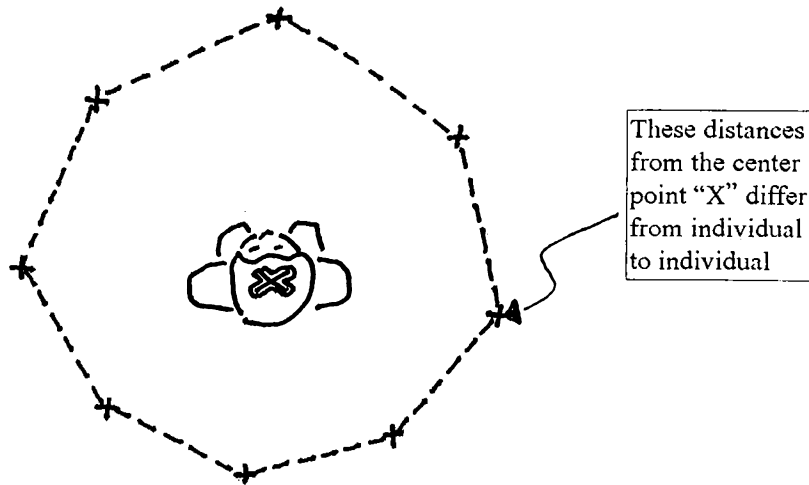
Figure 3.2. The Shape of Personal Space
from Hayduk, "L.A. The Shape of Personal Space: An
Empirical Investigation" *Canadian Journal of Behavioral
Science* (1981, 13) 87-93 rpt. in Robert Gifford,
Environmental Psychology (Massachuesetts: Allyn and
Bacon, 1987) 105.

territory. It is totally different from other territories, whereever the

individual goes, the personal space of him/her will surround him/her.

No matter whether he/she sits or stands, the personal space will be

around the individual. The borders of this territory are not sharp like

property lines but they are fuzzy. Usually, unauthorized intrusion is

an accident, but sometimes it is not. In both cases, the intrusion to the

personal space is a stressful event. Authorized intrusion is possible,

and usually this is because of a special intimacy of two or more

individuals because of this, the intrusion of this kind is not stressful.

Secondly, personal space is a spacing mechanism. As mentioned at the

beginning, personal space involves an interpersonal distance (Becker and Mayo,1971; cited in Gifford, 1987). Not only the distance between the individuals, but also the angle of orientation between them is important. Thirdly, it can be said that personal space is a communication channel through which individuals are sending massages to each other. This communication channel functions differently by the various distances between individuals. These three conceptions are complementary at each other.

Each human needs a certain floor area or body buffer zone to avoid contact with others, in other words, each person needs a space surrounding him. This is both physically and psychologically important for the well-being of the human. Ittelson and his colleageaus (1974) stated the importance of personal space and the distance in relation to some factors as; one's identity as a unique and separate person, the distance necessary to develop a clear image of others and of to objects in one's setting, the appropriate spaces necessary to carry out particular roles where appropriate distances and behaviors are associated with these roles.

As Gifford (1987) stated, the personal space varies according to the sex, age, status, and role in the society; cultural and subcultural background of the individual. According to Leibman (1970), there are

some factors which are influencing personal space norms and behaviors, including; characteristics of the environment, characteristics of the individual, characteristics of the task or relationship between individuals, and characteristics of the other individuals (cited in Ittelson et al., 1974).

In the case of an intrusion to one's personal space, there are some different attitudes held by the individual. This precautions are varied from verbal to nonverbal responses. According to the personality and situation differences, the methods of reducing the intrutions to the personal space change. There are also some situations in which the infringement of the personal space is inevitable; for example, in a crowded elevator or bus usually people feel discomfortable, since, both their personal spaces are infringed by others and they infringe the personal spaces of the others.

There are four personal zones which are namely; touch zone, non-touching zone, personal confort zone, and circulation zone (Diffrient et al., 1991). Touch zone, as clear from its name, is the closest zone for the individual. The ones who can intrude this zone are usually the very intimate individuals to the person. Generally, the mates are in their touch zones when they are personal relationships. Non-touch zone is bigger than the touch zone, but still the distance between two

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individuals in non-touch zone, is a close distance for them. Thirdly, personal comfort zone is the zone in which individuals are comfortable when they are interacting with others. The last zone is the circulation zone which is the largest zone of the individual. Although it is a personal zone, the circulation of others through this zone do not disturb the individual. The dimensions of these different zones vary from individual to individual. These zones are disscussed on the floor plan base, and although they can touch each other, they should never overlap with each other (Diffrient et al., 1991).

There are five conditions of acceptable distances between humans (Diffrient et al., 1991). It is mentioned that the standarts can be changed according to sex, age, culture, etc. and the technical factors within the living spaces like light, acoustics, etc. These five different distances are; intimate distance: 0-0.45m (0-1.5ft), personal distance: 0.45-1.2m (1.5-4ft), social/consultive distance: 1.2-3m (4-10ft), public distance: 3-9.1m (10-30ft), and finally the not close distance 9.1-12.2m (30-40ft).

Some other sources in the literature discussed only the first four of these different distances, by dividing each distance category into two. In those examples, each distance had a near and far phase, so there is eight interaction zones between the individuals (Gifford, 1987).

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3.2.3. Territoriality

Territoriality is another process which should be considered within environmental psychology. First studies of territoriality was conducted on animals. Certain species of infrahumans stake out a territory to be defended against members of their own species and by this means establish the appropriate ecological balances for preserving the species (Ittelson et al., 1974). Another similar definition is by Veitch (1995) who claimed that territorial behavior was the manner in which the humans or infra-humans regulate the distance between themselves and others of the same species.

The dictionary meaning of *territoriality* is "...the quality, condition, or status of being a territory which is any large tract of space of unspecified boundaries occupied by someone else." (Macmillan Dictionary, 1973). Territoriality involves physical space, possession, defense, exclusiveness of use, makers, personalization, and identity. It is a way in which man achieves a sense of control over his life and this is through his ability to control significant behaviors in defined areas of space. He has the right to determine who will enter or not to this area, since he is the owner of that piece. Gifford (1987) claimed that defense of a territory is a key element of many definitions about the term. The most important difference between man and infrahumans

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is territorial behavior is instinctive in animals and it is optional in humans (Roos, 1968; cited in Ittelson et al., 1974).

A person has a great control over the physical and social components of the near-around environment, through territorial behavior. Each individual has to have a degree of belonging and control over the spaces adjacent to his/her territory, having identified himself/herself with the space and having the opportunity to defend that space also for safety purposes, in order to regulate interaction, and allow or prevent communication with other individuals.

Although territories may be controlled by individuals, they may also be controlled by groups. They may be large or small according to the activity, personal characteristics, cultural norms, physical characteristics of the environment, etc. Territories are usually physical and they consist of space (Gifford, 1987).

Vinsel (1980), pointed out the two functions of territorial behavior which was found out by several authors such as Altman, Chemers, Edney, and Buda. The first function is that the territory around the individual communicates the personal identities of the individual, in other words by examining the territorial behavior of anybody someone guesses the personality characteristics of that individual. The second

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function is, territoriality regulates social interaction between individuals. This is achieved by control of spatial areas and objects.

Veitch (1995) pointed out the types of human territories which were defined by Altman in 1975 in three categories. In the first case, there is the primary territory which is owned exclusively by the occupant, for a relatively permanent duration of time. This kind of territory is perceived as under the total control of the owner. Primary territories are off limits to the outsiders, unless invited by the owner, without permision the intrusion to this territory is a serious matter. Next is the secondary territory that is the territory which is occupied by any individual for a specific time, such as a class desk or an office room. Altman (1975) claimed that, this is the bridge between the total control over the primary territories and the almost complete lack of control over public territories, and named them as semi-public territories (cited in Veitch, 1995). Lastly, there is the public territories which are free access areas. Everybody in the society has the same right to use these areas. A theater seat, a bank in a recreation area, or a picnic table in a wood area are the items on which the individuals define a temporary territory. Usually, the concept of first-come-first-served is valid for these territories. In those kinds of territories, it is realized that there is a reserve activity such as putting some books on the table or hanging a coat over the chair.

3.2.4. Crowding

The first studies about crowding was conducted on animals, and the most common one was by Calhoun (1962, 1966) who used rats in his experiment (cited in Ittelson et al., 1974). After these types of experiments by different researchers, some researchers who were dealing with human-environment relationship have conducted some studies about the crowding perception of humans. The perception of crowding and regulations against it by humans are a little bit different from the animals.

Crowding is a very important issue for privacy. In the previous sections it is discussed that if the achieved privacy is less than the desired privacy there will be crowding. Then, it is important to understand what crowding is as a term. *Crowding* is a term coming from the root crowd which means "...large number of people gathered together, throng, particular group of people, set, clique." (Macmillan Dictionary, 1973). The meaning of the term is similar in environmental psychology. The high densities in the living environment can lead to the feeling of crowding, and when it happens, the individual feels that the number of people present in the environment reduces his/her freedom of choice, including the freedom and ability to avoid unwanted social and visual interference (Schmidt,

1979). Krupat (1985) stated that the psychological and subjective experiences when people had less space than the desired level might be defined as crowding. According to Ittelson and his colleagues (1974), crowding is a term which is usually employed when the number of person in a given unit of space exceeds an optimum standart for comfort and normal functioning. Also, the heat, very high sound levels of human speech and environmental factors, etc. are the factors which make the individual to feel crowded (Ittelson et. al., 1974).

Density which is based on objective measurements, is the physical description of the number of people in a cetain amount of space (Krupat, 1985). When the number of people that dealing with each other in any environment increases, in other words when the density increases as a result of unpredictability and uncontrollability of one another's behaviours and finally, undesired flow of information occurs from one individual to others, the feeling of crowd is sensed. If the levels of crowding increase too much, then there will become the feeling of overcrowded. It can be said that crowding refers to the individuals' experiences of the number of other individuals. It is instead of being a physical ratio, it is a personally defined, subjective feeling that too many others around (Gifford, 1987). Individuals prefer to have a great control over their near surroundings. If the

number of people using the same near territory space is perceived too much by the individual and this means the control over the space is decreasing, in a way it is the loss of privacy of the individual in that territory.

It should be pointed out that, high-density should not lead to crowding every time, although it has a certain potential to increase crowding in space. Density and crowding are related terms, but this does not mean they are tottaly interrelated with each other. Density is a physical condition involving space limitations, whereas crowding is an experiential state determined by the perceptions of restrictiveness, when exposed to spatial limitations (Veitch, 1995). In some activities or in some special spaces, although there is a high density level and it can be said that the space is not a crowded space. The participants may not feel crowded, just the opposite, they may prefer to be in that space and the density level of the space can be an attractive factor for them. A party is a situation like these, which the same density level of people can be distrubing and annoying for the individual in a working environment like in an office. Although in a party, or in a theater, the same density is acceptable or even preferable for the individual. Opposite to this situation in a place in which very few people are occupied, one can feel crowded. There is one important point in this, as Ittelson and his collegeaus (1974) pointed out as the conditions

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with high density that creates negative connotations on the individuals are called crowded environments, but the environments in which density is fun and prefereable by the users, the condition of high density is not felt as crowded.

The special situations as studied in the previous examples, there are changes in the perceptions of the individuals about the concept of crowding. Not, only, the nature of the activity type or the specialness of the space, but also the individualistic differences, cultural backgrounds, physical and psychological well-being, social status, roles of the individuals in the society are the factors that are related to the perception factor of crowding. Gifford (1987) pointed out that crowding is a multi-dimensional experience, it may refer to the self as an internal focus or to the setting as an external focus.

Three aspects of crowding was discussed by Gifford (1987). According to his explanations, there are situational, emotional, and behavioral aspects of crowding. First, crowding is based on some situational antecedent; such as, too many people approach too close or the goal of the individual is blocked by a glut of people a head,etc. Second, crowding usually implies negative affects. Third, crowding will produce some kinds of behavioral responses in order to get rid of

the unwanted affects of it, such as withdrawal of that space, avoid eye-contact, etc.

In order to elliminate this undesired situation called crowding, there are several methods that are conducted by the individuals. For example, leaving any environment that is defined as crowded is a basic way of escaping crowding. Also, regulation of the privacy dimensions which will be discussed in the following parts is another way for the individuals to get away from crowding (Ittelson, 1974). The possible reactions to a crowd will vary widely on the basis of an individual's psychological status as well as his immediate needs and purposes.

3.3. The Role of Personal Space, Territoriality and Crowding in Privacy Regulations for Education

Environmental psychology factors are very crucial for educational environments. Most of the human life is spend in those kinds of environments since very early ages. The four social processes of environmental psychology; privacy, personal space, territoriality, and crowding will be discussed for educational environments in this section. First, the importance of them and the privacy regulations related to these social aspects will be discussed for the younger

children. Then the same aspects will be studied for the individuals of university students.

3.3.1. Importance of Social Processes in Early Ages

Usually, adults expect their children to learn to respect their privacy, but they are not aware of the need of their children's privacy desires, so children could not be given the right of privacy by adults (Lowry, 1993). It should not be forgotten that private spaces for children in their living environment, are crucial to the development of self-concept and personal identity.

It is clear that privacy is a very important psychological and physiological factor in human life starting from early ages. Privacy is a very common factor in child development because it is not easy for a children to achieve privacy when they seek it, while it is easier for adults to achieve privacy when they seek it. For that reason, it is easier for the adults to go away or be alone, but it is more difficult for children, since there is a great control on children by their parents or supervisors. As mentioned in section 2.3, privacy is a way of escaping unwanted social interaction, to be alone when desired, or prefering some special people to interact; it is also valid for children for a healthy development. A child can seek privacy both when he is at home with parents and when at any institution such as a childcare

center. Moore (1996) pointed out that whatever the environment and the density in that environment (at home with father and mother or at childcare center with a lot of small children, supervisors etc.), there should be some places such as privacy caves, single rooms, secluded areas etc. for children. In every phase of child development it is one of the major factors for a healthful development. In the following years, when the individual is in the secondary school, high school, university, etc. privacy is a common factor that effects the achievement of the student.

Most of the researches, showed that too much noisy and crowded school environments are dangerous for the development of little children. The attention of the children at those ages can easily be disturbed by some environmental factors since the adaptation level of the children are very low. Also, there is the risk of creating aggression and stress between the children in these kinds of school environments (Lowry, 1993). For these reasons, open-plan school applications have the risk of being a stressfull environment for the small individuals. Lowry claimed that the school environments like those have also the problem of difficulties in controlling the children (1993). Some other disadvantages of the open plan schools were discussed by Ahretzen and his colleagues (1984). They claimed that the excessive noise and visual stimulation of open space plan schools

have adverse, distracting effects on the students. Also as another factor, it was claimed that most of the schools like these do not provide sufficient opportunities for private study for the students (Ahretzen et al., 1984). In those kinds of school environments, the physical objects are used by the children as defensible boundaries to protect himself/herself from the intrusion of others, in other words by using those kinds of boundaries they create their territories and achieve some privacy levels. Like those physical objects to obtain privacy, most of the children prefer to be in secluded study areas or corners when they want to be alone (Ahrentzen et al., 1984). In sum, the features of the educational environment design which cause distraction, agression or good privacy conditions, influence the pyschological and physiological development of children.

The perceptions of environmental conditions and factors differ by children and adults, because of this their behavior and attitudes to the physical environment vary. Another reason for this is the difference of the activities hold by children and adults in the same environment (Ahrentzen et al., 1984). Both the individual characteristics of users and the characteristics of the environment affect the privacy regulations in educational environments. Privacy regulations are essential for educational environments. They affect both the development, and the achievement of the students. It can be said,

school environments offering supportive teaching, coherent structure, emphasis on autonomy and moderate stress on achivement are associated with students adopting approaches to learning (Saarinen, 1995). The person-environment-behavior researches indicate that students achieve better and the physical and psychological development of students are better, when there is little difference between their actual and prefered learning environments.

3.3.2. Social Processes of University Students

In university life, privacy is very important whatever the profession of the student is, and also for the educators it is an important desire. There should be privacy regulations in every part of the university life for both students, educators and also, for all of the other staff working in that environment. Like the other environments which people are using together, there is a shared living process in university life. When there is a partnership like this, there are different human relations between the users of that environment. As mentioned in Section 2.2.3.2., every individual has different individual characteristics and requires different expectations from his/her environment. This is due to the differences of post experiences including childhood influences, previous success in obtaining privacy when desired, ability to interact with other individuals cultural and subcultural norms.

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To be a university student is a different experience for the individual compared to the past years of him/her as a student. The conditions that an individual has faced in primary, secondary or high schools are different from the ones in a university. The attitudes of the others to the individual such as parents, or supervisors change since he/she is a young adult. The individual is no more a child so he/she should be aware of himself/herself. As a young adult, the individual has the right of selecting his own preferences in his life more freely. Due to the characteristics of university students, the privacy preferences and regulations of them is very crucial while discussing the concept of privacy in university life.

Besides the discussed factors, Mehrabian (1976) claimed that environmental characteristics of universities differ from other educational institutes. Generally, in university life there is a campus living, which is preferable by the students instead of being in a single or couple of school buildings. Secondly, beside the environmental factors, the psychological perception of the university life differs from the other types of education. In universities there is not a fix, single curriculum like in primary schools, etc., instead each student should take the classes which are related to his/her department. Generally, if it is considered that young individuals prefer to study

the subjects which they are interested in, the classes or in other words, the task should not be boring for them. During a campus life, any university student can be in different environments, can attent different classes, and can interact with different groups of individuals, because of this possibility of choices, university life seems preferable for the young adults (Mehrabian, 1976). The university students, slowly realize their ability to control their lives through university education. They are concious about their right to privacy. They have the control over their personal space, territory, and the interaction level with others. Control of one-self and the preferences are the keywords while talking about the privacy regulations of individuals. Cultural and subcultural norms are very important factors while considering privacy regulations in university life. Having the same education type or the subject, and even though the environmental factors, two different cultures' individuals privacy expectations can differ a lot. Rüstemli and Kökdemir (1993) determined the privacy requirements of Turkish students, and compared them to the students of other cultures mostly the western cultures. While conducting this study they used Pedersen's Privacy Questionnaire (1979). First they translated it into Turkish and then made a pilot study in order to test if the questionnaire was appropriate, since it had been prepared for another culture by a western researcher. After this small guiding work, they omitted four questions from the original questionnaire and

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added four new questions to the questionnaire and carried out their research with this new questionnaire. While evaluating their research, they used Pedersen's six dimensional privacy model (six states of the privacy) and analyzed their research by pointing out the different preference frequencies of the respondents while obtaining privacy.

Rüstemli and Kökdemir (1993) found that the cultural differences show lots of differences while seeking privacy. Since there is a high degree of social responsiveness in Turkish culture, most Turkish students feel obliged not to ignore the presence of others and others' attempts to interact.

The study of Rüstemli and Kökdemir, was based on the study of Pedersen who did a similar research, but his respondents were the young adults from a western culture (1979). First of all, Pedersen did a factorial analysis and found out the six states of privacy which were discussed in Section 3.2.1.2. previously. Then he gave a five scaled questionnaire to the respondents. According to the results of his research, similar factors came out with the research of Rüstemli and Kökdemir (1993).

The comparison of these two researches point out the differences of privacy preferences and regulations of the university students from

different cultural backgrounds. In Pedersen's research (1979), reserve is the primary factor which was selected by the young adults, but in Rüstemli and Kökdemir's (1993) research solitude was the primary one. Another interesting point was that while intimacy with friends is more important for the Turkish students, students from western cultures prefer intimacy with family more than intimacy with friends.

Not only the cultural differences but also the sex and personal characteristical differences create some variances between students while seeking and obtaining privacy. Marshall's research pointed out that among different groups, there are differences of privacy preferences (cited in Pedersen, 1987). Pedersen carried out a research about the preferences of university students between sexes (1987). The results of the study pointed out that there are significant differences of privacy preferences between male and female respondents. Pedersen (1987) claimed that seeking for isolation was significantly higher for males rather than for females. Females are more social than males, since social interaction are more important for them. Females mostly prefer intimacy with friends as a privacy state. Like sex differences, personality differences are likely to influence a person's immediate choice of a certain kind of privacy.

Besides environmental factor differences, sex , personality, cultural and subcultural differences; the background experiences of the individual affect the privacy preferences of them. So, the conditions which a young adult has been faced at the early ages affect his/her privacy preferences in university life. It is also correct to claim that the privacy conditions which a university student have will affect his/her privacy preferences in their future lifes.

4. CASE STUDY

4.1. Description of the Study

The aim of this study is to make an empirical research about privacy regulation in a design studio which is the widely used space in a design education institute. Since privacy is an important issue in a design studio setting, this aspect and the methods of how privacy is regulated are the main questions of the research. Besides, privacy regulation is a common requirement for any kind of living environment, as well as in a design studio. A design studio is a place more than a working area or an educational class. There should be a living process in a design studio or in other words design studio should be a life space for its users, and it should be a satisfactory environment for its users. In order to measure the satisfaction level of users, privacy levels in a design studio should be measured, and this may be achieved by acquiring knowledge about privacy regulation within a studio environment. One important question is that, how it can be measured whether the space is a satisfactory space or not for its' users. Firstly, if the space is used by its occupants most of the time, although they have no necessity to be in that space or in other words if the occupants of the studio use the studio for working out of their class hours as an example in their free hours. Also, the success level of the occupants while working in this space may give some clues about the satisfaction level of the users of the design studio.

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In a way, design studio is similar to any work setting like an open office organization, so similar requirements are needed for design studios. Individual differences, task complexity, and privacy regulation in a design studio like in any other work setting, determine the satisfaction and performance of its users. Some of the users prefer private working settings, since some others may prefer a non-private and more social arrangement. Block (1989) claimed that, greater arousal levels in a non-private office were predicted to decrease the satisfaction expressed in these settings, in contrary to increase the performance by producing a social facilitation effect. Beside these facts, the individual differences, such as sex differences (male/female), and personality differences (extroverts/introverts); task complexity and the content of the work; and finally the privacy regulation in the existing space are the common factors in defining a private or non-private working setting.

In a design studio, usually there is an open plan space organization, but this does not mean it is a place with total loss of privacy, since it is a non-private working setting. The occupants of the studio can regulate privacy according to their wishes and needs. The task in a design education studio is not a simple task at all, since it is related both to the design process and the education process within this space. Beside task complexity, there can be a lot of people in the design studio working together and each person has a different individual characteristic, such as sex differences, or personality differences.

In this study, it is decided to measure the privacy dimensions of the users of a design studio in relation with personal space, territoriality, and crowding and the space qualities of the for privacy regulation. The fourth year studio at Bilkent University, Interior Architecture and Environmental Design Department has been chosen as the place to conduct this research. There are several reasons for choosing this space. First, it is the fourth year studio therefore there is a more serious design process in this studio, especially during the second semester the design studio becomes a nine credit course, and the design studio is expected to be the second home of the students. Secondly, this studio is one of the largest studios in the faculty. There is an open space organization, but some of the physical features of the studio give the users the opportunity to be by himself/herself in the studio or to create private corners within this studio (Figure 4.1., 4.2. and Appendix A). There is the chance of both having social interaction and avoiding social interaction in this studio, due to its physical features such as columns, niches, etc. (Figure 4.3. and 4.4.). Also, these physical elements avoid the space from being a dull environment. Thirdly, it has been observed that most of the students do not use the design studio in their free times for any reason like working, gathering, resting etc. They do not have a specific space which is specified with some boundaries within that studio. They do not feel that they are belonging to that studio and for these reasons they do not prefer working in the studio. Last but may be the most common reason for choosing this studio as a case is that the author has also studied in this studio for a year when was a senior student. As a member of this studio as an undergraduate student, the

author had some problems within the space, as preferred to work in the studio environment both during the class hours and free times.

Figure 4.1. A View from One Side of the Fourth Year Studio.

Figure 4.2. An Open Space Organization with Some Physical Building Elements That Helps the Students While Locating Themselves within the Studio.

Figure 4.3. Preferences of Students of Being Alone or with Friends While Working.

Figure 4.4. Locating Desks Behind the Colomns and/or near Some Partitions.

In this research, the study was conducted by a questionnaire which was consisted of two different parts (see Appendix B). The first part of the questionnaire consisted of multiple choice questions in which more than one answer could be given for a single question. Some open-ended questions were included in order to get some information and make definitions about behavioral elements in the studio. In this part of the questionnaire, some personal information were collected about the participants as their feelings, emotions, attitudes related to the studio, and about their life styles in their daily lives. In this part, in the first place, the information about the age, sex, living style (whether they were living by their parents or not, if they were living in dormitories or at any houses), etc. of the participants were collected. Secondly, some information about the ideas of the participants in defining the terms of privacy regulation as privacy, crowding, territoriality and personal space were identified. Lastly, some information about the privacy regulations in their design studios were determined.

The second part consisted of a 5-point numerical scale questionnaire which measures the six states of privacy regulation which were defined by Pedersen (1979). The six states of privacy are measured through this part of the questionnaire as Pedersen (1979), and Rüstemli and Kökdemir (1993) did, as defined in Section 2.4.2. Before starting the study, a pilot study (with some of the users of the studio) was conducted. After this pilot study, it is noticed that three questions were not very suitable for the questionnaire. These three questions also created some confusions in the participants' minds while answering them. Finally, there were twenty seven

questions in this part which are belonging to six-states of privacy as described in Section 3.2.1.2.

4.2. Participants

This study was conducted with 82, fourth year design studio students who were sahring the same studio. 44 of the participants were male (53.65%) and 38 of them were females (46.35%). The range of the ages of participants were from 21 to 27. There were 6 people who are 21, 14 people who are 22, 15 people who are 23, 21 people who are 24, 14 people who are 25, 11 people who are 26, and finally only one person who is 27 years old. The mean age of the participants were 23.73.

20 of the total participants are staying in the student dormitories, while 38 of them are living with their families. 11 of them are living alone in an apartment flat, and 10 of them are sharing a flat with several friends. 2 of the participants are sharing a flat with their brothers/sisters and one of the participants is living with his father in a flat. 46.34% of the total participants are living with their families which means nearly the half of them are living with their families. 24.39% are living in dormitories, while 22.91% of them are living alone and 10.97% are sharing a flat with several friends.

Most of the participants have a private single bedroom. 75.60% of the participants (62 students) have their own single bedrooms. 20.73% (17 students) of the students are sharing their bedrooms with a single person. Only 2 students are sharing their

rooms with two other people. There was no participant who is sharing his bedroom with more than four people.

4.3. Evaluation of the Study

In the following sections, the results of the two parts of the questionnaire will be discussed. From this evaluations, the definitions of some Turkish design students about behavioral elements and privacy preferences of them will be pointed out.

4.3.1. Results Related to Behavioral Elements

In the first part of the case study, it is aimed to collect some introductory information about privacy regulations of design students considering with the other social proecesses; personal space, territoriality, and crowding in the studio. This introductory information consists of their definitions about privacy, crowding, territoriality, and personal space; and, their precautions and procedures to achieve their own privacy regulations. The information collected in this first part, is useful in evaluating the second part. It could be managed to compare the answers of a single person by the given definitions about privacy in the first part with evaluation of the existing situation. In the second part, it was very easy to cross check the answers of each participant, and to understand how reliable the results were. Shortly, in the first phase of the study, respondents made their own definitions about the subject and then in the second phase they evaluated their design studio according to their own privacy regulation definitions and the statements that were related to the six factors of privacy which had been defined by Pedersen (1979).

Definition of Privacy: The answers of the participants to the sixth question which is an open ended question asking what privacy is, pointed out four common privacy definitions: a) according to some participants privacy is something directly related with the physical environment, so privacy can be provided by having a special space, a corner, a niche, or a span between two thick columns etc. and the physical elements provided privacy according to this definition, shortly, according to this classification privacy is a special space belonging to someone else, in which nobody could disturb the one in that space; b) privacy is the right for the individual to be alone both in a crowd or totally isolated, it is the right of the individual to leave any place in order to be private or wanted to be alone in his own space; c) privacy is philosophical and belonged to freedom, comfort, specialty of the individual in his /her own life, in this definition any situation which makes individual feel free, special, comfortable etc. are the basis of privacy; d) privacy containes a defensive attitude to all kinds of intrusions to both the physical and the philosophical perspectives of the privacy; defensive behaviors opposite to any interfering attitudes of others to the individual. Actually, all of these definitions are overlapping with each other.

Besides these common definitions, there are a few different ideas about what privacy is by some participants, such as, one of the participants claimed that privacy is a state in which the individual can be private and alone although he/she is in a crowded environment with others. Differently from the previous definitions, this

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definition is not belonging to isolation, solitude or reserve but essentially it is very close to the definition of anonymity. According to another participant privacy is the cluster of his/her relationships with other individuals and groups according to his/her sincerity with others. There are also some other participants who did not give any answers about this question. From those definitions, it is obvious that while some levels of privacy is very vital for one respondent, another may not realize that levels as privacy.

After these definitions about the meanings of privacy, the seventh question acquires information about the students' behavioral and physical attitudes, in order to be alone and/or private in the design studio during a class hour. This is an important point since the population of the studio is high, and there is 80 % attendance necessity for each student, so as a result there is the problem of overcrowding. In this question, they may choose more than one answer and they also have the chance of adding some special behaviors of them in order to obtain privacy if the answers did not state it. 41.46 % of the answers are belonging to going to their own desk since as seen in the following pages, most of these students define their desk, chair and close surroundings as their territories in the design studio. The percentages and the different prefeences of the participants are illustrated in Figure 4.5.

Next there was a very important point which is directly related to these previous definitions. This question helps to identify the ways the students locate their desks

Precautions for being Alone in the Studio/Percentage
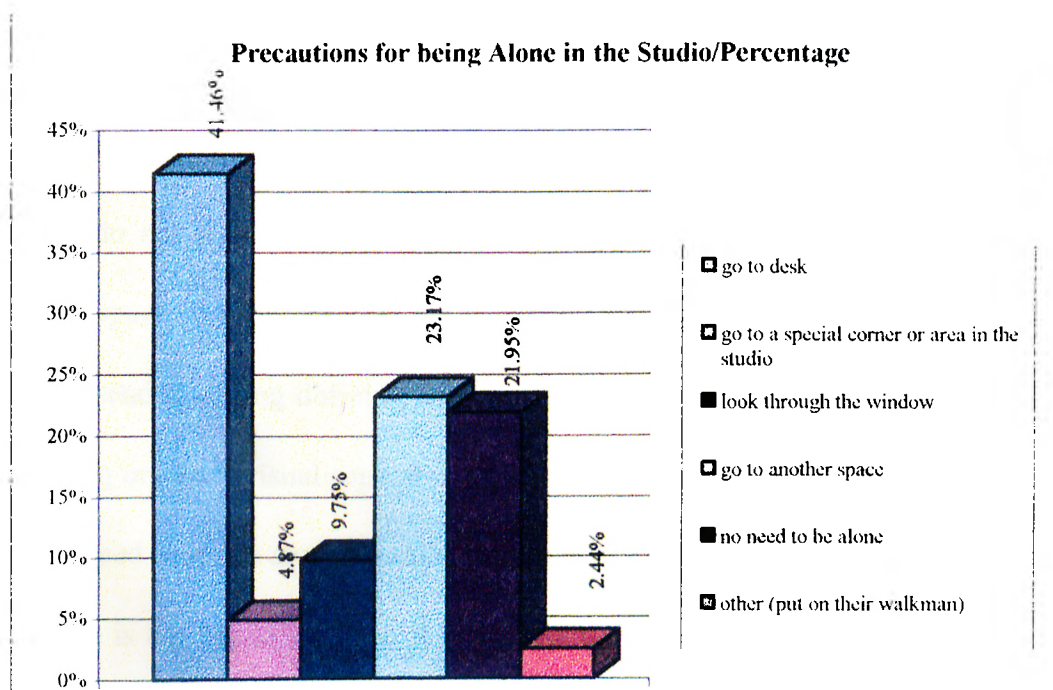
Figure 4.5. The Percentage/Attitude Graph of the Subjects to Be Alone in the
  Studio.

and organize their working environment in the studio. 60.98 % of the studio prefer

to make groups of three or four with some good friends and define their territories

by grouping their desks. 23.17 % of them prefer to locate their desks between

columns or in a niche, shortly in order to make a location they are searching some

physical structural or architectural features in the space. 21.95 % prefer a wall side,

in order to locate their desks and similar with this preference, 18.30 % prefer sitting

near a window. There are also some different ideas for this question from the 6.10

% of the studio. Two students claimed that they prefer sitting next to radiators, one

student prefer anywhere in the studio which is the least using part of the studio, one

student claimed he did all of these items while locating his desk, and finally one of

the respondents claimed that he was not able to do anything as he wished.

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In order to increase the level of privacy in the design studio, most of the students proposed to divide the existing space by using some partitions and space dividing elements. Although 45.12 % of them want to divide the space by some partitions, they do not want to work in smaller spaces. Their proposal is based on having a huge space like the existing one by some dividing elements such as some furniture, a suspended ceiling defining the space, some partitions which may be a wall to the ceiling or just a visual separator which can divide the space. 30.48 % of the studio, proposed that the studio should be smaller. Most of them think that their existing studio is too big to work in, it looks like a barn in a way. Very few of the students prefer totally isolation from the existing of the others. 6.10% choose to work with a group of friends in cabinets which are designed for groups to work in within the studio. 3.65 % of the students prefer solitude and they choose to work in cabinets which are designed for single ones with in the studio. Excluded with the given choices in the question, 19.51 % of the participants have some new proposals. 5 of the students clame that studio is sufficient with its existing situation and 4 others feel they do not need a greater level of privacy in this space. 3 students think that the population of the studio should be less and 2 other propose not to decrease the number of individuals within this studio but they prefer to have smaller studios and divide and locate the students to these smaller studios. One of the students think that the desks should be separated from each other and the studio should be much more bigger. Another single one propsed to control the sound level in the studio by using a better acoustical arrangement, by only this way the level of privacy could be increased.

Personal Space and Territoriality: Tenth and eleventh questions were very curricial and the key questions while figuring the two dependent and interrelated topics which are territoriality and personal space of social processes. When it was asked what their personal space is, a lot of different definitions about their personal space were obtained. It might be assumed that some of them did not know exactly what a personal space is because 23 students could not answer the question about this topic (question 11) and left the question unanswered. Some of the answers which were given by students in these two questions showed that the definitions of the students about their personal spaces were the basic elements for them in figuring out their territory in the design studio. Because of this, in discussing the results of this questionnaire to discuss the answers of the eleventh question before the tenth one and then discuss the answers of the tenth one according to the results of the other question should be more useful and appropriate. There are several different answers for the eleventh question which is aimed to find out the definitions of the personal space. This question is an open ended question so a student can state more than one situation or place for the answer of the question. When the answers of this question was grouped, it was noticed that most of the individuals showed their desk, chair, the wall next to the desk, the near surrounding of the desk, shortly, the area that was covered by these items as the personal space of the them. There were 33 answers that were pointed this answer. In the second place, as personal space 19 students claimed that the rooms (both working room and bedroom) of the individuals were the personal spaces of them. There were 10 students who claimed that their homes

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were their personal spaces. 10 students claimed that their cars were their personal spaces. While considering these three answers which are for personal space definition, it is looked at whether these individuals who gave these three answers, were living with their families, or staying in student dormitories, or living in a house lonely or sharing with a couple of friends; because according to these data their personal space definition changed. Three of the participants who claimed that their rooms were their personal space, were staying in student dormitories, nine of them were living with their families in their family houses, and seven of them living in a house away from their family by sharing with a couple of friends. Five of the participants who claimed that their house was their personal space, are living with their families, and other five are living single in their own house, since they are single in that house it sounds meaningful to define a whole house as personal spaces of those individuals. Seven of the participants whose personal spaces were their cars are living with their families and three of them are sharing a house with a couple of friends or living alone in a house. There was another answer for the definition of personal space which was stated by six students. According to them the area which he/she covers, the area which his/her belongings cover, the corners and spaces which he/she belongs and uses were the personal spaces of them. Beside these definitions there were some other non-dominant answers by single individuals, it was said non-dominant answers because only one individual stated each answer. One claimed that in any space the corners and the areas between columns were his personal spaces. Another stated that her bathroom was her personal space, although that lady was living single in a house, she did not stated her house or room as her

personal space but she stated the bathroom as the personal space. One individual stated her bed as her personal space. Another one of the students had an office and according to him the personal space was his office. Four of the students gave a little bit different answers to this questions; two of them defined physical areas around them by giving dimensions. First one, defined his personal space as a circle which had a diameter of 1 m when the individual was the center of that circle. According to the second one, his personal space was a 5 m^2 area that surrounds him. The other two had different answers; first one stated that the area that he could observe was his personal space and the other claimed that the space in which she could ignore the existence of others was the personal space of her. One student said that it was very difficult to define his personal space since spending most of his time in a studio like this which was huge and open space. The tenth question is about the territoriality in the studio, and the student defined their personal spaces with respect to their territory. The question asked what could be done in order to define the territory of the individuals in the studio. 35.36 % of the students preferred the choice which proposed to put some belongings on the desk, in front of the desk, and behind the desk such as some personal objects like pen box, schedule, etc., or hang on some posters on the walls that were near to the desk, or put flowers around the table etc. Most of the ones who preferred this answer were the ones who stated that their personal space was their desks so they preferred to create a territory around their desks. In the second case, 31.70% of the students stated that they defined their territory by using some furniture or by some partitions such as panels and by this way they would have a more defined territory with exact boundaries. 21.95 % of the

students stated that they did not do anything for defining their territories. By 8.53 % of the students there were some other possibilities to this question; for example, four students claimed that they would cover their desks with any covering material and write their names on their desks. This answer was also belonging to the personal space definitions of the students, the ones who stated their desks as their personal spaces proposed this idea in order to define their territories. One of the participants claimed that he defined his territory by his nearest friends which were sitting next to him in the studio. One other student taught that the existence of him was enough to define his territory. Another student claimed that there were not any possibility to define any territory in this studio. Besides these answers two students did not give any answer to this question.

Another crucial point is the duration of the studio usage. It was wondered if the occupants of this studio were using the studio out of the class hours, if they were using, how often they were in this space besides the class hours. Very few of them were using the studio in their free times. 20.73 % of the participants never used the studio out of their studio hours, which means they come here because of the necessity only in the class hours. 50 % of the participants stated that they use this studio very rarely out of class hours. While only 6.10 % of the students are using the studio only for once a week, 20.73 % of the students are using the studio more than once in a week. Only two students (2.44 %) of the 82 participants stated that they are using the design studio every day, systematically.

When asking them for what reasons they were using the studio or they were in the studio, a lot of different answers for this question were obtained. Firstly, 20 students did not give any answers to this question, it may be because they are not using the studio or they very rarely use the studio. Most dominant answers for this question was that most of the students are using their design studio in order to study or to draw something. This means the main two reasons were, studying and drawing. Also, the existence of the lightened drawing desks was an attractive point for the students to use this space. Another most common answer was to work with friends in a group in the studio. Some of them stated that they are using this space besides class hours for eating, resting, reading a newspaper or a book, gathering, to spend free times, or they come to the studio just to look around or just taking anything from their lockers. Few students claimed that they are preparing their projects in this studio, for example in the design process they are working in the studio, and they are drawing the final drawings of the project and finally they also make the models of their projects in the design studio. Finally, some of them are using the studio like a cloakroom to put their belongings when they have some work to do within the campus.

It was asked what is the required minimum distance between the students in a design studio, and it was compared to personal space standards. There are five categories of distance standards that were defined by some distance ranks. First, there is the closest distance (0 to 45 cm). Secondly, there is the personal distance (45 to 120 cm). Next, there is the social distance (120 to 300 cm). Fourth, there is the public distance (300 to 910 cm) and lastly, there is the greatest distance called no close

distance (910 to 1220 cm). From the answers of this question, it was understood that most of the students prefer closest distances. 51.22 % of the subjects stated personal distance. 23.17 % of the subjects preferred a more far distant which was the social distance. 8.54 % of the students preferred the closest one which was the intimate distance. There was no one who preferred the public distance while being in the studio but only one subject pointed out the not close distance. 13 subjects did not respond to this question and did not give any answer to it, so it can be said that the most common distance from the preferences of the 84.15 % of the total participants was the personal distance.

Crowding:When it was asked them under which conditions they could work easily in this studio, 35.36 % which is the major percentage, stated that the studio should not be too crowded. 24.39 % of the participants was not disturbed by the crowd, but they stated that there should be silence in the studio. 19.51 % of the students complained that they could not manage to work in this studio in any condition. There were also some students who were preferring both a crowding and noisy environment to work in (9.75 %). While there were some other proposals for this question, one participant did not answer this question. As it was mentioned in the previous sentence eight people proposed different conditions for the studio for having a more satisfactory working condition within the studio. Three students said that they could work in all conditions, one student claimed that there should be others in the space and there should be music while working, one other said that this statement was not a monotone situation which means according to the psychological

situation of the individual, the satisfaction level of the studio may be changed. One student claimed that the studio should be totally silent and not crowded, and another one pointed out a more technical reason that she needed a well air controlled space in order to work comfortable in that space. Lastly, there was a different answer which proposed that if the individual were forced to do something or tried to complete any work in a limited time period, the studio was the most comfortable place for him to work in.

In order to understand if they felt crowding in the studio, and the reasons of it had been prepared an open ended question that asked whether the studio was crowded and if yes what the reasons were. 65.85 % of the students thought that they feel crowding in the studio. 15.85 % taught the studio was not crowding, and 18.30 % of the students did not answer this question. Most of the participants who taught that studio was a crowded environment complained about the high level of population in the studio. Secondly, some complaints were about a technical characteristic of the studio. The participants thought that the noise level of the studio was very high and because of the bad acoustical quality of the studio, there was a crowding feeling in the studio. There were also some various answers which were a lit bit different from the previous complaints. Since most of the ones that complained about crowding, usually pointed out that there was too many people, the area was not enough, there was no order in the plan organization etc.; 14 students claimed that the studio space was too big, open and empty, because of this there was a crowding feeling. There were some other non dominant proposals for this question such as the desks were

too close, there were no partitions, the space had no characteristic and order, there were too many desks, and the space was both cold and lack of clean air. One participant proposed to make a suspended ceiling and taught that this would create an order and reduce the feeling of crowding.

When it was asked, what should be the maximum number of people who share this studio, the most common answer was 10 to 30 students for this studio in considering the capacity of the space. Only 9 students (10.98 %) from 82 subjects suggested that there should be maximum 5 to 10 users in this studio, but when the capacity and the dimensions of the space is considered, this statement do not seem very appropriate for this space. The reason why these nine students gave an answer like this could be the preferences of them about having total isolation in their working environment when they were working, so they taught if there were less people in a big space, it could be easier to keep far distances and having a great level of privacy. The preferences of the participants are illustrated in the Figure 4.6.

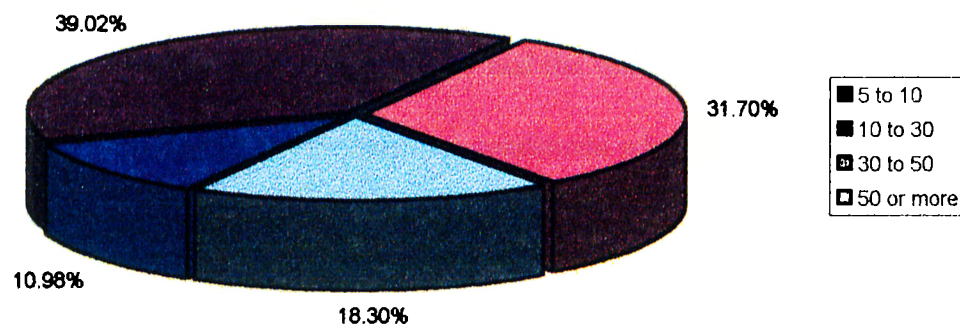**Max. Population in the Studio/Percentage**

Figure 4.6. Maximum Popullation Preferences of the Subjects for Their Studio.

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The eighteenth question which is a multi-answered question tries to figure out the preferences of the subjects with respect to their environments while designing. 57.31% of the subjects (47 students) claimed that they prefer being alone at home or at dormitory while they are designing or working; those students were seeking privacy while working and they preferred working in their own territories which were their homes or dormitory rooms, in a way the best privacy definition for them was isolation or solitude. 12 students (14.63%) claimed that they prefer being at home with their families while designing, which proved that intimacy with family was important for them. 8 subjects (9.75%) prefer designing in their design studio together with the other users of the studio that pointed out that they preferred both the anonymity and intimacy with friends. 7.31% of the students prefer being in their dormitory while designing together with roommates and friends from the dormitory, like the previous one, they preferred intimacy with friends. Actually, this answer and the answer which was stated being at home with family were similar, the only difference was that one was intimacy with friends and the other one was intimacy with family. 5 students (6.10%) prefer designing in the design studio, but they stated that they should be alone while designing. There are also some other preferences by 10 students, eight of them prefer working in their home with their home mates. One student prefer working in his private office and the other one stated that it does not matter where he is, but the environmental conditions which surrounded him should encourage him and there should be something to drink while he is designing.

When it was asked if they share their design ideas with their friends in the studio, the results were contradictory with the answers to the previous questions. Although it could be recognized from most of the previous questions, most of the students prefer more isolated working arrangements and they prefer being alone as much as possible while designing, the results of this question showed that most of the students share their design ideas with their friends. The percentages of subjects are illustrated in Figure 4.7. according their preferences to share the design ideas.

Since the population in the studio is high, there could be the possibility of not knowing everyone in the studio. To find out how many people is recognized in the studio, this question had been prepared. 42.68 % of the students recognize everyone in the studio,

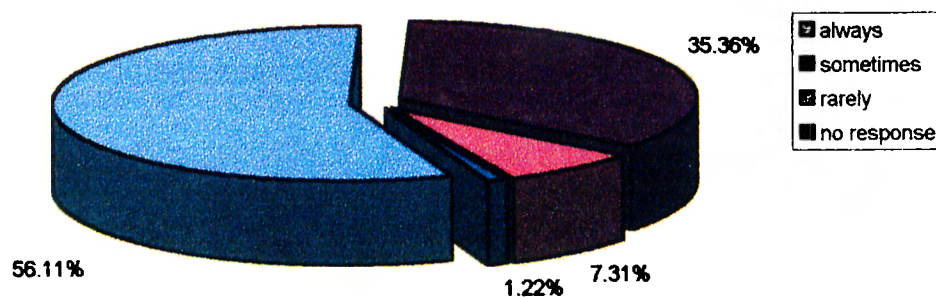**Share Design Ideas with Others/Percentage**

Figure 4.7. Subjects Who Sharing and Not-Sharing Their Design Ideas with Others.

48.78 % of them stated that they recognize nearly everyone but there were some people which they did not know. 7.31 % of them stated that they only recognize

some few of the people who are the closest friends. No one chose the choice which states that nobody was known by the individual. There was also one student who did not propose any answer to this question.

Finally, the methods of preventing intrusions into the personal space was aimed to be figured out. In order to learn the methods of each student, an open ended question was asked. By comparing and correlating the answers of each participant, it was possible to state a list of different methods to prevent intrusions. Most of the students stated that they specified their own territories and personal spaces by using some physical boundaries and barriers such as panels, some personal belongings, some furniture etc. which could prevent the intrusions from others to their personal spaces. Some others claimed that they determined their space by placing himself/herself in a corner, between columns, in a niche, etc. Another method was that the student avoided to be in huge spaces and large environments. While some of the participants said they want respect from others, some others proposed that they warned the ones who were trying to intrude their personal space, or some others proposed to put some restricts in order to prevent their personal spaces, and also there were three individuals who claimed that they could use force to the ones who tried to intrude their personal spaces. Some other methods proposed that some students hinted at the others who were trying to intrude their personal space. One student said that he did not pay attention to the others who are trying to intrude his personal space and by this way he is not disturbed by intrusions. Some of the participants claimed that they did not come close to the others in this way they

thought that the others also should not come very close to them because of their attitudes to them. Another student claimed that escaping from eye-contact was a good way of preventing others from intruding one's personal space. 14 students stated that they did not do anything because of several different reasons; for example some of them said they did not feel any intrusion to their personal spaces, or some others thought that trying to prevent intrusion to the personal space was useless, or according to another idea the intrusion to the personal space could not be prevented. Besides, 19 participants did not give any answer to this question.

4.3.2. Results Related to the States of Privacy

The six states of privacy in the questionnaire were the ones identified by Pedersen (1979) and described in the second chapter; solitude, being by oneself and free from the disturbance of others; reserve, unwillingness of being with and talk with others; intimacy with family, being alone together with the members of family; intimacy with friends, being alone with friends; anonymity, desire of unnoticed in a crowd; and isolation, being completely alone and away from others. A pilot study was conducted to determine which items should be used in the study. Each state consists of five items. As a result of the pilot study, 3 items were omitted, some items were reconstructed, and the correlation between the items and the states were checked. The participants of the pilot study were not the participants of the main study. In this part, a 5-point numerical scale that ranged from never (1) to always (5), was used (See Appendix B). The participants indicated how often they engaged in an activity or a state represented in each statement.

The mean values, and standard deviations of the male and female respondents and also the combined scores of them, were indicated in Table 4.1. The evaluation was conducted both in a probability of percentage 95 and percentage 99. Most preferred privacy type was intimacy with friends, and the least preferred one was anonymity. Intimacy with family was also a significant privacy dimension for the respondents.

The mean values of solitude and isolation which are close in meaning and most of the researchers proposed that isolation is the more strict way of solitude, were close. Solitude was more preferred than isolation. Reserve and anonymity were not very preferable for the respondents. The reasons of these results might be closely related to the characteristics, cultural backgrounds, age groups, social and economical states of the subjects. The respondents average age was 23.73 years. All the respondents of the research were last year interior design students. They were asked to respond the answers by considering both their actual design studio environments and by considering their desired design and living environments. Also, they had some background knowledge about the topic because of their education. These were also the other factors that effected the preferrences of the respondents.

As Rüstemli and Kökdemir stated, in Turkish culture, the salient feature in a young adult and life is friendship (1993). They either confided some private problems and experiences to others who are very close friends, or the problems are reflected upon evaluated in solitude. The high degree of social responsiveness of the Turkish people, create a low preference for reserve.

Table 4.1. Means and Standard Deviations According to Sex and t Values

Privacy / Sex		Number	Mean	Standard Deviation	t-test
Solitude					
	male	43	12.81	3.37	
	female	37	12.78	3.16	0.04
	combined	80	12.80	3.26	
Reserve					
	male	43	10.35	2.71	
	female	38	9.63	2.84	1.16
	combined	81	10.01	2.78	
Intimacy with Family					
	male	41	12.66	3.28	
	female	38	14.95	3.69	-2.92
	combined	79	13.76	3.65	
Intimacy with Friends					
	male	43	18.12	4.42	
	female	38	20.58	3.14	-2.86
	combined	81	19.27	4.04	
Anonymity					
	male	43	9.63	2.65	
	female	36	10.17	2.31	-0.95
	combined	79	9.87	2.50	
Isolation					
	male	43	12.60	3.70	
	female	37	11.14	2.80	1.98
	combined	80	11.93	3.37	

The probability values are for $p < .01$, both two-tailed.

The Turkish family has an intact unit model in which there is there is intense care and concern for their children. Children develop a deep confidence and intimacy to their family in such an environment. The parent-children communication, and the parent's desire for a high degree of dependency from their children creates a restricted nature between this relationship. Thus, intimacy is directed toward peers, which create the preference of intimacy with friends. For this reason, the scores of the 82 participants show that intimacy with friends is the most preferable state of privacy. These situation points out that, there are two types of intimacy instead of a single intimacy, as Pedersen proposed in his research (1979).

The sex differences can create different preferences for privacy (Table 4.1). This was observed by differentiating the answers of the male and female respondents separately. A t test was made by the scores of the respondents from different sexes. The results were strange, since it was expected that there would be differences in preference of privacy in male and female respondents, there was no difference between preferrences of the four states of privacy; solitude, reserve, anonymity, and isolation; among male and female respondents. There is a significant difference between the sexes related to the intimacy with family issues ($t = -2.92$, $p = 0.0046$). Similarly, there is a significant difference between the sexes related to the intimacy with friends issues ($t = -2.86$, $p = 0.0055$). While female subjects preferred intimacy with family, male respondents preferred intimacy with friends, and as mentioned, there is no significant difference between the other states of privacy.

Comparing with the Pedersen's research, there was a difference between the preference of reserve. This preference difference may be related to cultural differences in the nature of interpersonal relationships and communication patterns.

An intercorrelation among the six states of privacy was also calculated. The correlation matrix is represented in Table 4.2. Solitude and reserve were slightly correlated, and intimacy with friends were having a small negative relationship. The magnitude of these correlations would be expected to change somewhat with other samples. From this correlation, it may be concluded that the states of privacy scores represent a high degree of independence from one another. Each state is functioning by itself, one kind of privacy does not need to go with another. For example, the preference of an individual can be solitude but this does not mean he/she also prefers isolation. Any of the six states or more than one state can be unique to a particular person. One person can prefer any one state since one other person prefers two other states together.

Table 4.2. Correlation among Six States of Privacy

States of Privacy	Solitude	Reserve	Intimacy with Family	Intimacy with Friends	Anonymity
Reserve	0.52				
Intimacy with Family	0.40	0.40			
Intimacy with Friends	-0.09	-0.30	0.12		
Anonymity	-0.02	0.12	0.08	0.18	
Isolation	0.43	0.50	0.17	-0.17	0.27

As Pedersen discussed in his research, there is not a single type of privacy (1979), instead, some different definitions can be given for privacy. The cluster of these definitions forms the concept of privacy, but something should not be forgotten that these different definitions are not necessarily dependent for each other.

In literature, it was reconciled that the six states that were discussed through this research are the definitions of privacy. Also, there are some other researchers who propose some different states, but all of the research done by different authors was based on the non-empirical definitions of Westin (1970). Usually these different definitions were found out by enlarging the definitions of Westin and analyzed them by an empirical research.

In sum, these six states are the factors or definitions of privacy. While they can be together, they do not need always go together. For example, although both are intimacy, desiring to be alone with family is totally different from to be alone with friends. As another example, an individual desiring solitude does not need to desire isolation. Also, one can regulate his/her privacy by using more than one of these definitions.

Privacy is not a one-dimensional aspect but instead, it is a multi-dimensional aspect of human behavior; it is not a single characteristic of the individuals. Different extant groups vary in their preferences and definitions about the concept of privacy.

To identify the kinds of people who prefer certain types of privacy, the relation

between the personality characteristics and privacy preferences should be helpful.

5. CONCLUSION

It was found out that the studio was not used by its occupants as it was expected. The design studio was assumed as a life space, but in the actual case, it was obvious that it was used only during the class hours. The main reason in this, it was not having the required spatial characteristics, and consequently it was perceived as an actual classroom in which the lessons were held on. Although it is assumed that, they should work in this space, they were trying to escape from the space as soon as possible. To understand the reasons of this problem, besides the environmental characteristics of the studio, the preferences of the occupants should be identified .

As claimed at the beginning of the study, there should be a living process within the design studio, students were expected to spend most of their times in this area. When the results of the research was considered, unfortunately it is obvious that most of the students did not use the studio except from the design hours, or a few used this space very rarely in their free times.

The results of the research showed that, due to different individual characteristics, cultural and subcultural background, economical status and sociological status, the definitions of privacy differs for each individual. Same situations are acceptable for the privacy preferences of the individuals while they were working in the studio. Nearly, half of the students claimed that they prefer being at their desks when they

seek privacy. There were also other individuals who pointed out that they could not achieve privacy in the studio.

The factors which participants considered while locating their desks were also important. Although more than 60% of the participants claimed that they felt crowded and more than 30% of them stated that they should be alone in order to work, nearly the 60% of them preferred locating their desks by a group of friends. From this point, it is obvious that although it seems that most of the students prefer solitude or isolation as a desire, they prefer intimacy with friends in actual case. Some applications in the space can be done to provide intimacy with friends, together with the solitude factor for creating a more suitable studio environment for the desire of the design students. The reason of the feeling of crowded may be because of the intrusions by the others who are not intimate individuals. Use of some partitions within the open space for dividing the huge volume into smaller ones for the groups can be a solution for this dissatisfaction in the space. As another solution, the organization of the desks within the groups will affect the satisfaction of the students.

65.85% of the total population of the participants claimed that the studio was crowded. Most of them thought that there should have been maximum 50 persons in their studio. Although the space is huge and open, the students felt crowded in this space. Decreasing the participant number will be a solution by calculating the minimum space needed for each design student within the space. This can be the

simplest solution for the problem,but any organizational solution within the space will be more appropriate since the population of the studio is constant in this case. As mentioned in the previous paragraph the space organization will affect this fact. If the desired preferences of the design students for their design environment can be provided by using some physical elements and if there is a more controlled interaction level between the occupants provided, the feeling of crowding can be reduced.

Since design studio was explained previously both as an education and communication center, there should be an interaction between the occupants of the space. If the boundaries of this interaction is too much there can be lack of information transfer between the participants, so it seems, too much distance between individuals could damage this property of the design studio. From the results of the research, most of the students preferred personal distance which can be expected as a close distance while interacting with others. While organizing the space not only providing the appropriate solitude and intimacy conditions, as mentioned in the previous two paragraphs, providing the appropriate level of interaction between all the occupants should be considered. Providing gathering areas in which the students and the teachers will be together and the information transfer will occur, within the design studio can be a solution for providing both satisfactory privacy and social interaction levels in the space.

The preferences of different sexes were also compared. From the results, it was found out that there was not a significant difference between different sexes about the preferences of solitude, reserve, isolation, and anonymity. There was a significant difference between the preferences of different sexes in intimacy with family and intimacy with friends. While females preferred intimacy with family, male respondents preferred intimacy with friends. While designing the design studio, this factor should also be considered, and there should be the opportunity for both sexes to achieve their preferences within this space.

The evaluation of the study showed that as claimed at the beginning of the study although there should be a living process within the studio, in the fourth year studio in which the case study was held on, the participation was limited with the class hours. The reason of this factor is the dissatisfaction of the occupants is using the space not meetingaccording to their preferences in social processes of environmental psychology. Small changes in the space will provide solutions to these dissatisfaction problems. There should be an opportunity for the students to regulate their interaction with others in the studio. Both the gathering and solitude conditions should be provided within the space, but they should be separated from each other. The ones who desired to work alone and who preferred being with friends while working should regulate their preferences within the same space. The usage of some spatial elements such as movable partitions, and lockers will help the occupants while locating themselves in the studio and shaping their territories.

Post occupancy evaluation is very crucial to identify the requirements while designing a space like this. Through this evaluation the findings will help the designers to produce more appropriate spaces in future designs, and also to make revisions in the existing spaces for improving the space. From the results of this empirical study, most of interpretations from the observation were proved. The studio was not used by the students as it should be. Just the opposite of the claim that the design studio is a life space, there was not a living process in the studio. One of the reasons of this is the environmental features of the studio did not satisfy its occupants in privacy regulations point of view.

Besides the behavioral elements, there are also some other factors that cause dissatisfaction, such as technical factors like acoustics, lighting, thermal comfort considerations, etc. Since the attention in this study is the concept of privacy within the design studio, the other factors that caused dissatisfaction have not been considered in this study. Privacy regulations are studied in relation with the environmental factors and individualistic characteristics in this research. In further researches, the unconsidered factors in this research can be studied to evaluate the reasons of lack of privacy, and dissatisfaction about the spaces like this. Also this research could be developed by applying the same study to other design studios in design education in the further studies.

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APPENDICES

The Plan of the Fourth Year Design Studio (FCZ 23)
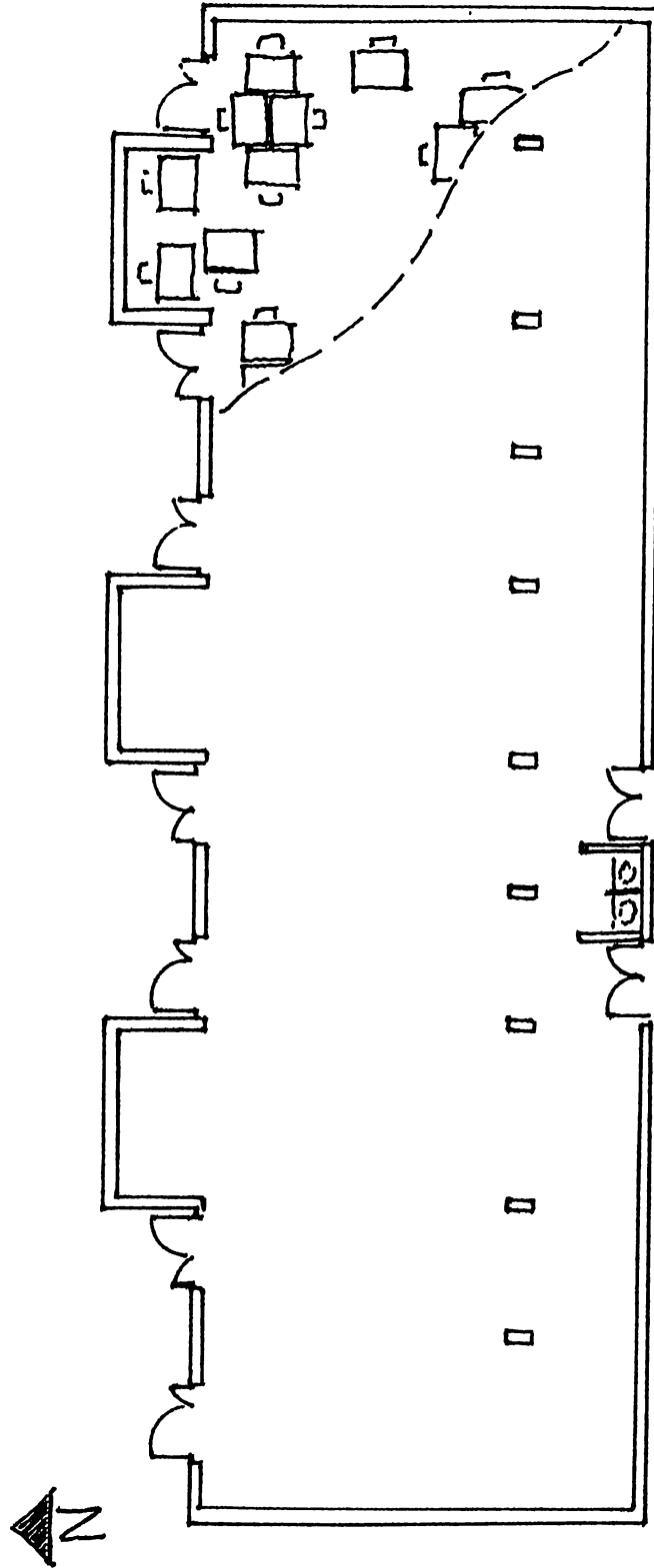
Scale: 1/200

Questionnaire

Part I. This section contains some questions which are aimed to measure the concepts of privacy, crowding, territoriality, and personal space, within a design studio. More than one answer can be given to each question if necessary.

1. Age ....

2. Sex .... F ☐ .... M ☐

3. Studio No ....

4. Where do you live?

       a) In a dormitory

       b) At home with family

       c) At home alone

       d) At home with friends

       e) Other ....

5. With how many people do you share your bedroom or dormitory room with?

       a) Single

       b) Two people

       c) Three people

       d) Four people

       e) Other ....

6. What does privacy mean, to you? Please answer briefly.

7. What do you do to be alone during class hours?

       a) I go to my desk.

       b) I go to a special corner or an area in the studio.

       c) I look through the window.

       d) I leave the studio and go to another space.

       e) I do not need to be alone.

       f) Other ....

8. Which factors did you consider while locating your desk in the studio?

    a) To be near a wall

    b) To be near a window

    c) To be in or between the physical elements of the space such as columns or niches, if there is any

    d) To group the desks with some of the close friends

    e) Other ....

    f) None

9. What should be done in order to increase the privacy level in the studio?

    a) There should be study cabinets for single study

    b) There should be study cabinets for group study

    c) There should be partitions in the space

    d) The studio should be smaller

    e) Other ....

10. What should you do in order to classify your territory in the studio?

    a) I will put some personal objects such as posters, flowers etc. on the wall behind, on or in front of the desk etc.

    b) I will specify my territory by some spatial elements as furniture or panels.

    c) Other ....

    d) None

11. Where do you consider as your personal space?

12. How often do you use the studio except the class hours?

    a) once or twice a day

    b) once or twice a week

    c) once a week

    d) rarely

    e) none

13. Explain briefly the reason of being in the studio out of the class hours?

14. Under what conditions, do you study more comfortably?

    a) Crowded and noisy

    b) Crowded and quite

    c) Should not be too much crowded

    d) I am not able to study in the design studio under any condition

    e) Other..

15. Is your studio crowded? If you think it is crowded, explain the reasons of it by considering the characteristics of the space.

16. What should be the minimum distance between the others and you in the studio? (Please indicate in cm).

17. What should be the maximum population of the studio that you are using?

    a) 5 - 10

    b) 10 - 30

    c) 30 - 50

    d) 50 and more

18. I prefer .... while designing.

    a) being alone at home or dormitory

    b) being with family at home

    c) being with friends at the dormitory

    d) being alone at the studio

    e) being with friends at the studio

    f) Other ....

19. I .... share my design ideas with other students in the studio.

    a) always

    b) sometimes

    c) rarely

    d) never

20. In the design studio, I know...........................

    a) everybody

    b) most of the people

    c) only some few people who are close friends

    d) no one

21. What should be done to prevent intrusions to your personal space?

Part II. In this section, decide how valid each statement for you and mark the appropriate number between the interval 1 to 5.

	never occasionally sometimes mostly always
	1............2............3............4............5
1. I sometimes need to be alone.	1............2............3............4............5
2. I avoid to make a long conversation with someone I had just met.	1............2............3............4............5
3. I like to be with my family.	1............2............3............4............5
4. When I am unhappy and desperate, I like to have friends around me and I like them to make me happy.	1............2............3............4............5
5. I have to be encouraged to talk in front of a crowd in the studio, even others do.	1............2............3............4............5
6. I like my design ideas to be known by others.	1............2............3............4............5
7. I want to work alone in a space that belongs to me for the rest of my life.	1............2............3............4............5
8. I like to be the center of attention in the studio.	1............2............3............4............5

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	never	occasionally	sometimes	mostly	always
	1	2	3	4	5

9. I like to work in a big and crowded studio, since it prevents you from being alone.

1............2.............3.............4............5

10. I do not like to be disturbed by others while I am doing an activity with my family.

1............2.............3.............4............5

11. I want some partitioned spaces to exist for private study in the studio.

1............2.............3.............4............5

12. I prefer working in a place whether my house or dormitory which is quite and peaceful.

1............2.............3.............4............5

13. While I am working, I should be alone whether I am in my house or dormitory.

1............2.............3.............4............5

14. In the studio, there are some special friends with whom I can share my secrets.

1............2.............3.............4............5

15. I prefer the audience to be strangers while I am presenting my project.

1............2.............3.............4............5

16. I prefer being alone, instead of being in crowd in the studio.

1............2.............3.............4............5

17. I prefer living alone with my family away from others.

1............2.............3.............4............5

18. I like my friends in the studio to pay attention to me.

1............2.............3.............4............5

19. I am happy when others realize my success.

1............2.............3.............4............5

20. I want to live alone in a place which is away from crowd.

1............2.............3.............4............5

	never	occasionally	sometimes	mostly	always
	1............2............3............4............5				

21. Being observed by others disturbs me.

1............2............3............4............5

22. I like to share my problems only with my family.

1............2............3............4............5

23. I like to keep a distance in personal relations with my
    friends in the studio.

1............2............3............4............5

24. I want a job which gives me the opportunity to work in
    somewhere away from people and the city life.

1............2............3............4............5

25. While I am working, being with my family is more
    pleasant and makes me more productive.

1............2............3............4............5

26. I like to meet new people.

1............2............3............4............5

27. I prefer as much as possible not to stay in crowd.

1............2............3............4............5

THANK YOU FOR YOUR PARTICIPATION AND CONTRIBUTIONS
TO THIS RESEARCH!