A STUDY ON THE RELATIONSHIPS AMONG SPACE, AND TIME CONCEPTS, AND ATTITUDES OF STUDENTS WITHIN A DORMITORY ENVIRONMENT

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MASTER OF FINE ARTS

By

Nur Ünsalan

September, 2001

I certify that I have read this thesis and that in my opinion it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Fine Arts.

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ABSTRACT

A STUDY ON THE RELATIONSHIPS AMONG SPACE, AND TIME AND ATTITUDES OF STUDENTS WITH IN A DORMITORY ENVIRONMENT

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The thesis discusses the relationships between space, time and the attitudes of people to time and space. The space concept is defined in relation with time. In order to understand the space concept in a broader sense the spatial elements were introduced. Attitude to time and space is analyzed with the environmental psychology concepts, which are namely attitude that is a manner towards a space; place that is differentiated from the space concept; and place attachment that is initiated with the time spending in a certain space. All these concepts are the major concerns in understanding the human needs and well being of one-self in an environment. Also these concepts change throughout time and affect the spatial understanding.

A case study was conducted to analyze the relationships between time space and the students' attitudes to time and space in dormitory environments at Bilkent University in Turkey. The reason for analyzing the dormitories is that living processes with many different activities take place together in these environments. The analyses consist of students' evaluations of their rooms, their attitudes to their rooms, and the distribution of the activity patterns, and time spending in their rooms. The results of the research are expected to inform the designers about the importance of understanding the time and the attitudes of people to time and space in designing environments.

Keywords: Space, Time, Attitude, Dormitory Environment

ÖZET

YURT ORTAMINDA ZAMAN, VE MEKAN KAVRAMLARI VE

ÖĞRENCİLERİN TAVIRLARI

ARASINDAKİ İLİŞKİLER ÜZERİNE BİR ÇALIŞMA

Nur Ünsalan
İç Mimarlık ve Çevre Tasarımı Yüksek Lisans
Tez Yöneticisi: Yrd. Doç. Dr. Markus Wilsing
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Bu çalışma mekan, zaman, ve insanların zaman ve mekana karşı tavırları arasındaki ilişkiyi sorgulanmaktadır. Mekan zaman kavramıyla ilişkili olarak tanımlanmıştır. Mekan kavramını daha derinlemesine anlamak için mekansal elemanlar irdelenmiştir. Zamana ve mekana karsı tavır çevresel psikoloji kavramlari; tavır, mekandan farklılaşan "yer" kavramı ve mekanda geçirilen zamanla ilintili yere bağlılık kavramları ile ortaya konulmuştur. Bütün bu kavramlar insan ihtiyaçlarını ve insanın kendisini çevreden hoşnut olmasını değerlendirmek için önemlidir. Aynı zaman da bu kavramlar zamanla değişir ve mekan anlayışını etkilemektedir.

Yurt ortamlarında mekan, zaman ve zamana ve mekana karşı tavırlar arasındaki ilişkiyi analiz etmek için bir alan çalışması yapılmıştır. Yurtların incelenme nedeni, bu mekanların yaşam süreci mekanları olması ve bir çok farklı aktiviteyi eşzamanlı olarak barındırmasıdır. Bu amaç için, Bilkent Üniversitesi (Ankara, Türkiye) yurtları incelenmiştir. Bu inceleme, öğrencilerin odalarını değerlendirmelerini, odaya karşı tavırlarını ve aktivite dağılımı ve odada geçirdikleri zamanın dağılımını içermektedir. Bu çalışmanın sonuçlarının, tasarımcıları zamanın ve insanların zaman ve mekana karşı tavırlarının tasarım sürecindeki önemini anlamada bilgilendirici olmasi ümit edilmektedir.

Anahtar Sözcükler: Mekan, Zaman, Tavır, Yurt Ortamı.

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1. INTRODUCTION

1.1 GENERAL APPROACH TO THE PROBLEM

It is a vital issue to enhance the educational development of students and to satisfy their needs related to space planning in a dormitory. The simple concept of shelter, of course, implies much more than a roof. In a complex, multi-person dwelling like a dormitory, the basic unit of the student room is supplemented by a network of service spaces and complemented by many physical elements (lighting, heating, decoration, and so forth) that add up to a comfortable environment in which to live (Dober, 1996).

Dormitory room is a reflectance of home for the students. Because of this reason, it is important to understand the relationships between space, time, and attitudes in a dormitory environment. “Space alone or time alone is doomed to face into a mere shadow; only a kind of union of both will preserve existence” (Henceforth qtd. in Weiss, 2001). Furthermore, the attitudes of people to the interior space are also influenced by the time and space concept. It can be recognised that people live in time, as well as space, and even the environment is seen as the organization of time, which reflects and influences of the behavior in time.

Rather than perceiving the space as an endless entity, it should be noted that it acts as a medium in the creation of an interior and exterior environment. In this context, space is a three dimensional extension of the world around us such that it is entered by man,

includes definite materials, especially a base, that allows one to perceive its boundaries and is perceived as a whole, serves human functions of habitations, shelter or circulation, and is intentionally build or appropriated by man to serve such functions (Baykan and Pultar qtd. in Pultar, 2000). Indeed, space is the experience of given that precedes the objects in it, as the setting in which everything takes its place (Arnheim, 1977).

On the contrary, there is another interpretation of space and time relation that is more positivistic; the passage of time is an accident, having no connection with the change in the configuration of objects located in space. Thus, space and time are merely coordinates for locating objects (Ho, 1987). However, the object located in a certain location in a certain time, is not the same object when it is located in a different place in different time.

Additionally, elements of interior space are major entities that give meaning to space, defining the space; create boundaries, and take a role in defining the functioning of a space. In brief, it can be stated that space elements take the major role in creating a space, and a spatial framework (Arnheim, 1977). From this point of view, every architectural constellation establishes its own spatial framework. This framework drives from the simplest structural skeleton compatible with the physical and psychological situation (Arnheim 1977). Organization of the interior space elements creates either a perspective, that can be easily perceived or a complex spatial framework that can not be easily perceived. In other words, organization of the interior space elements can create a complex or a simplistic interior.

Furthermore, by considering people's involvement in space, there arrives the concept of place. Place concept is defined as it refers to space that is given meaning through personal, group, or cultural process (Low and Altman, 1992). That is, people turn the space into place by the passage of time and by the use of interior space elements. As time passes, people create their own identities through changing the space to their own places, and this process is named as place identity process (Low and Altman, 1992). "Identity should be conceptualized in terms of a biological organism moving through time, which develops through accommodation, assimilation, and evaluation of the social world" (qtd. in Twigger and Uzell, 1996,211). When the time component is considered in a context of continuity, one arrives at the concept of place-referent continuity. Place acts as a reference to past selves and actions and that for some people, maintains of a link with that place provides a sense of continuity to their identity (Twigger and Uzell, 1996). Additionally, the place itself or the object in the place can remind one's past and offers a concrete background for comparing oneself at a different time. This creates coherence and continuity in ones self-conceptions (Korpela, 1989).

When time and place concepts are introduced together, they lead to the concept of place attachment. Attachment to a place is a concept that explores a relationship between place and psychology of the individual, group and cultural self-definition. The word "attachment" emphasizes effect; the word 'place' focuses on the environmental setting in which people are emotionally and culturally attached (Low and Altman, 1992). Besides, the place attachment can be changed with the change in time and/ or environment. That is, as an individual proceeds through a life-cycle, from birth to dead in which, (1) the

society impasses different demands and requirements, (2) the individual assumes different roles, (3) the individual's activities and environment change, (4) the society is changing, and (5) the individual's experiences, needs, activities, desires, and feelings change (Wolfe, 1978).

1.2. AIM OF THE STUDY

The aim of the present study is to search relations among space, time and attitudes in an interior environment. In doing so, many factors are expected to be effective in the relationship between time, space, and the attitudes. It is expected that, the results of this study can help designers in preparing a guideline for creating the future interior spaces. For this purpose, dormitories 90 and 91 at Bilkent University in Ankara, Turkey are chosen as the site. Subjects of the study are the students that are living in single rooms.

1.3. STRUCTURE OF THE THESIS

The thesis consists of five chapters including the introduction and the conclusion. In the first chapter the terms space, time, and attitudes of people towards space and time, which are the key issues in this thesis, are introduced. Furthermore, the aim of the study and the structure of the thesis are explained in this section.

In the second chapter, dormitory as a living environment is discussed. In the third chapter, is the chapter in which definition of space and time, attitude to time, and peoples' attitudes regarding space and time are presented.

In the fourth chapter, at first, the site for the previously mentioned case study is described. Then, the parameters of the case study are explained. The chapter includes the analysis of the relationships between time, space, and the attitudes of the students through questionnaire responses, observation and followed by a discussion. The conclusion is the last chapter, where suggestions for the further researches are also pointed out.

2. DORMITORY ENVIRONMENTS

In this chapter, living in a dormitory environment and space planning of dormitory environments are presented. At the end of the chapter, the classification of activity types in a dormitory environment is made.

2.1. LIVING IN A DORMITORY ENVIRONMENT

Living environment is the reflectance of home, and it represents the core of the physical portion of the social-physical environment.

> It seem that consciously or unconsciously … many man in many parts of the world have built their cities, temples, and houses as image of the universe … our house is seen, however unconsciously as the center of our universe and symbolic of the universe… Primitive man sees his dwelling as symbolic of the universe with himself, like God, at its center. Modern man apparently sees his dwelling as symbolic of the self but has lost touch with this archaic connection between house-self-universe (Cooper, 1976, 362).

Base on this, dormitories are also reflecting a kind of home environment for the students. Students look forward to progressive improvement-in themselves, and high standards of living in such an environment, and they are faced with several problems in achieving them. According to Wood (1955), the aim of any hostel should be to provide people with inspiration and support, and to assist them in being capable and cultivated human being.

Ajzen and Fishbein (1980) pointed out that people display three general categories of responses to any social object: affective, cognitive, and behavioral. Actually, these are the ways that people respond to their living environment, and these are the dimensions available for understanding a dorm environment. Feldmen and Newcomb (1969) had

pointed out that student's perceptions of the overall college environment are affected by their living area in that environment.

For that reason dormitory as a living environment should satisfy the needs of students. Mullins (1968) stated that people's needs for living are physical, social, and personal. These are not only special to residence in so far as they can be satisfied elsewhere. Mullins (1968) also, claimed that residence provides a special place for people. Some are satisfied by the design of the building, others by social organization. In practice, they affect one another, and are impossible to separate.

Besides stating the residential satisfaction in terms of physical, social, and personal need, it can be explained in turns of emotional response, the positive or negative feeling that the occupants have for where they live (Marans and Sprecklemeyer, 1981). Marans and Sprecklemeyer (1981) developed a conceptual model for the understanding of, and guiding research on, the relationship between objective conditions, subjective experiences, and residential satisfaction. This framework stated the physical environment as objective attributes of the particular environment have an influence upon a person's satisfaction through the person's perception and assessments of those environment attributes (See Figure 2.1.).

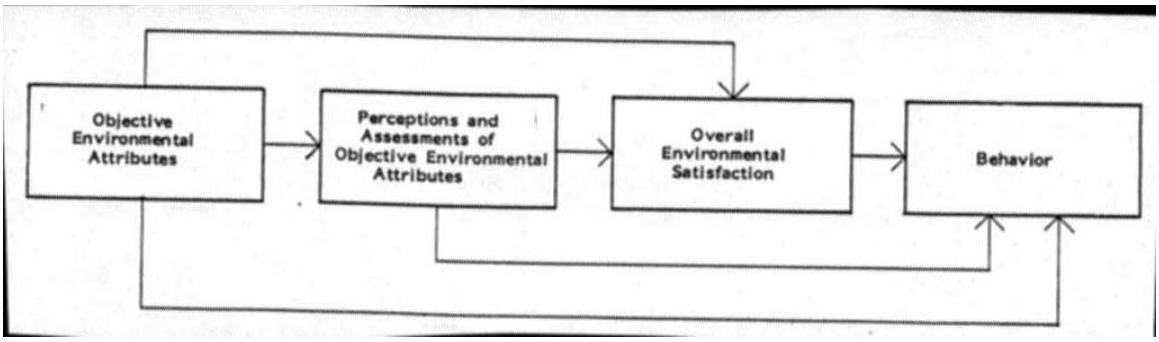


Figure 2.1.Basic Conceptual Model of Residential Satisfaction (Marans and Sprecklemeyer, 1981, 58).

Satisfaction can be seen either as a criterion for evaluating the quality of the residential environment (by measuring the effect of perceptions and assessments of the objective environment upon satisfaction) and as a predictor of behavior.

Amerigo and Aragones (1997) developed a conceptual framework in which they analysed the relationship between the residential environment and the individual. This framework also, presents the residential satisfaction (See Figure 2.2.).

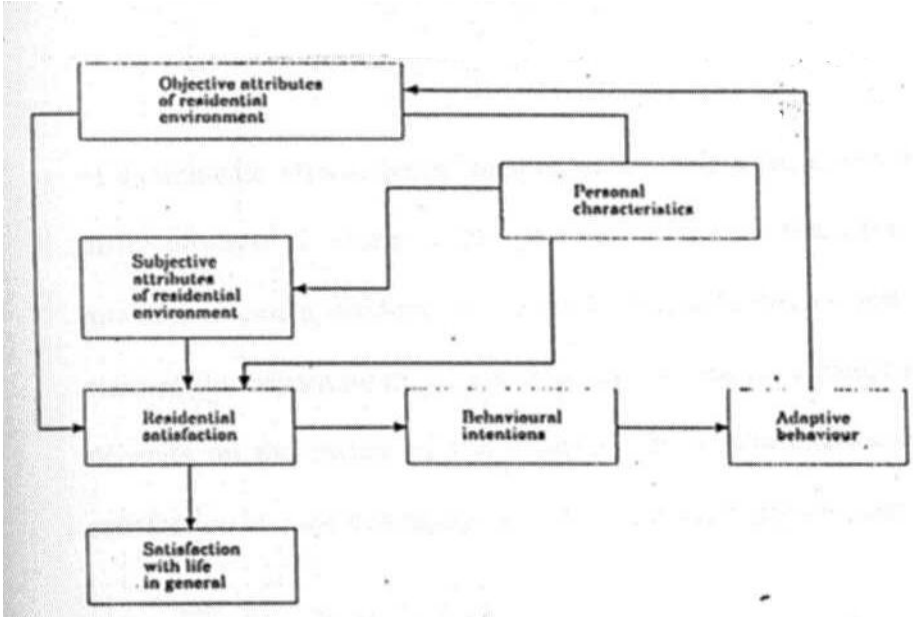


Figure 2.2. A Systematic Model of Residential Satisfaction (Amerigo and Aragones, 1997, 49).

According to the model in Figure 2.2, the objective attributes of the residential environment, once the individual has evaluated them, become subjective, higher the degree of satisfaction. Thus, the subjective attributes are influenced by personal characteristics' as shown in the figure. According to Amerigo and Aragones (1997) this cell would include the subject's socio-demographic and personal characteristics, as well as his or her residential quality pattern, a normative element whereby the individual design his or her ideal residential environment. They (1997) claimed that "residential satisfaction, is a positive affective state which the individual experiences towards his/her residential environment and which will cause him/her to behave in certain ways intended to maintain or increase congruent with that environment" (48).

As individual becomes familiar to a specific residential setting, he or she develops more satisfaction with his or her ability to perform basic activities in it. "The more easily and conveniently these functions can be performed, the more satisfied we usually become" (Bell et. al, 1996, 477). Gifford (1987) claimed "knowing the environmental personality

of individuals allows better prediction of their satisfaction with and performance in different physical setting" (99). The match between one's preferences and the physical qualities of one's residence is naturally linked to satisfaction (Gifford, 1987). He also claimed that regarding the physical qualities of the residence, satisfaction and preferences depends on the owner of the resident. The characteristics of individuals influencing satisfaction include demographic characteristics, cognition, and personality.

Kaya and Erkip (2001) considered the time factor in relation to the satisfaction. They stated that satisfaction of users in the built environment is particularly important when the duration of staying is long. According to Kaya and Erkip (2001) public spaces such as dormitories and residences for the elderly are important cases in which many aspects of interaction between user and the environment can be investigated. "Their public nature makes user satisfaction a harder goal to achieve for builder and organizer" (35). They also, conducted a study in order to measure the effects of floor height on the perception of room size and crowding in a university dormitory. They found out that residents on the highest floor perceive their rooms as larger and feel less crowded than residents of the lowest floor. They concluded that when the room is perceived as larger and the feeling of privacy in a room increases the satisfaction with the dormitory room also increases.

Another factor that influences satisfaction in dormitory environment is the extent freedom to design their dormitory rooms. Eigenbrod in his study (qtd. McAndrew, 1993,221), compared students who had complete freedom to manipulate the environment in their dormitory rooms by adding appliances, removing, adding, or changing furniture,

and putting unlimited amounts of tape on the wall with those who did not. Greater freedom was significantly related to the satisfaction with the residence hall and with lounges decoration, fewer disciplinary problems, and better student maintenance of the dormitory building. Schiffenbauer et al. found that sunlit dorm rooms with more usable floor space were perceived as being larger; they also found that students were disturbed when the possible furniture arrangements in a room were severely limited (qtd. McAndrew, 1993, 221).

It is clear that residential satisfaction is an important factor in designing a dormitory environment. In addition, residential satisfaction is affected by the factors such as environment, personal characteristics, time spent, requirements of the individual, and the extent of freedom in changing the environment etc. All of these key terms are primary constrains in designing a satisfactory dormitory environment for the users.

2.2. SPACE PLANNING IN DORMITORY ENVIRONMENTS

The physical environment has consistently been shown to impact students' behaviors. "Facilitating student empowerment through the use of space is a tangible expression of involvement, ownership, mattering, and establishing identity through intentional actions" (Anchor and Moore, 1992 ,47).

Anchor and Moore (1992) claimed that traditional approach to the architecture of residential environments often needs humanization. The cell-like rooms, build-in furniture,

and double loaded corridors are often design in such a manner that they all look similar. The consequence is that students may exist in an environment loaded with a boring atmosphere.

Dober (1996) stated that image of campus housing should be in human scale and welcoming. In the planing process of a dormitory acoustics, temperature, and ventilation; room configuration and furnishings should permit each occupant to express his or her personality; and a site whose landscapes and features are pleasant and functional for recreational facilities (Dober, 1996).

Decorating a room or hallway with important symbols such as poster from home, quilts on the wall, and pictures of loved ones is important, because it contributes to a successful transition from home to residence hall living. Anchors and Moore (1992) stated some objectives for physical environments involved by students. They are:

- Establishing residence hall policies that encourage students to express themselves within the physical environment
- Creating student culture that supports positive rituals and rites of passage from home to the residence hall by encouraging transition from marginality to mattering
- Using common physical space to support overall community development goals
- Familiarizing staff with the lay-out, plan, and nuance of facilities of the physical environment
- Understanding how gender and other characteristics impact the concept of territoriality
- Welcoming residents and guests of varying physical abilities and diversity (477)

It can be recognized that the design of a dormitory room is the most important issue in designing living environments for students, because students spent most of their time in

their room. As Mullins and Allen (1971) stated "students occupying hotel-like dormitories often discover to their pleasure that a room rented in a house is preferable to the small cell on a bleak corridor available at collage" (62). According to them, students find in the house scale, warmth, compatibility of environment with personal values, and an intimate group of friends in harmony with their needs and ambition. They also stated that room dimensions must accommodate as:

- Furniture size and design
- Furniture use of space and room size and shape that affect two levels of possible changes;
- Adaptability of furniture arrangements
- Divisibility of space-physical or visual separation of activities

One important design objective is the flexibility of the room usage in planning. Sundstrom and High (1977) found out in their research that student living in a flexible room spend more time in their room and receive more visitors. In their research, dormitory room flexibility is defined as the degree to which the furniture in a room can be rearranged.

Also Philips (qtd. in Mullins and Allen, 1971, 64) considered variability and flexibility as necessary objectives within an individual's room and the importance of both privacy and socialisation. According to this perspective Phillips considered three aspects of designing for group living. These are:

- Having small groups of rooms together, to provide seclusion and also allowing easy means of contact with other groups;
- Sanitary facilities, as a ratio of person/rooms to toilets, bathrooms and showers;
- Having kitchen-common room facilities as a basic requirement for ordinary living.

Also, organization of the spatial layout is an important criterion in designing a dormitory room. Spatial layout refers to the ways in which objects (furniture, machinery, doors, etc.) are located within a built environment with certain dimensions (Darley and Gilbert, 1985). Darley and Gilbert (1985) stated: "Rooms possess spatial arrangements that facilitates some behaviors and constrain or prohibit others, and therefore a layout represents a compromise between the fulfillment of competing interpersonal needs or the opposing needs of different persons" (971). According to them, spatial arrangement may define purposes, and each of these may interact with another and with the physiological, affective, and cognitive state of person. These factors play in determining the behavior (Darley and Gilbert, 1985).

2.2.1. FURNISHING

Furnishing of the room are another elements in planning. Room is the core environment of the student who spends most of his waking hours here. Chiara and Callender (1991) stated that undergraduate girls spend 8 hours in their room and undergraduate boys spend 6 hours in their rooms. In this space, the student studies, sleeps, dresses, and socializes. Student stores all of his or her clothes, books, and personal possessions in his of her room. It is the only space on campus, which he or she himself can control it. People require possessions as extension of themselves. They need to conduct activities, especially opportunity to have good working conditions, safe storage and working space (Mullins and Allen, 1971).

In order to provide good working conditions, the study desks in the student's own room is the most important educational facilities housing can offer. According to Chiara and Callender (1991), if housing is to reflect the growing emphasis on independent study, it must provide more efficient student offices, with large desks, more adequate storage for books and other study materials, better lighting, and less distracting noise. Also the window size and location may affect the organization of space within the room. Materials and finishes should be chosen for noise control and durability as well as appearance.

In addition, flexibility in arranging the furniture in a dormitory room is an important issue. Eigenbrod (qtd. McAndrew 1993, 221), compared students who had complete freedom to rearrange the environment in their dormitory rooms by adding appliances, removing, adding, or changing furniture, and hanging photos on the wall with those who did not, in his research. He found out that greater freedom was significantly related to the satisfaction with the residence hall and with lounges decoration, fewer disciplinary problems, and better student maintenance of the dormitory building (qtd. McAndrew 1993, 221). Schiffenbauer and colleagues (qtd. McAndrew 1993,221) found that students were disturbed when the possible furniture arrangements in a room were severely limited.

One approach to the furniture of the students' room is the build-in furniture. Build-in furniture may be less subject to damage than movable furniture, given an expression of greater space in student rooms, and make possible savings on wall and floor finishes and on the cost of cleaning and maintenance (Riker and Lopez, 1961). However the build-in

furniture can restrict the operation of the activities and prevent the flexible usage of the room.

Finally it has to be considered that, a piece of furniture automatically requires additional space around it to make its use possible. The use space of one piece may overlap the use space of another, but this should be avoided. (See Figure 2.3.).

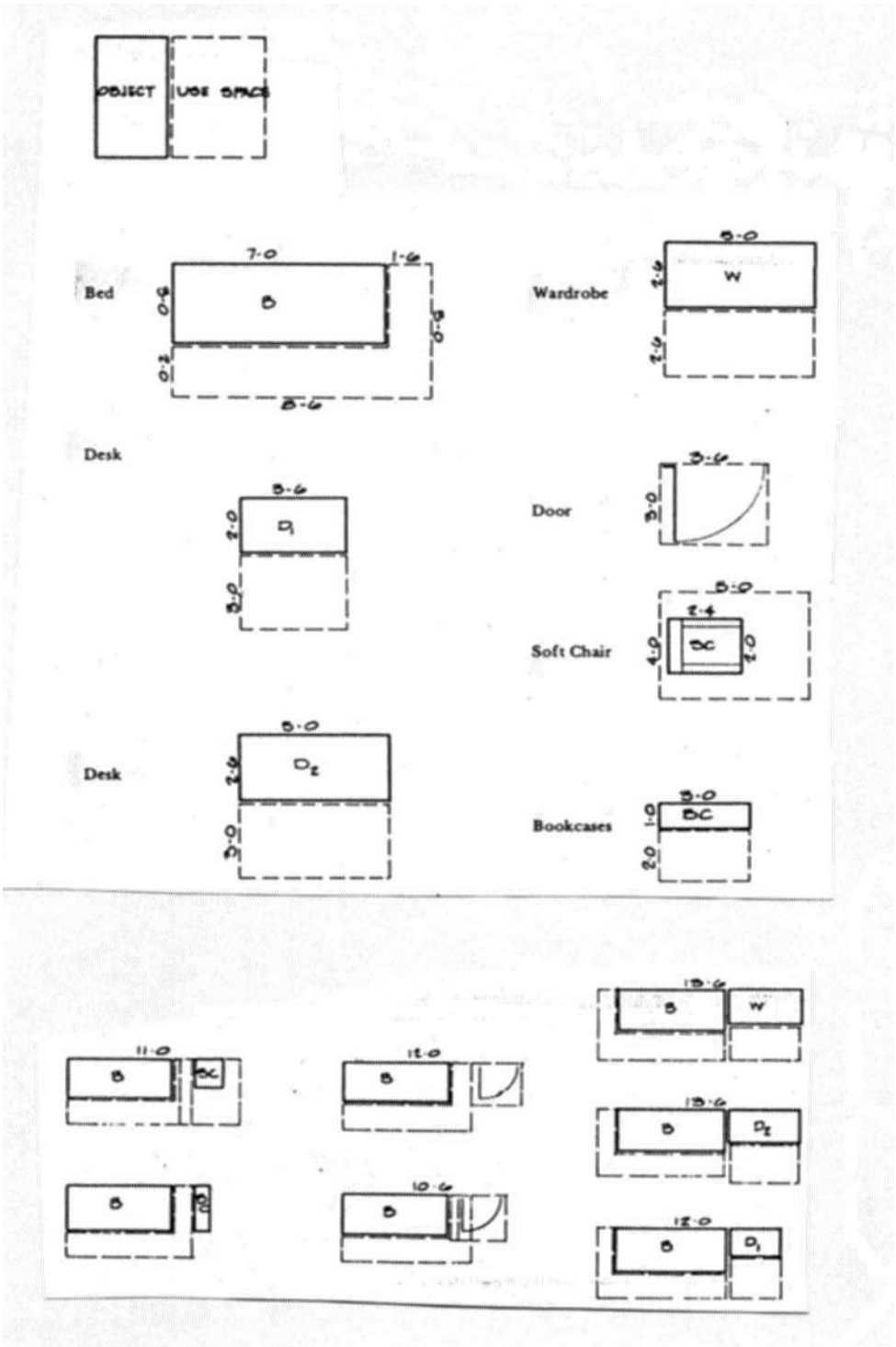


Figure 2.3. Planning Studies (Chiara, and Callender, 1991, 281)

According to Riker and Lopez (1961) minimum furnishing in dormitory rooms should include:

- Single bed for each student
- One closet for each student
- Additional storage space
- A chest of drawers
- Ample bookshelves
- A study desk
- The desk chair
- A lounge chair, occasional table, and a bedside table for each bed.

2.3. CLASSIFICATION OF ACTIVITY TYPES IN A DORMITORY ENVIRONMENT

Students mostly use rooms for sleeping, dressing, storage, study activities, relaxation and socializing. Designers, in order to organize the limited area should separate living functions from study.

- Studying

Individual study activity is accomplished with a wide spectrum of activities. It takes place while standing, walking, sitting, lying, eating, drinking-alone or with another person. Students study at different rates. Some of them need long period of concentration, others relatively short periods, distributed with intervals of social or recreational activities. The desk should support reading, note taking, or use several sources. The space requirements for multiple references, collection of materials, or large belongings create overflow onto the bed or floor. Consequently work is done on the floor of the room, particularly if it is carpeted, and on the bed (Chiara and Callender, 1991).

Bookshelves are generally inadequate in size and length. Moreover, the shelves are usually in places of difficult access and are poorly illuminated. There is a need for more shelves, preferably adjustable and flexible as to placement (Chiara and Callender, 1991).

- Sleeping and Relaxation

The student's pattern of activity is rarely conforming; he or she may sleep at any time of the day or night. Reading is more often done in a comparatively relaxed position on the bed or easy chair. However, the bed is seldom designed to provide the slight slope for proper sitting; therefore some adjustments are necessary (Chiara and Callender, 1991).

- Socializing

Most of the time student's room is provide place for social interaction. A bed with cushions or pillows tossed about is not acceptable because of the difficulty of sitting upright comfortably. The most desirable condition of the bed is using it as a sofa, with its contributions as a living room furnishing.

With the help of above discussions, it can be stated that, living in a dormitory environment brings many factors to be considered. Psychology of living in a dormitory environment, space planning in dormitory environments, and the classification of the activities in a dormitory environment are the issues that have to be analyzed to understand students desires. If a dormitory environment can support the physical, psychological needs of a student and enhance the educational development, students can be satisfied with the environment, and can use their time efficiently in that environment.

3. RELATIONSHIPS BETWEEN TIME, SPACE AND ATTITUDE

It can be recognized from the above mentioned discussion that satisfaction of the students in the dormitory environment are totally related with how the environment is designed. Additionally, space design can affect the attitudes of the students to their living environment such as, prefer to spend time or do not prefer to spend time in dormitory environment. In the content of this chapter, a short historical approach to space and the definition of relationship between space and time are presented. Following these issues, spatial elements and attitudes to time and space are examined and at the end of the chapter, where the changing attitudes regarding space and time is handled.

3.1. SPACE AND TIME

Throughout the history, people develop their own understanding of architectural space. They made classifications and definitions of space. One of these classifications is Giedion's classification of architectural space through history (1967). According to Giedion, there are three stages of architectural development. During the first stage the first space conception space was brought into being by the interplay between volumes. This style surrounded the architecture of Egypt, Sumer and Greece. Interior space was disregarded. The second space conception began in the midst of the Roman period, when the interior space started to become the basic aim of architecture.

With the second space conception, the formation of the interior space became synonymous with hollowed-out interior space. This second space conception persisted throughout the Roman period until to the end of the eighteenth century. Finally, the third space conception started in at the beginning of nineteenth century with the optical revolution that abolished the single viewpoint of perspective.

Also Van de Ven (1993) expressesed the architectural history as the history of spatial concepts. He stated that if the history of architecture is the history of spatial concepts, then space is as a uniformly extensive material to be shaped in various ways. He classified the origin of the architectural space in four categories. These are:

(a) the power of volumes and their interaction;
(b) hollowed-out interior space;
(c) the interaction between inner and outer space;
(d) the presence of absence

According to Bofil (qtd. in Toorn and Bouman, 1994) space is the central issue in architecture as "architecture defines space, architecture is space, emptiness does not exist; space does" (330). Also Rokoko insisted on the priority of space in architecture. He claims that man images the space in the first place, which surrounds him, and not the physical objects, which are supports of symbolic significance (qtd. in Toorn, and Bouman, 1994, 331). He concluded that space is the living soul of the architecture. A function-oriented approach considers space as the three-dimensional extension of the world around us such that it is entered by man, includes definite material elements, especially a base, that allows one to perceive its boundaries. In this way, it is perceived as

a whole, serves human function of habitation, shelter or circulation, and is intentionally built or appropriated by man to serve such functions (Pultar and Baykan qtd. in Pultar, 2000).

These approaches disregard consideration of space as a whole experience that involves attitudes, and feelings apart from habitation, shelter and circulation. For that, another way of defining space is concentrating on how it defines interactions: “the space is the three dimensional extension of the world around us, the intervals, distances and relationships between people and people, people and things, things and thing” (Rapoport et. al, 1990). Similar to Rapoport, Scruton (1979) cited the space as the essence of architectural space is not space but the enclosure of space or space enclosure.

Similarly to Rapoport et. al, Meiss (1992) defined the space as a hollow, limited externally, and filled up internally. In other terms, there is an empty space; everything has its position, its location, and its place. Instead, Arnheim (1977) has proposed a definition that was more experience-oriented. He considered space as the experience of the given that precedes the objects in it; it is the milieu in which everything takes its place. His citation of space as a whole involves both the experience and things. Stephan et. al (1980) perceive space as a whole life-story: “Spaces can not be only beautiful in their shapes, colors but, by supporting behaviors, organizing life styles, and even challenging imagination, can actually contribute to the enjoyment and growth of people within them” (3)

Hasegawa stated: “in creating spaces we must recognize that human beings are a part of nature. Architecture must be responsive to the ecosystem as all of human existence is ultimately encompassed by nature” (qtd. in Toorn and Bauman, 1994, 330). Also Holl considers the space as the core of spatial experience (qtd. in Toorn and Bauman, 1994). He stated: “space is intertwined with the subjective impression of actual spatial geometry and born in the imagination. The absolute side of rational planning is in contrapuntal relationship with the pathological nature of the human soul” (331). Additionally, Tado Ando (qtd. in Toorn and Bauman, 1994) stated: “my approach to the person who will use these spaces amounts to acting as an intermediary in deep dialogue between him and architecture, because my space transcend theory and appeal to the deepest level. In other words, my space relates to the fundamental aspect of humanity” (330). Therefore, space can be seen as the product of social practice and the potential vessel, producer of social activities (Till, 1995). In other words, people sense of interior depends not simply on empty space, but on its interaction with the material that encloses it.

However, these approaches to the architectural space are stated without the concept of time. While architecture interprets space in terms of the aesthetic or the functional, physics develops a scientific view. The physical content of the idea of space caused architectural ideas to move in a direction parallel to the ones in philosophy and natural sciences. According to, Meyer (1999) science and technology continue to change our understanding of time as it is experienced in architectural space, as the liberating potential of reductive form and endless space creates a series of fleeting perception and momentary experiences. In Meyer’s studies idea of temporality is central. He further

stated that it is found at unusual points in space, or moments of tangency where one visual world collapses, as another time in visual world appears (Meyer, 1999).

Also Kostof (1983) considered time and architecture in relation to each other, from historical view "Time implies sequence. Every building is caught in the web of the fourth dimension" (18). He emphasizes further an evaluation of architecture as such; "… tradition is there: it is a language, a source, and a challenge. It is the great container of architectural experience, and no building can live outside of it" (18). As programmed embodiment of human habitation, buildings can be called archeological maps of our past sheltered by visions of future (Meyer, 1999).

A recent approach to time and space by Toorn is that time, the main component of the ideology of modernism and basic character of the modernization process went out of fashion. Space becomes the basic component of post-modern thinking (not space as three-dimensionality, as a physical entity, but as a category). From a similar approach by Berger is that; it is the space, not the time that hides consequences for human (qtd. in Toorn and Bauman, 1994, 326). Toorn defines the context of the consequences through the ideas of Urry (qtd. Toorn and Bouman, 1994) so that is, " it is space rather than time which is the distinctively significant dimension of contemporary capitalism"(326).

Another recent approach to architectural space, stated by Jameson(1996) is as follows: "Nowadays, architecture and its reception are wedged between a world of virtual reality and the world of need space. Virtual reality concept of architecture as an ambiguous sign-system effectively demystified modern space" (5).

Besides understanding the definition and the relationship of time and space it is also important to locate them in the field of design. The purpose of structuring space and time is to organize and structure communication, and this is done partly through organizing meaning (Rapoport et al, 1990). “Individuals take note of time and event in their use of spaces in a way that allude to the cycle of the day, the seasons, patterns of use and life” (Kronenburg, 1998, 18).

Meyer (1999) considered the design of space and designing time in the same context. According to him, construction in architecture refers not only to the physical act of building, but also to narratives inscribed into the very fabric of space. Meyer claims that these narratives or inscriptions also form an important reference point in time and space in architecture that is directly related to the structural system of building. He exemplified his claim with a structural grid that can differentiate a specifically timed rhythm when entered by the human footsteps and this rhythm establishes one’s perceptual sense of the time.

Also, physical dimensions of time and space are potential tools of analysis for designers. Temporal and spatial insights into our conduct and our ‘mental maps’ can give designers clear direction for their works (Woudhuysen qtd. in Tshumi, 1994). However Tshumi (1994) claimed that spatial sequence is independent of what happens in them. In other words, as sequences of events do not depend on spatial sequences (and vice versa), both can form independent systems.

When considering events in certain spatial sequence, activity is the vital tool in understanding the relationship between the time and the space design. Because, activities are both created in time and in a certain space. Action space refers to a part of environment which has a place utility to the individual and with which the individual is therefore familiar. Activity space is that part of the action space with which an individual interacts on everyday base (Walmsey and Lewis, 1993). Anderson claims that duration of these activities is influent both by the cultural constrains and the design of the environment, and he concluded with the idea that an activity system is the presentation of a space-time design (1971).

Tuan claimed that the activity system studies have not achieved a general perspective because of ignoring the time as a dimension of human behavior. That is to say that behavior has been compared at various points in time, without the emphasis on the consideration of what time means to the actors involved and to the way in which this meaning influence behavior. Yet, in a fundamental sense, space, time, and place are irresolvably linked in experience (qtd. in Wamsey and Lewis, 1993, 98).

In order to understand the relations between activity, space and time in a deeper sense Barker created (1968) the concept of behavior setting. The concept of behavior setting mainly concentrates on the relationship between the built environment and pattern of behavior that takes place with in. Behavior settings may occur only once, on a specified day, or they may reoccur according to some temporal schedule of day (Barker, 1968).

According to Barker behaving within the setting described in the definition of action patterns.

Barker (1968)defined the essential attributes of behavior setting as follows:

1. A behavior setting consists of one or more standing patterns of behavior.
2. It consists of standing pattern of behavior and milieu. The milieu is the physical structure, which is composed of surfaces related to each other in specific patterns that constitute landscape, buildings, rooms, and furnishings.
3. The milieu is circumjacent to the behavior. Circumjacent means surrounding (enclosing, environing, encompassing); it describes an essential attribute of the milieu of a behavior setting.
4. The milieu is synomorphic to the behavior. Synomorphic means similar in structure; it describes an essential feature of the relationship between the behavior and the milieu of behavior setting.
5. The behavior-milieu parts are collected synomorphs.
6. The synomorphs have a specific degree of interdependence (18)

According to Lang, (1987) a behavior setting is considered to be a suitable combination of activity and place which consists of:

- Recurrent activity- a standing pattern of behavior
- A particular lay out of the environment- the milieu
- A congruent relationship between the two –a synomorphy
- A specific time period (113)

Barker (1968) defined the time concept in relation to behavior setting as occupancy time that refers to the number of person-hours a behavior setting is occupied over a specified period of time, it is the product of the mean population per occurrence and the duration in hours of all occurrences.

In a broader sense, understanding the nature of an activity, it is needed to understand the duration. “Duration is an experience, which involves memory of the whole interval, an

interval that is longer than the capacity of a short-term storage" (Ornstein, 1997, 67). Guyau was the first theorist to relate time experience to human information process. He stated that time itself did not exist in the universe, but rather, time was produced by the events, which occur in time (qtd. in Ornstein, 1997, 67).

Ornstein claimed that understanding the duration is totally related with the experience of time. He hypothesized that anything which might alter the size of storage of the information in a given interval will also affect the experience of duration of the interval. In other words, as storage size increases, duration experiences extend. In this perspective, storage size refers to the long-term memory. He considered the duration as a cognitive process. Six studies carried out by the Ornstein show that the experience of duration is lengthened by directly increasing cognitive processing. He listed four modes of time experiences as;

1. Short time
(a) Rhythm
(b) 'Immediate apprehension' of brief intervals
2. Duration
3. Temporal perspective
4. Simultaneity and succession (70).

Also Glicksohn (qtd. in Ornstein, 1997, 70) explains that, the greater the variation in the sensory environment (i.e. perceptual overload vs. perceptual deprivation), the shorter would be the time estimation obtained.

In order to analyze the time concept in a deeper sense, Werner et al (1985) defined the time concept with a systematic approach and developed a framework. This framework

consists of two conceptions of time as linear, and cyclical. Within each of these conceptions there are subordinate properties; salience refer to relative emphasis on past, present or future times; scale refers to temporal breadth and scope; pace refers to the density or rapidity of events; and rhythm refers to the regularity of the pace or pattern of events (See Table 3.1).

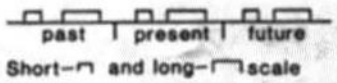
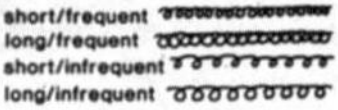
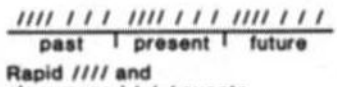
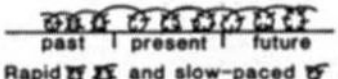
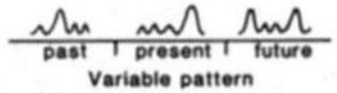
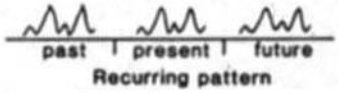
	LINEAR	CYCLICAL/SPIRALING
SALIENCE (Temporal focus of events)	 Salience can be past △, present ▲, future △, or any combination ▲.	 Cyclical salience can be past, present, future, or any combination thereof.
SCALE (Scope of events)	 Short-⌐ and long-⌐ scale events.	Duration of recurring event and Interval between recurrences 
PACE (Rapidity or density of events)	 Rapid //// and slow-paced / / / events	 Rapid and slow-paced cyclical events.
RHYTHM (Regularity or patterning of events)	 Variable pattern	 Recurring pattern

Table 3.1. Framework of Temporal Quality of Homes (Werner, et. al, 1985, 27).

According to the frame, linear time, and its associated permanence of past/present/future, contains two important qualities; the first property is the dynamic, flowing, changing, and ongoing aspect of events; the second quality is continuity.

Cyclical features of environment refers to repetitive and recurring activities and meanings, with cycles potentially recurring daily, weekly, monthly, annually, or in some other regular or semiregular fashion. Cyclical events include of both the length of the interval between recurrences and the duration of the events themselves. The duration of the recurring events should be measured as a coherent behavior sequence rather than an externally imposed time period that is unitized in terms of minutes, hours, days, or weeks.

As it was mentioned, people by designing their time they also decide how they organize their time in a space. Because of this, it is very important to understand how people operate activities in that space. Briefly, space, time, and people's involvement in a certain space brings the factor of understanding of time and space in relation to each other.

In this part it is clear that people's approaches to space and time developed through time. All of these developments in the conception of space and time create new understanding of space and time. These approaches created effective changes in designing environments, and introduced time into the picture of space.

In the light of the above discussions, it can be said that space and time can be analyzed in many different fields. The attempts to define space and time were focused on two aspects, first one stated that space and time different definitions, whereas the other one

stated that definition of space and time as couples. However, these different approaches affect each other and create the understanding of space and time in architectural discipline.

3.2. SPATIAL ELEMENTS

Elements of interior space are the major entities that give meaning to space. Elements of interior space take role in defining the space; create boundaries, and also take a role in defining the function of a space. In brief, space elements have the major role in creating a space (Arnheim, 1977).

For the architect, space does not only have depth; it has also density. Architectural space is born from the relationship between objects or boundaries and from planes, which do not themselves have the character of object, but define limits (Meiss, 1990).

Space is created as a relation between objects. Not only does the setting determine the place of the object, but inversely the object also modifies the structure of the setting. “Physically, space is defined by the extension of the materials bodies or fields bordering on each other” (Arnheim, 1977, 10). Arnheim (1977) claimed that space perception occurs only in the presence of perceivable things. According to him, “distance between objects can be described by the amount of light energy that reaches an object from light source” (10).

Apart from considering the definition of spatial elements as objects that are creating the space, Meyer (1999) stated the space elements as the fabric of space and considered the spatial elements in relation to time. He claimed that spatial elements form an important reference point in time. He concluded that time in architecture is directly related to the structural bay of building.

Besides forming reference points in time, spatial elements also create continuity from one space to the other and develop the time sequence of the space from the moment to another, and spatial elements such as, wall, ceiling, floor, appears to belong to two or more spaces. Meiss (1992) claimed that the teams of spatial continuity evokes a dynamic principle, of passages and stops with planes which guide and leads the user to astonish what is to follow by the use of ambiguity between the hidden and the visible, the present and the future.

Arnheim (1977) also take the time into consideration in relation to the human experience in defining the spatial elements. He stated that space changes by the movement of sun, place changes by the movement of human beings. The experience is generated only through the relationship of objects. Even through a complex physical structure is physically present, the experience is dominated by the primary goal and the single-minded effort to reach it. According to Arnheim physical experience of space, depends on how an observer conceives of and theretfore structures the situation (1977).

Physical experience of space defined by Lynch as the more orderly the objectively given spatial structure, the more agreement there is in the images people from of the setting. “The more ambiguous the structure, the more the resulting images depend on where an observer happens to anchor his attention, how well acquainted he is with various sections, and so forth” (qtd. in Arnheim, 1977, 15).

It is obvious that spatial element is the most important factor in understanding the space. As it is stated spatial elements create the space according to the human needs. In other words, in each creation they are loaded with different meaning and functions and in each definition, they define different space and time experiences for the user. Because of this, the spatial element is a key term in understanding the relationships between the space, time and the attitudes of the people.

3.3. ATTITUDES TO TIME AND SPACE

In this section, concepts; attitude, place, and development of place attachment, are defined separately.

3.3.1. ATTITUDE

In understanding the relationship between space and attitudes of people to a certain space, it is crucial to define what is attitude. Attitudes involve the categorization of a stimulus along an evaluative dimension based on cognitive, affective, and behavioral information (Sears et al, 1988). Lang (1987) defined the attitude as follows;

> Our attitudes are related to our motivations. What we like and dislike, what we believe to be good or bad, important or unimportant- these attitudes are related to the various socialization processes and experiences we have had and thus to the influence of others. We intern try to influence others. Our personalities and our social and cultural backgrounds are all indicator, not perfect predictors, of attitudes towards people and towards characteristics of the build environment (105).

Eiser (1986) stated 10 assumptions implicit in the use of term attitude as fallows;

1. Attitudes are subjective experiences
2. Attitudes are experiences of some issue or object
3. Attitudes are experiences of some issue or object in terms of evaluative dimension
4. Attitudes involve evaluative judgements
5. Attitudes may be expressed through language
6. Expressions of attitude are in principle intelligible
7. Attitudes are communicated
8. Different individuals can agree and disagree in their attitudes
9. People who hold different attitudes towards an object will differ in what they believe is true or false about that object
10. Attitudes are predictably related to social behavior (13).

An important key term in analyzing the attitude is its relation with the behavior concept. Ajzen and Fishbein in 1977 pointed out that both attitudes and behaviors can be characterized by considering four different elements as fallows (qtd. in Stahlberg and Frey, 1996);

1. The action element (what behavior is to be performed: for example, voting behavior, helping someone, or buying something).
2. The target element (at what target the behavior is to be directed: for example, a certain political candidate, a close friend, or a new product).
3. The context element (in which context the behavior is to be performed: for example, in a totalitarian or democratic political system, publicly or privately)
4. The time component (at what time the behavior is to be performed) (225)

Ajzen and Fishbein (1980) also developed the theory of reasoned action that defined the relation between attitude and behavior. According to the theory, behavior is influenced by

intentions, which are influenced by attitude, which are influenced by beliefs about social norms. (See Figure 3.1.).

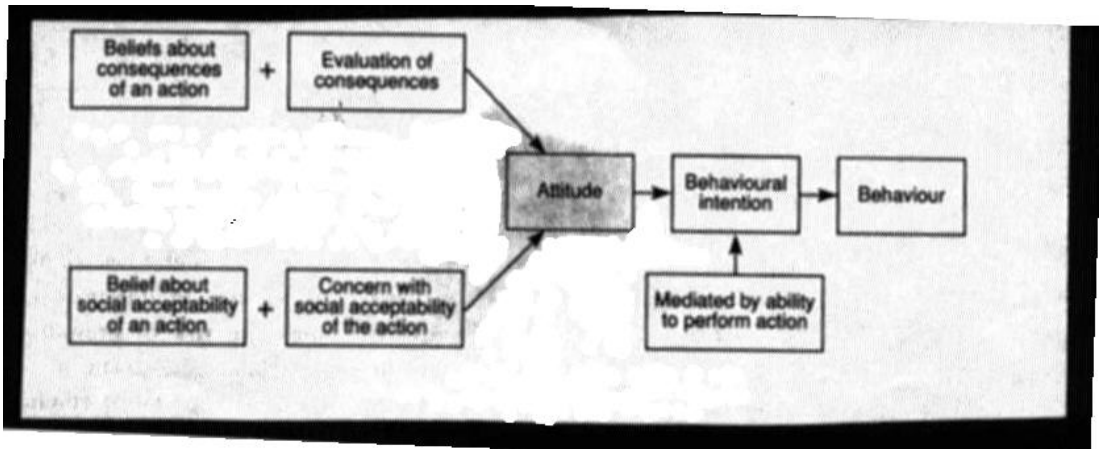


Figure 3.1. The Theory of Reasoned Action (Ajzen and Fishbein, 1980, 226).

Ajzen and Fishbein (1980) explain the theory as;

> The theory poses that individuals have beliefs about the environment (e.g. a belief that suburbs X is pleasant). Evaluation of such beliefs leads to the formation of attitudes (e.g. favorably disposed to living in X). Such attitudes form the basis for intentions (e.g. intention to buy a house in X), but only after stock has been taken of both society's notions of what is proper behavior (e.g. would the prospective migrant be accepted in X ?) and the extent of the individual's desire to comply with society's norms (228).

Besides defining the attitude, it is also important to measure it. Same scales are developed to measure attitudes. They are one item rating scale, Likert scale and semantic differential. These scales are developed to understand the attitudes in a deeper sense and allow the researches to search for the environmental attitudes

One item rating scale method is measuring an attitude in many representative studies, such as opinion survey and poll (qtd. in Stahlberg and Frey, 1996). Investigators

formulate a single question from which they think a direct estimation of the attitude is possible. This question is then connected with a multi-point rating scale: for example, 'How satisfied are you with your life?' Possible answers are offered ranging from 'not at all satisfied' (=1) to 'very satisfied' (=7) (qtd. in Stahlberg and Frey, 1996, 209).

The Likert scale was developed by Likert in 1932(qtd. in Stahlberg and Frey, 1996, 210). Likert scale which was developed in 1932 is constructed as fallows (qtd. in Stahlberg and Frey, 1996)

1. The first step in constructing a Likert scale consists of the collection of a great number of items (about 100) relevant to the attitude that is to be measured. These items should clearly express positive or negative beliefs or feelings about the attitude object in question.
2. In the next step, a large sample of people representative of the population whose attitudes are to be assessed is asked to assess the collected items on a five-point rating scale.
3. In the third step, a preliminary attitude score is computed by adding up subjects' responses to the different items. To ensure that all items reflect the single attitude in question, an item analysis is performed, by correlating each item with the total score for all items. Because only items, which are highly correlated with the total attitude score, can be regarded as indicative of the underlying attitude, all items that do not fulfil this requirement are eliminated in the final scale.
4. The final attitude score is obtained by summing up the responses towards those items left in the scale (210).

Semantic Differential method is developed by Osgood, Suci, and Tannenbaum in 1957 (qtd. in Stahlberg and Frey, 1996, 221). In developing the semantic differential, they asked their subjects feeling on certain concepts. Subjects were then asked to rate each concept on different bipolar rating scale, the endpoints of which were bipolar adjectives such as 'pleasant/unpleasant', or 'hard/soft'. Using factor analysis, Osgood et al identified three basic dimensions on which concepts could be described. These factors were interpreted as evaluation, potency and activity. The researchers (following a

undimensional attitude concept) assumed that the pairs of adjectives showing high correlation with the factor would be appropriate for describing a person's attitude to the object in question. The resulting attitude, then, is obtained by summing up the scores from each rating scale, which vary between +3 and –3 (qtd. in Stahlberg and Frey, 1996, 211).

The term attitude may not be directly related to the discipline of architecture. But, understanding the human attitudes in built environment can make the designer develop more coherent environment with the users. In other words, they may reflect the human needs and desires in a certain space.

3.3.2. PLACE

The creation of place can be explained as an attitude of a human to certain environment. In architectural practice, space has been a major element in planning and creating a form, but place concept is mostly missing during planning. However, designing space is a process of creating places for human habitation. Hay (1998) stated that by considering people's involvement in a space, one arrives at the concept of 'place'. Place concept does not refer to just physical involvement in space but it refers to many other aspects, mainly emotional. According to Hay there are three factors in development of sense of place. These are:

1.Residential status in the place (superficial, partial, personal, ancestral, and cultural senses of place),

2. Age stage, as in development across the life cycle,

3.Development of the adult pair bond, most often in marriage (5).

For Low and Altman (1992), place refers to space that has been given meaning through personal, group, or cultural processes. That is, people may turn space into place throughout time. Furthermore, by the time passes, people create their own identities through changing space to their own places. This is the process of identifying with place, namely the place identity process.

Whatever space and time mean, place and occasion mean more. Space in the image of man is place, and the time in the image of man is occasion (Van Eyck, 1962). “When place is concerned, space and time are assumed an exact, unique value; they cease to be a mathematical abstraction or a subject of aesthetics; they acquire an identity and become a reference for our existence: sacred space and secular space, personal space and collective space” (Meiss, 1992, 57).

How people organize their time influences how time is valued and, hence, how finely it is divided into units. People give value to tempos and rhythms. People are always creating, not just a space, geography of their lives, but a time-space for their lives (Dorren, 1998). From a similar perspective by Stömer Architects, “a place occupied for five minutes becomes five-minutes space”. Their claim is that function is only expressed through the control of time within each place (Architecture and Time, 1999). This claim finds its true form in Till’s reading of time in spatial terms through architecture. According to him,

because one's experience of space is changed through time and memory, space and time should be considered together as dependent categories in designing environments (1995). Space relates to us as place. The place always suggests an action or a pause. It is a field of experience, where emotional plays an essential role: it is an emotionally charged field (Kim, 1989). In contrast, according to Norberg-Schulz (1980), place is totally made up of concrete things having material substance, shape, texture and color.

However, place concept is totally related with the concept of identity. One part of people's identification can develop through places. Identity should be conceptualized in terms of a biological organism moving through time, which develops through accommodation, assimilation, and evaluation of the social world (qtd. in Twigger-Rose and Uzell, 1996, 212). They (1996) defined concepts into the context of identity process theory, stating the importance of four principles in the development of place identity: distinctiveness (of a place), continuity (in a place); self-esteem (based on association with a place), and self-efficacy (the belief in one's ability to carry out chosen activities in one's environment).

In the light of above-mentioned discussions, it can be stated that, understanding the space concept in relation to place concept is important. Place acts as a link between the human and the space during the occupation. It can be said that place is one dimension of space, and this dimension arrives with the use of space.

3.3.3. DEVELOPMENT OF PLACE ATTACHMENT

When time and place concepts are introduced together, the concept of place attachment should also be emphasized. Attachment to a place implies that the primary target of the affective bonding of people is to environmental settings themselves. Therefore, place attachment explores the relationship between places and the self-definition of the individual, group or culture. The word “attachment” emphasizes affect; the word place focuses on the environmental setting to which people are emotionally and culturally attached (Altman and Low, 1986). There are four processes associated with the formation of place attachments: (1) biological, (2) environmental, (3) psychological, and (4) socio cultural.

Brown and Perkins claim that place attachment involves positively experienced bonds, sometimes occurring without awareness, that are developed over time from the behavioral, affective, and cognitive ties between individuals and/or groups and their sociophysical environment. These bonds provide a framework for both individual and communal aspects of identity and have both stabilizing and dynamic features (qtd. in Harris et al, 1996, 289). Attachment and identity refer collectively to the idea that people invest places with meaning and significance and act in ways that reflect their bonding and linkages with them (Werner et al, 1985). Person-environment model of place attachment is proceeded by Shumakera and Taylor, according to this model, place attachment

involves "… expectations of stability, feeling of positive affect, greater knowledge of the location, and behaviors that serve to maintain or enhance the location" (qtd. in Harris et al, 1996, 289). Time is an integral to these processes. First, these processes must be seen as occurring over and in time. Second, the processes are time bound, by which mean that their meaning, nature, and probability of attachment can change with the resident's own changing life stage, and their meaning, nature and occurrence can change with social and cultural changes.

Also, a strong attachment to place results in greater satisfaction with one's home and greater expectation of future stability (McAndrew, 1993). Bell et. al (1996) claimed that the extent of place attachment can be affected by bonds to more than just the home and associated social ties. For example furnishing antiques, heirlooms, and other belongings can be part of the attachment.

All of these concepts are major key terms in understanding the relation between time and people' attitudes to space. For instance, if a person feels attached to a certain environment, he can also express his identity through that environment and can easily name the space as his own place. All of these processes develop throughout time, which leads us to the idea of using time as a design criterion.

In the light of the above discussions, it can be said that, one way or another, each person perceives space and time differently depending on their age, social background, cultural identity, past experience, mental ability and many other factors. Our understanding of

space lays in our conceptions of it. One's feelings and attitudes can never be the same in different spaces such that no one feels the same when she/he is in a shopping mall or at home. Even each time we experience it, we may perceive the same environment differently. We name spaces according to their functions or the meanings we associate with them in our conceptions. One definition may not include all these conceptual meanings but a contextual approach might do. In the next chapter, such an approach is introduced within a dormitory environment through a case study.

4. RESEARCH ON DORMITORIES AT BILKENT UNIVERSITY

In this chapter, the relationships between time, space, and attitudes in a dormitory environment are analyzed. The design of the research, which includes methodology, i.e. sampling, site selection and the findings of the research are given in the following sections.

4.1 DESIGN OF THE RESEARCH

The aim of this study is to carry out a survey about time, space, and attitudes in a dormitory environment, which is a living environment for the students. Since the relationships between time as the duration of staying in the dormitory room, attitudes as the attitudes towards the dormitory room, and space as the dormitory room are important issues in a dormitory environment, these aspects and how they are related are the main questions to be considered in this research. A dormitory is a living environment and more than a hostel. There should be a living process in dormitory rooms or, in other words a dormitory room should be a life space for its users, and it should be a satisfactory environment for students.

The dormitory room is an important space in the life of a university student. Because students operate their living activities in their dormitory rooms. They spend most of their time in their room. While spending time, there they create certain attitudes towards their rooms. Long periods of staying in their rooms require many factors to be satisfied.

Research questions of the case study are:

1.What is the relationship between time and space?

3.How is attitude affect or is being affected by time and space?

The hypotheses of the case study are:

1.Attitude affects space as space affects the attitude

2. Time affects the attitude as attitude affects time

3. Space affects time as time affects space

4.2. DESIGN AND THE METHODOLOGY OF THE RESEARCH

This study was conducted with 68, Bilkent University students who were living in a single room in Bilkent dormitories number 90 and number 91. The 90th dormitory is the females` dormitory and the 91$^{st}$ dormitory is the males` dormitory.

38 of the participants were female (55.88 %) and 30 of them were male (44.12 %). The range of the ages of participants was from 18 to 25. Number of students with respect to their ages can be seen in Table 4.1.

Table 4.1. Number of Students with Respect to Age.

	Age							
	18	19	20	21	22	23	24	25
Number of Students	14	9	13	11	9	5	5	2

The single rooms in 90th and the 91st dormitories at Bilkent University were chosen as the place to conduct this research (Appendix A). There are several reasons for choosing these dormitory rooms. First, the single rooms are chosen so that the student's use the

space alone and therefore the factor of interruption of another user is eliminated. Secondly, the students spend time in their room in order to operate many activities there. Because of the long duration, the space is appropriate for analyzing the relationship between space and time. Thirdly, space, as the single room is the major environment that students have to satisfy all their needs. In order to satisfy living needs the university provides a room, which consists of a bed, a desk, a chair and a wardrobe. The single room is expected to act as a home environment for the student. Although it has been observed that most of the students are not using the dormitory room as a living environment.

In order to eliminate the other variables that can affect the validity of the research the dormitory selection deserved special attention. The rooms have exactly the same plans and configuration in both the males' and females' dormitories. Also the organization of the rooms are both same in males' and females' dormitories. The rooms are approximately 10 square meters in size. The dormitories are 5 story buildings and each contain 60 single rooms. On each floor there are 12 single rooms (see Appendix A).

For this research, a study was conducted by using a questionnaire, which in consisted of 10 questions (see Appendix B). The questionnaire was applied to each student in a face to face interview in his or her room. The questions were the same for both male and female students.

On the first part of the questionnaire demographic information regarding sex, age and department of the participant was collected. The first two questions were multiple choice questions in which information about the duration of staying in the room and estimated for length of staying in the room were collected. There were three answer choice in each question for the students: (a) less than 1 year, (b) 1 to 2 years, and (c) more than 2 years.

The third question consisted of two parts. In the first part the student was asked to identify the activities that they performed in his or her room. In the second part they were asked to identify the amount of time spend for each activity.

The fourth question also consisted of two parts. In the first part the student was asked to identify the parts of the room where they performed the activities that they identified in the third question. In this part the question included a floor plan drawing of the room which is divided into six parts (see Appendix B). The plan was divided according to the size of the furniture and their usage area. The interviewer marked the part of the room the student indicated in which they performed each activity. In the second part they were asked to identify the furniture with which they performed the activities that they identified in the third question. In this question, information about the duration of staying in the room, in which part of the room they performed the activities, and the furniture that they used while performing these activities was collected.

In the fifth question, information about whether the activities identified in the third question could be properly performed or not was collected. In the six question the

students were asked to give reasons why they could not performed activities properly in the room.

In the seven question information about the evaluation of the students to the given qualities of the room were collected. These qualities included: Size of the room, organization (layout) of the room, furnishing of the room, material (finishing) of the room, natural light in the room, and artificial light in the room. This question consisted of two parts. In the first part the students were asked to rate the given qualities from one (least satisfactory) to seven (most satisfactory) as to their satisfaction level. In the second part they were asked to give a reason for each rating of the given qualities of the room.

The eighth question was an open-ended question. In this question information about attitudes of the students' to their rooms were collected. Students were asked to explain how the evaluations in the seventh question affected their attitudes to their rooms. This question aim to explain the relationship between the space and attitudes.

In the ninth question information about changes in the room was collected. In this question, students were asked to identify if they made changes in the layout of the room, furnishing of the room (adding extra furniture), decoration of the room (hanging photos/posters), or other changes. In the last question they were asked to give reasons for each changes that they made in their room. This question was a multiple-choice question. There were three choices: (a) functional reason, (b) aesthetic reason, (c) both functional and aesthetic changes, and (d) other reasons.

4.3 EVALUATION OF THE RESEARCH

In the following sections, the results of the questionnaire are discussed. From these evaluations, the relationships between the time the students spend in their room, room evaluation of the students, and attitude towards their rooms are pointed out. For statistical analysis of the results the Chi-Square Tests are applied.

4.3.1. RESULTS

With the first two questions of the case questionnaire, the aim was to collect some introductory information about the students' length of staying in the room. The information collected in this part is useful for evaluating the students' attitudes to their room. Responses regarding the length of staying in a dormitory room were: 73.52% less than 1 year, 14.7% about 1 to 2 years, and 11.76% more than 2 years. Responses regarding the length of stay for the future in a dormitory room were: 51.47% less than 1 year, 32.35% about 1 to 2 years, and 16.17% more than 2 years. (See Figure 4.1.)

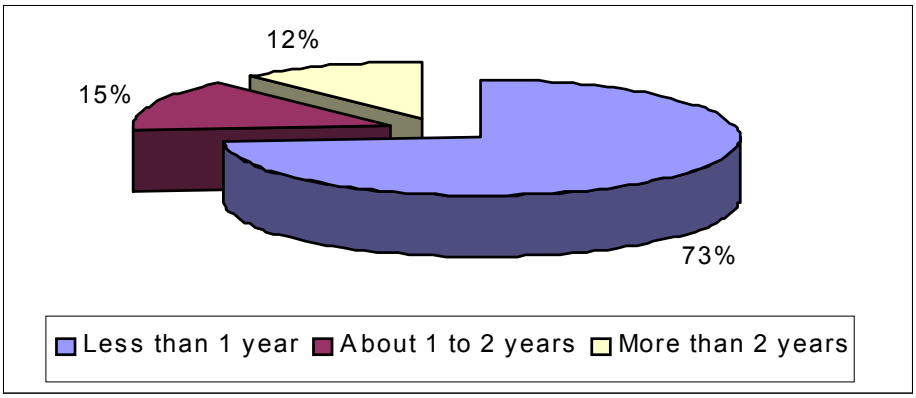


Figure 4.1. Duration of Living in a Dormitory Room.

In the third question of the case study, aimed to collect information about the activities that the students operate in their room and how much time students spent for operating these activities in their rooms. The information in this question is needed for analyzing students` time considerations. Responses regarding the types of common activities that both female and male participants operate in their room were; sleeping, studying, using computer (p.c. activities), eating, chatting with friends, watching television, listening to music, cleaning the room, and resting. Male participants were operating, drinking alcohol, making music, gambling, and chatting on the phone activities different than female participants. Female participants were operating dressing, and reading book activity differently than male participants.

Results demonstrated that students spend an average of approximately 14 hours in their rooms. Responses indicated that more than half of the students operates sleeping, studying, p.c. activities, eating, chatting with friends, watching television, and listening to music in their rooms. The average time that a students spends for each of these activities were: approximately 7 hours for sleeping, approximately 2 hours for studying,

approximately 1,5 hours for p.c. activities, approximately 0.5 hour for eating, approximately 1.5 hours for chatting with friends, approximately 1.5 hours for watching television, and approximately 1 hour for listening to the music. Figures 4.2. demonstrates the time spend on various activities by female and male participants.

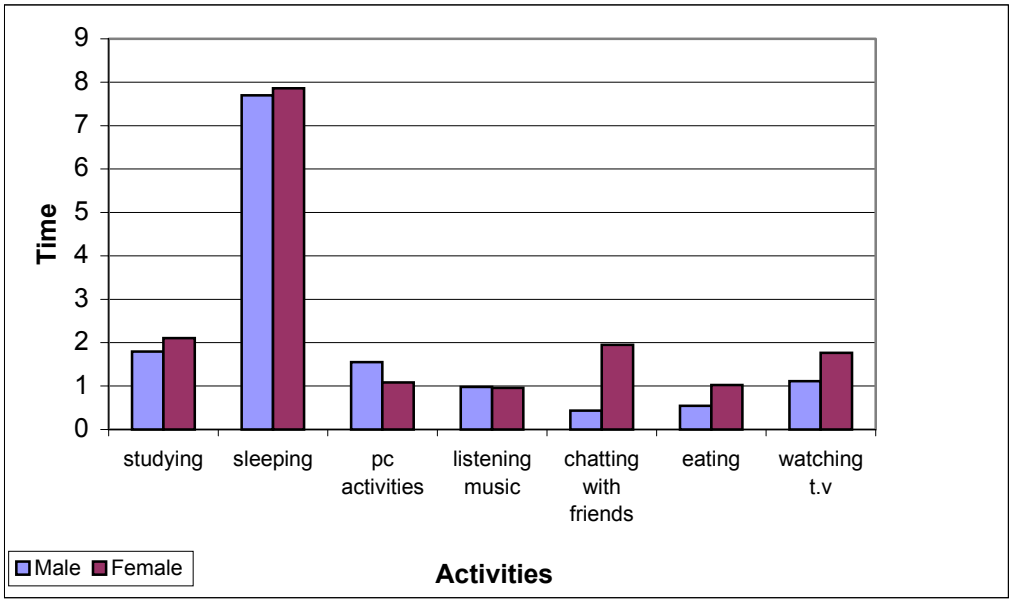


Figure 4.2. Activities With Respect to Time By Female and Male Participants

The figure illustrates that both female and male students spend the greatest amount of time in their room for sleeping. Also, the figure illustrate that besides sleeping, study and computer activities (p.c activities) are the activities that students spend more time on than the other activities.

With the fourth question, information is gathered about in which part of the room and by using which furniture students operate their activities. These responses also demonstrated the way students' preferences for use of space. In other words, responses demonstrated

the students design their space and time. The given room layout and an interior view are shown in the Figure 4.3 and Figure 4.4, respectively.

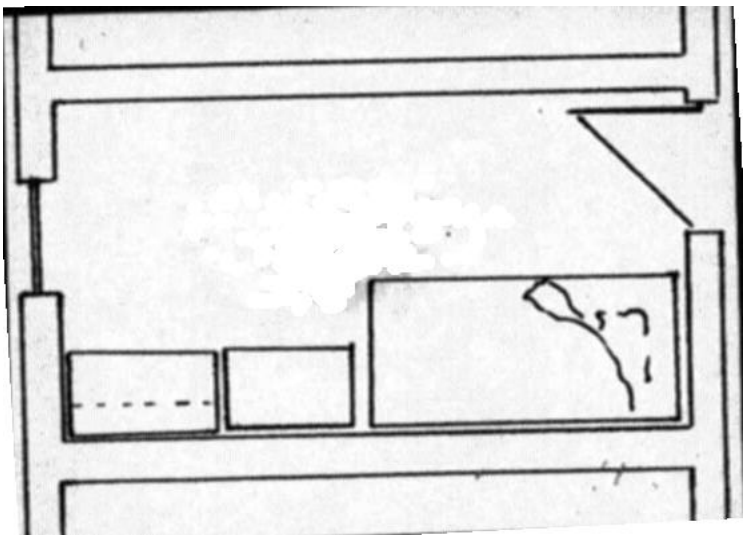


Figure 4.3. Given Layout of the Room (Plan 1/50)

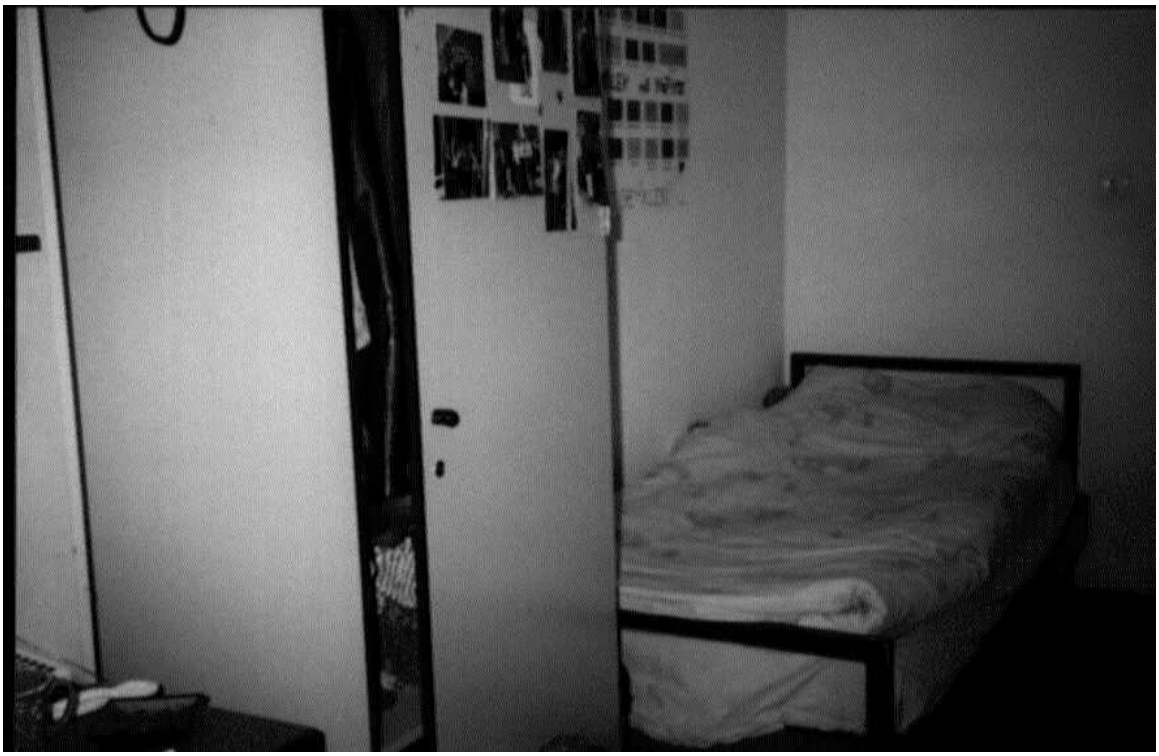


Figure 4.4. Interior View of the Room.

Results illustrated that 61.76% (42) of the students changed the layout of their rooms. 67.39% (31) of these responses preferred to change the layout of the room in a way that placed the bed in front of the window (part 1 and 2) and placed the desk near the bed (part 4). Figure 4.5 and Figure 4.6 illustrate the changed layouts and view of the room, respectively.

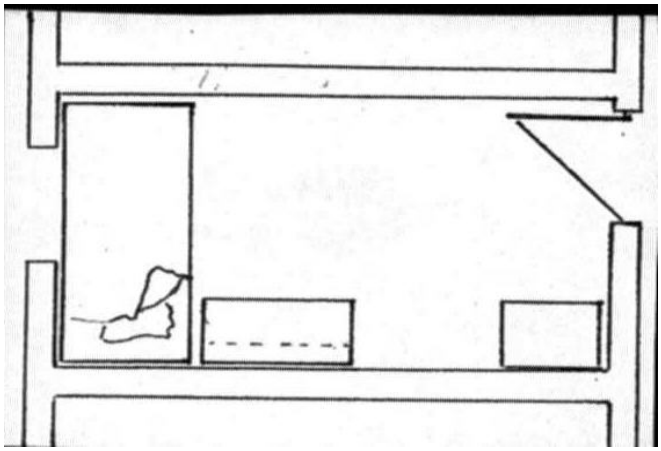


Figure 4.5. The Changed Layout of the Room

Figure 4.6. Interior View of the Room.

In addition to that the results indicated that operation of the same activities overlapped in certain parts of the room. 50% (34) of the students studied both on bed and at their desks. Only 0.04% (3) of the students preferred to study both on the floor and at their desks and the other 50 % of the students studied at their desks.

Also 83% (57) of the students operated their eating activity on the desk, 0.04% (3) used extra furniture for operating eating activity, and the 0.13% (9) of the students operate the eating activity both on the desks and on the beds. The most common activities as chatting with friends and watching television were both done on the desk chair (near the desk) and on the bed. Just 0.14% (10) of the students preferred to chat with friends on the floor. For operating the computer activities most students preferred to use the desk. 0.13% (9) of the students that operate computer activities brought extra furniture to their room. Figure 4.7 illustrates the overlapping activities in the given layout (Plan A) and Figure 4.8 illustrates the overlapping activities in the changed layout (Plan B).

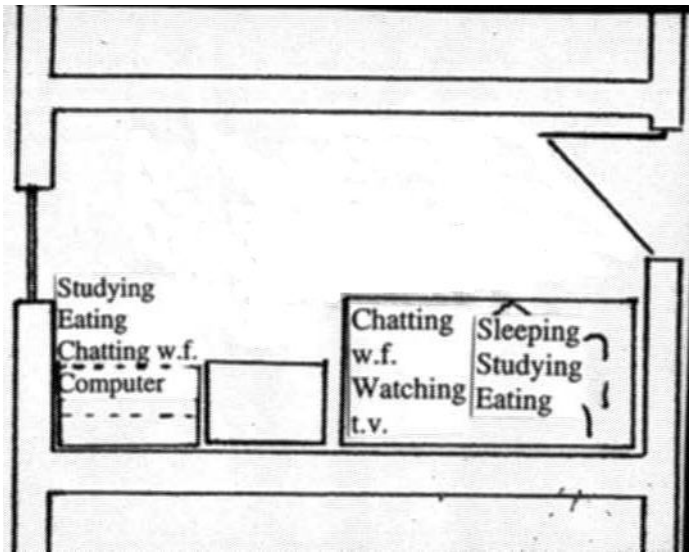


Figure 4.7. Layout Indicating Overlapped Activities in the Given Layout (Plan A).

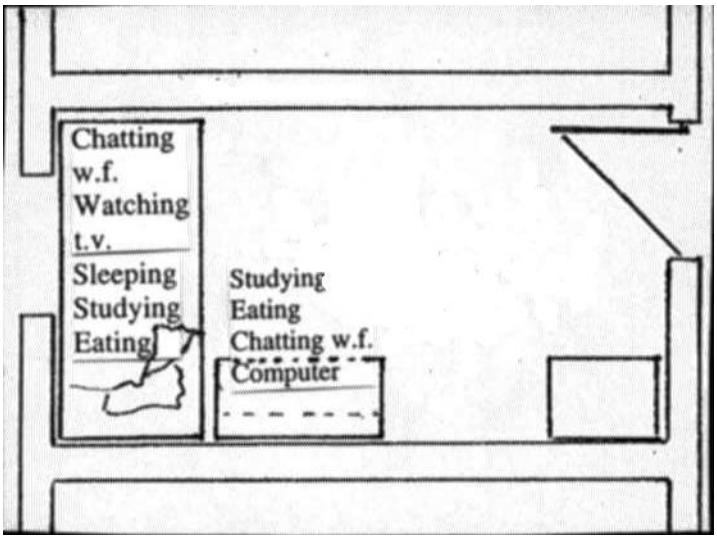


Figure 4.8. Layout Indicating Overlapped Activities in the Changed Layout (Plan B).

In addition, Table 4.2. demonstrates that students who changed the layout of the room (Plan B) operate sleeping, studying, eating, chatting with friends, watching television activities in parts 1, 2 and 4 (See Appendix B Question 4) . Also Table 4.2. demonstrates that students who did not change the layout of the room (Plan A) operate sleeping, studying, eating, chatting with friends, watching television activities in parts 6, 4 and 2 (See Appendix B Question 4).

Table 4.2. Location of Activities with Respect to the Parts of the Room

	Activity						
Part	Studying	Sleeping	P.c activities	Chatting w. friends	Eating	Watching t.v.	Resting
In Plan A	6,4,2	6,4	2	6,4,2	6,4,2	6,4,2	6,4
In Plan B	1,2,4	1,2	4	1,2,4	1,2,4	1,2,4	1,2

The fifth question aimed to collect information on whether the students operate activities properly or not properly, and the sixth question aimed to explore the reasons of activities that could not be operated properly. Responses indicated that 67% (46) of the students claimed that they could not study properly. Reasons for not operating the study activity properly were: Inappropriate size of the room, noise in the dormitory and insufficient amount of furniture (See Figure 4.9)

According to Figure 4.9, 58% of the students stated that the reasons for their failure to operate the study activity was only the inappropriate size of the room, 12 % of the students gave the reason as the noise in the dormitory, 20% as the insufficient amount of

furniture in the rooms, and % 10 stated the reason as both inappropriate size of the room and noise in the dormitory.

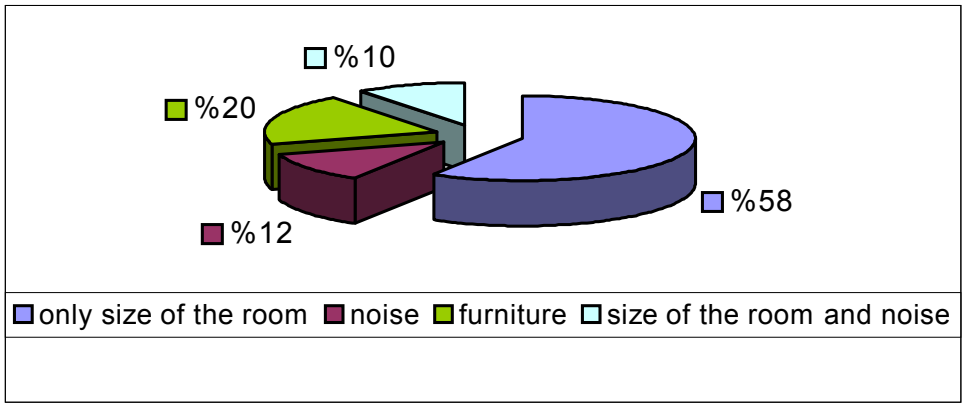


Figure 4.9. Reasons for Failure in Operating Study Activity.

Responses indicated that 75% (51) of the students could operate the eating activity properly, whereas 25% (17) of the students can not operate the eating activity properly. Students stated the reason of failure in operating the eating activity was the lack of extra space for eating. Students who operate the eating activity both in bed and at the desk stated that they did not want to eat where they study and sleep. They further stated that they need extra furniture for operating the eating activity.

For the students who were operating the chatting activity in the room, the responses were: 56% of the students can operate chatting with friends activity properly, and 44% of the students could not operate the activity properly. The reasons for failure in operating the activity stated as not enough space for the visitors, not enough furniture on which to sit,

and not enough privacy in the room because of wall construction that leads to the voice penetration throughout the rooms.

In operating the computer activities students' responses were 47.5% of the students could operate the computer activities properly, and 52.5% students could not operate the computer activities properly in their rooms. Reasons for not operating the activity properly were: there is not enough space to place the computer, not enough furniture to place the computer, not easy access to the internet from room, and noise in the dormitory. The results indicated that more than half of the students failed in operating activities because of small size of the room.

In the seventh question information about the evaluations of the students regarding the given qualities of the room were collected and they were asked to give reasons for each evaluation. Responses demonstrated that 58.8% (40) of the participants evaluated the room size as unsatisfactory (point <3). Just 17.6% (12) of the students evaluated the room size, as satisfactory (point>= 6); this can be seen in Table 4.3. The most common reason for participants evaluating the size as unsatisfactory was that they considered the room size as small.

Table 4.3. Evaluation Criteria According to Satisfaction Levels

Evaluation Criteria	Rank Showing Satisfaction (in Percentiles)			
	Point<3	3>=Point<6	Point>=6	Total
Size	58.82	23.52	17.64	100
Organization	44.11	29.41	26.47	100
Furnishing	50	35.29	14.7	100
Material/finishing	35.29	45.58	19.11	100
Natural light	20.58	32.35	47.05	100
Artificial light	39.7	45.58	14.7	100

Also 44.11% (30) of the participants evaluated the organization (layout) of the room as unsatisfactory (point <3). Only 26.47% (18) of the participants considered the room size as satisfactory (point>= 6); which can be seen in Table 4.3.the most common reason for considering the organization as least satisfactory was that the participants considered the room shape as inappropriate to create a spacious environment. Even the participants who changed the organization of the room considered the layout unsatisfactory. They stated that they couldn't change the room as they might prefer because the electrical services are fixed in the given layout.

In the evaluation of the furnishing of the room, 50% (34) of the participants considered the furnishing of the room unsatisfactory (point <3), and 14.7% (7) as the satisfactory (See Table 4.3). The reason for evaluating the furnishing as the least satisfactory was: participants considered the furnishing as insufficient for storing belongings, and they stated that they needed extra furniture for eating, and also chatting with friends. Participants who owned computers stated that they needed extra furniture for operating computer activities.

In the evaluation of the material/finishing of the room, 35.29% (24) of the participants evaluated the material/finishing as unsatisfactory (point <3), and 19.11% (13) of them as satisfactory (point>= 6); and can be seen in Table 4.3. The most common reason for evaluating the materials and finishing as the least satisfactory was that the participants considered the materials and finishing as unaesthetic. They stated that all the rooms were the same and they can not identify themselves in their room. Also, they were not satisfied with the colors of the furniture.

In the evaluation of the natural light in the room, 20.58% (14) of the participants considered the natural lighting as unsatisfactory, and 47.05% (32) of the participants considered the natural light as satisfactory, as can be seen in Table 4.3. Participants who evaluated the natural lighting as the least satisfactory stated the location of the room as the reason for poor natural lighting. Students who were staying on the ground floor found the natural lighting insufficient, and in the evaluation of artificial lighting 39.7% (27) of the participants evaluated the artificial lighting as unsatisfactory. Only, 14.7% (10) of the students considered the artificial lighting as satisfactory (See Table 4.3.). The most common reason for evaluating the artificial light in the room as insufficient was related with the type of lighting elements where florescent lights are used. Students stated that they don't like to study in the florescent light, and another common reason was that they found the amount of light was in the room insufficient. Most of the participants stated that they needed extra lighting fixtures near the bed, so that they could operate the reading and studying activities on the bed.

Table 4.3. also illustrates that the most common unsatisfactory quality of the rooms was the size of the rooms. The participants stated the other most common problem of the room as the organization and the artificial lighting in the rooms. On the contrary, natural lighting was the most satisfactory quality of the room for the participants.

The eighth question aimed to collect information about the attitudes of the students to their rooms. The information about attitudes of the participants was collected in relation to the evaluation of the given qualities of the room in question seven. The participants were asked to explain how these evaluations affected their attitudes to their room. The results indicated that students who were not satisfied with the quality of the room didn't want to spend so much time in the room. In the light of these results it is explored that the attitudes of the students were totally related to time. Responses indicated that 58.82% (40) of the students that were unsatisfied with the qualities of the room and they didn't want to spend time in their room. The other 41.18% (28) of the students also explained their attitudes in terms of time that they spend in their rooms and they stated that they enjoyed spending time in their room.

Question nine collected information about the changes in the room that the participants made. Responses were 17.64% (12) of the participants changed only the layout (organization) of the room, 14.7% (10) of the participants changed only the furnishing of the room (e.g. adding extra furniture), 13.23% (9) of the participants made none of these changes in the room, 14.7% (10) of the participants changed both the layout and the furnishing of the room, 19.11% (13) of the participant changed both the layout and the

decoration of the room (e.g. hanging photos/posters), 10.23% (9) of the participants changed the decoration and the furnishing of the room, and 7.35% (5) changed layout, furnishing and decoration of the room.

In the last question, the reasons for these mentioned changes were collected. The responses about the reasons for layout changes were 56.66% (17) of the participants changed their room because of functional considerations, 16.66% (5) of the participants changed the layout of the room because of aesthetic considerations, and 26.66% (8) of the participants change the layout because of both aesthetic and functional considerations (See Figure 4.10).

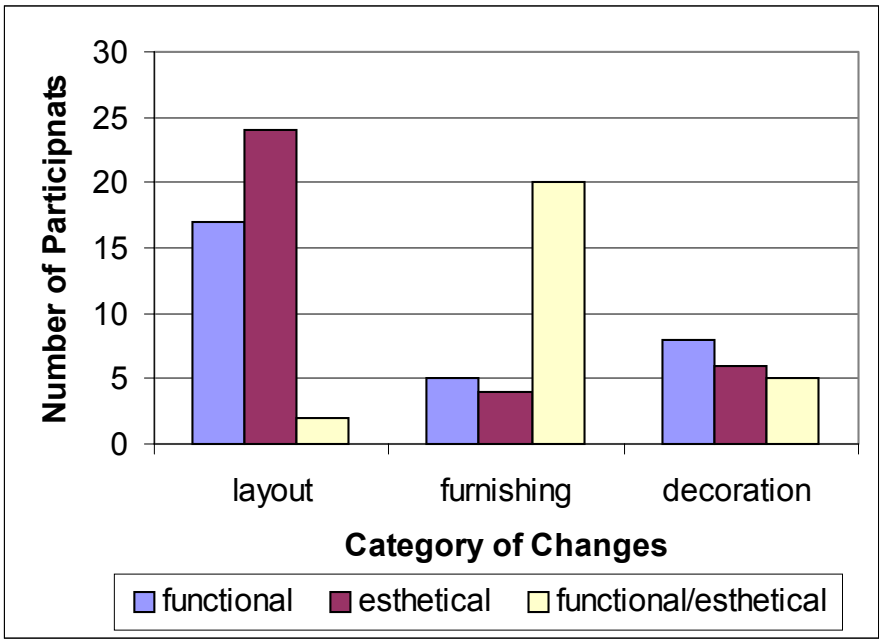


Figure 4.10. Reasons for Changes With Respect to the Number of Participants.

The reasons for making changes in the furnishing of the rooms were stated as the following: 70.58% (24) of the participants changed the furnishing of the room because of functional considerations. 11.76% (4) of the participants changed the furnishing of the

room because of aesthetic considerations, and 17.64% (6) of the participants changed the furnishing of the room because of both aesthetic and functional considerations (See Figure 4.10).

The responses as reasons for changing the decoration of the room were 7.4% (2) of the participants stated that they changed the decoration because of functional considerations. 74.07% (20) of the participants stated that they change the decoration of the room because of aesthetical considerations. The last 18.51% (5) of the participants stated that they change the decoration of the room because of both aesthetical and functional considerations.

Chi-Square Tests were conducted to analyse the data. The relationship between the time spent in the dormitory room and overlapping activities was significant ($\chi 2$= 15.68, df= 1, p= 0.000) (See Table 4.4). In other words, time spend in the dormitory room and operating overlapping activities was not independent.

Table 4.4.Observed Counts for Time Spent in Dormitory Room and Overlapping Activity.

	Time Spent in Dorm. Room (X)		
Overlapping Activity (A)	X<14	X>=14	Total
A<2	27	6	33
A>=2	12	23	35
	39	29	68

C= Number of Overlapping Activities
A= Time in Hours

In addition, the relationship between time spent in the dormitory room and satisfaction with the layout was significant ($\chi 2$= 9.26, df= 2, p= 0.009) (See Table 4.5). The relationship between students' satisfaction with the layout and students' attitudes towards their room was also significant ($\chi 2$= 9.99, df= 1, p= 0.001) (See Table 4.6).

Table 4.5. Observed Counts for Satisfaction with the Layout and Time Spent in Dormitory Room.

	Satisfaction with the Layout (y)			
Time Spent in Dorm. Room (x)	y<3	3>=y<6	y>=6	Total
X<14	23	10	6	39
X>=14	7	10	12	29
	30	20	18	68

X= Time in Hours
Y= Satisfaction Level

Table 4.6. Observed Counts for Attitude and Satisfaction with the Layout.

	Attitude		
Satisfaction with the Layout (Y)	Negative	Positive	Total
Y<4	27	8	35
Y>=4	13	20	33
	40	28	68

Y= Satisfaction Level
Negative Attitude: Not happy to spent time in the room
Positive Attitude: Happy to spent time in the room

Moreover, the relationship between satisfaction with the size of the dormitory room and the time spent in the dormitory room was significant ($\chi 2$= 9.44, df=2, p= 0.008) (See, Table 4.7). Furthermore, the relationship between the students' satisfaction with the size of the room and their attitudes towards the room was significant ($\chi 2$= 19.20, df= 2, p=0.000) (See, Table 4.8).

Table 4.7. Observed Counts for Satisfaction with the Size and Time Spent in Dormitory Room.

Time Spent in Dorm. Room (x)	Satisfaction with the Size (S)		
	S<4	S>=4	Total
X<13	20	2	22
13>=X<16	16	9	25
X>=16	10	11	21
	46	22	68

X= Time in Hours
S= Satisfaction Level

Table 4.8. Observed Counts for Satisfaction with the Size and Attitude.

S. with Size (S)	Attitude		
	Negative	Positive	Total
S<3	32	8	40
3>=S<6	6	10	16
S<=6	2	10	12
	40	28	68

S= Satisfaction Level
Negative Attitude: Not happy to spent time in the room
Positive Attitude: Happy to spent time in the room

4.3.2. DISCUSSION

Considering statistical results, each one of the hypotheses have been verified, indicating that, participants' attitudes were affected by the amount of time spent in the room, which was also affected by the characteristics of the space. Another significant relationship could be reported with regards to the attitudes of the participants and the space in which they lived.

In addition to that, the dormitory room was not used by its occupants as it was expected. As mentioned in the previous chapters, the dormitory room is defined as a living environment, in which occupants can operate their basic activities properly. What is found in the current study, instead, is that the room could not support activities such as studying, socializing, eating... etc. The main reason for this is that the room does not have the required spatial characteristics, which results in the immediate abandonment of the occupants right after their basic needs are met. This situation was additionally reflected in their attitudes towards their rooms. Although participants spent an average amount of time in the room, the information obtained from the questionnaires demonstrate that, in reality, they didn't want to spend time in the rooms any more than necessary. One of the participants stated that he felt like as if he was living in prison.

As it is stated before spatial organization refers to the way in which objects are situated within a built environment (Darley and Gilbert, 1985). It can be seen within the consideration of the current study that the size and the predetermined organization (layout) of the rooms were the main factors that affected the amount of time spent in and the participants' attitudes participants towards their rooms. Being provided with a given layout, 61% of the participants changed the layout of the room to create suitable environments, however, 52% of the participants, even after having changed the given layout (organization of the furniture), could not satisfy their personal needs. The results also indicated that there was a significant relationship between how much time the students spent in the room and how they evaluated the size and the given layout. In this case, perhaps Darley and Gilber's claims prove to be true where they stated that "spatial

layout may define purpose, ambient factors may be determined by layout, and each of these may interact with another and with the psychological, affective, and cognitive state of person. These factors play in determining the cause of behavior" (972).

Moreover, the responses indicated that there was a significant relationship between the the participants' attitudes, the size and the given layout of the room. In other words, participants who have considered the size and the layout of the room as unsatisfactory wanted to spend less time in their room. It can be understood that the quality of space is a major factor that affects the amount of time spent in a certain place and the occupants' attitudes toward a certain space. Steidl in 1972 found that the size and floor plan of rooms were factors that affect residential satisfaction (qtd. in Bell et. al 1996, 87). Similarly, Kaitilla in 1993 found that small size of houses; small living/dinning areas, badly designed kitchen and bathroom facilities, and lack of storage space were associated with dissatisfaction (qtd. in Bell et. al 1996, 87).

Supporting this claim most of the students stated that in such a small room it was hard to operate all the activities while being able to create a spacious environment. Results indicated that operation of the activities overlapped in certain parts of the room. As an example; 83% of the students operate both studying and eating activity at the desk and because of this, 58% of the students stated that they couldn't operate the study activity properly. Same participants stated that they didn't prefer to eat where they studied, although they are forced to, since they did not have an extra area for operating eating activity. In addition, it was found that there was a significant relationship between

spending time in the room and the overlapping activities. In other words, students who were operating many activities in the same area, spend less time in their room. It can be stated that because the dormitory room should provide the students with the necessities of a living environment, in which they could spend a long amount of time, the space must satisfy their basic needs such as studying, socializing, eating... etc. From this point, it is clear that time as duration is also affected by the ideal space quality.

The factors which participants considered while reorganizing their room were also important. The major reason for these changes was functional considerations. The reason can be stated as the students' need to spend most of their time in their room while operating many activities. Because of this, they change the room in order to turn it into a more functional environment. Students stated that by placing the bed under the window, they create an empty space at the center of the room, which results in another more spacious environment, that allows students to place extra furniture in the room. For instance, some of the students choose to place an extra desk in the room to place a computer. In this way they can operate more activities, like eating and study using the same desk. Few number of students stated that these changes assisted them in defining their identities. It is clear that the dormitory room's design did not support the participants' desires to that leads many changes in the room.

5. CONCLUSION

Through this thesis the space as an architectural environment has been analysed with respect to the impact on the people's attitudes and their time spending in that environment. A space can be used for many activities at the same time or different time. Constant patterns of regular occurring activities defined the time and space. Furthermore duration of staying in a space can be an effective factor in changing attitudes towards that space. The individual may have different psychological reactions and develop different attitudes towards the environment. A space that surrounds the occupant influences behavior and duration of staying by its architectural qualities (size, layout, decoration, etc.).

The evaluation of the study showed that space, time, and attitudes were important concepts in designing environments. The residents of the dormitory rooms in which the study was conducted were not satisfied with the characteristics of the space. There should be more opportunity for the students to operate their activities and because this is not the case they did not want to limit their time spend in this space.

The responses of the current study, proved that time and attitudes had not been considered as design criteria in the design of the specific environment. One can observe that in designing a space like a dormitory, that the time spent in that environment by the residents should be considered as a design criterion and should be very crucial in identifying the requirements. The design criteria of space that serves for short duration of

staying should not be same as the one that serves for a longer pariod of staying. Designer should understand that designing a certain space means designing time and designing attitudes of human being. Because of this it is important to understand the way people activate and behave in a space, and how they give value to their time.

This study reflects how unappropriated qualities of space affect people's attitudes and time spent in their living environments. In other words, this study demonstrates the significant interrelation between space, time, and attitude.

Furthermore, study can be considered as a postoccupnacy evaluation. The postoccupancy evaluation is "an examination of the effectiveness for human users of occupied designed environments"(Zimring and Reizenstein qtd. in Gifford 1987, 368). At the same time, Wilsing and Sonkan (2000) claimed that the economical situation does not allow people to create their own environment. Therefore they are living in given environment, that does not reflect the their desires. They further claimed that in such a case, the architect imposes his solution to the problem that represents his inner world. Knowing the expectations of the individuals from the environment allows better prediction of their satisfaction with in the physical setting (Gifford, 1987). Therefore, the findings of the study are expected to create a certain awareness in creating environments in their future designs considering the mentioned variables; time, space and attitudes. Besides, the findings could be important in making renovations in existing spaces in order to improve the space quality.

Besides space and attitudes, there may also be some other factors that make the occupant want to spend less time in his or her room, such as cultural background, social background, living habits, psychological factors, etc. Since the focus of this study was space, time, and attitudes, the other factors have been disregarded in this study. In further researches, the factors that have not been considered in this research might be studied. For instance, past experience about spaces may be a factor that affects the attitudes of the participants. Also psychological factors that affect the mood of the participants may be affective in time spending in a certain space. In addition different cultures or gender may have different understanding of functioning space that leads different attitudes, could be developed and applied to further studies.

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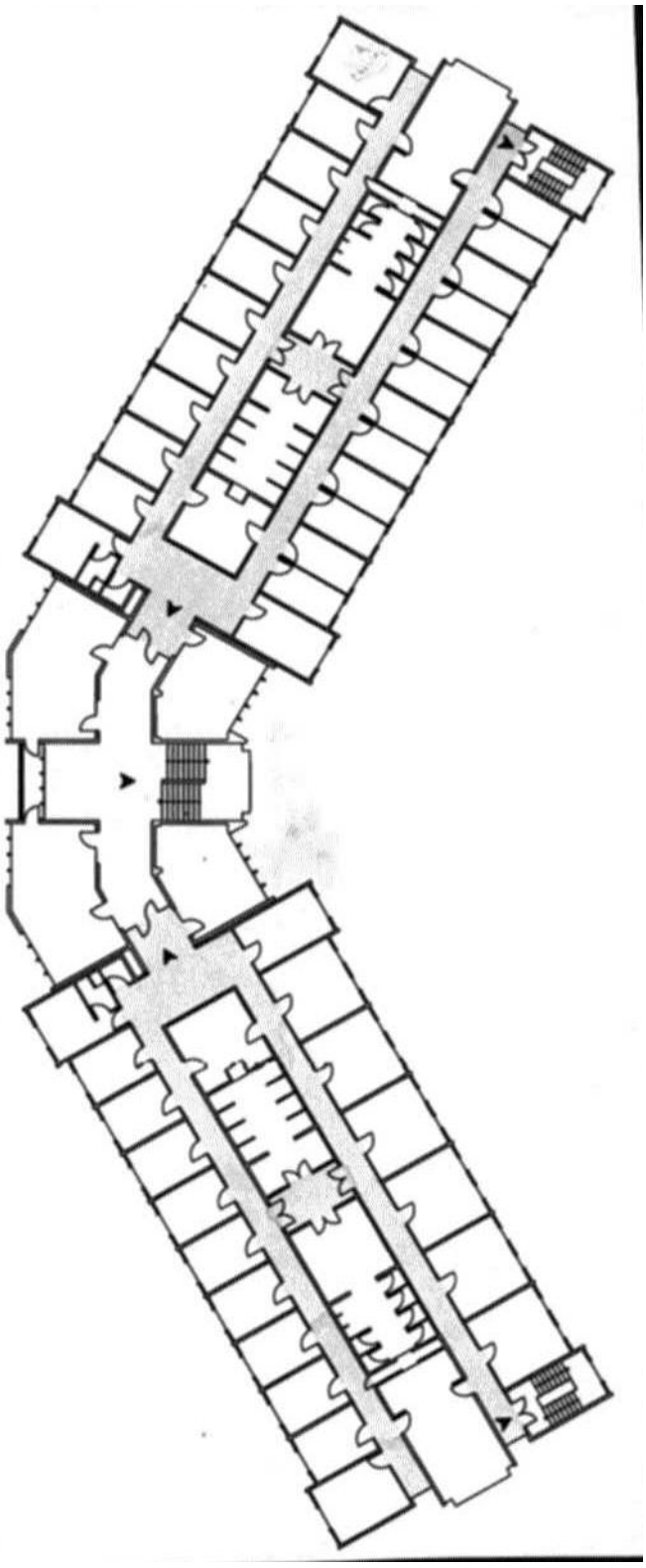
APPENDICES

APPENDIX A



The Plan of the Dormitory (91. And 90.)

APPENDIX B

Questionnaire for Students Living in Dormitory No:… at Bilkent

Subject No:

Sex:

Age:

Department:

1. How long have you been staying in this room?

☐Less than 1 year
☐1 to 2 years
☐More than 2 years

2. How long will you stay in this room?

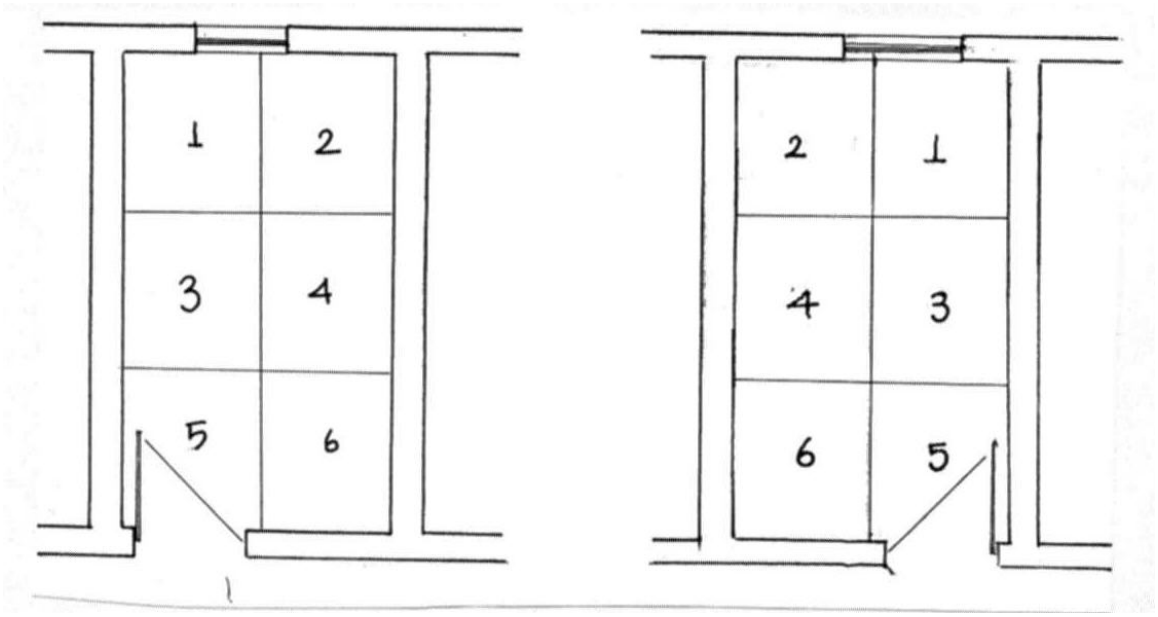
☐Less than 1 year
☐1 to 2 years
☐More than 2 years

3. For which activities are you using your room and approximately how much time are you spending for these activities?

	Activity	Time
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

4. In which part of the room and by using which furniture you operate mentioned activities in the question no. 3?

	Activity	Part of the room	Furniture
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			



5. Which activities that you mentioned in question no.4 can be properly/not properly operated in your room?

	Activities	Properly	Not properly
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			

6. Please give reasons for the activities that you can not operate properly.

	Activity	Reason
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

7. Please evaluate the given qualities of room from 1 to 7 satisfaction levels and give reason for each evaluation?

Given qualities	1	2	3	4	5	6	7	Reason
a) Size								
b) Organization								
c) Furnishing								
d) Material /finishing								
e) Natural light								
f) Artificial light								

8.How are these evaluations in question no. 7 affecting your attitude towards your room?

9. Did you make changes in

☐ In the Lay-out Yes☐ No☐
☐Furnishing of the room (adding extra furniture) Yes☐ No☐
☐Decoration of the room (hanging photos/posters) Yes☐ No☐
☐Others———————

10. For what reason do you prefer to make these changes?

Changes	Functional	Esthetical	Functional /Esthetical
a) Lay-out			
b) Furniture			
c) Decoration			
d) Others			