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A Post Occupancy Evaluation Study for University Students' User Satisfaction of Dormitories

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Abstract

Post-Occupancy Evaluation (POE) is a systematic method of criticism about a building's performance in use, including indoor environment quality (IEQ), energy performance and occupants' satisfaction. Post Occupancy Evaluation can be defined as a method to measure the planned performance and the actual performance of the buildings. In this process, technical measurements can be made, and systematic surveys and interviews can be conducted with users. In this way, the performance of the building is measured, and a feedback can be provided to the facility manager and the entire technical team. By using this information in future projects, it is ensured that the errors are not repeated.

This paper focuses on the analysis of a private female dormitory building in Ankara, with the functional and technical dimensions of user satisfaction which are obtained from literature. The dimensions are derived from the literature and adapted with some modifications with expert view. Within the study a user satisfaction evaluation study is achieved to acquire the students' responses regarding their satisfaction level according to (20) functional and (20) technical performance elements. The results of the post-occupancy evaluation of the dormitory are presented. The employed methodology can be upgraded for an advanced system to evaluate the user satisfaction of dormitory users systemically

Keywords: Student Housing, Dormitory, User Satisfaction Performance, Post-Occupancy Evaluation, Turkey.

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İNCELEME / ARAŞTIRMA

Üniversite Öğrenci Yurdu Kullanıcı Memnuniyeti İçin İskân Sürecinde Değerlendirme Çalışması

Abdurrahman Yağmur Topraklı*

Öz

İskân Sürecinde Değerlendirme[1] (İSD-POE), iç ortam kalitesi (İOK-IEQ), enerji performansı ve kullanıcıların memnuniyeti de dahil olmak üzere, bir binanın kullanımdaki performansı hakkında sistematik bir değerlendirme yöntemidir. İskân Sürecinde Değerlendirme, binaların planlanan performansını ve gerçek performansını ölçmek için bir yöntem olarak tanımlanabilir. Bu süreçte teknik ölçümler yapılabildiği gibi, kullanıcılarla sistematik araştırmalar ve görüşmeler de yapılabilir. Bu şekilde binanın performansı ölçülür ve tesis yöneticisine ve tüm teknik ekibe geri bildirim sağlanabilir. Bu bilgiler gelecekteki projelerde kullanılarak, hataların tekrarlanmaması sağlanır.

Bu yazı, literatürden elde edilen kullanıcı memnuniyetinin fonksiyonel ve teknik boyutları ile Ankara'daki özel bir kız öğrenci yurt binasının analizine odaklanmaktadır. Ölçüm boyutları literatürden türetilmiştir ve uzman görüşü ile bazı değişiklikler ile mevcut duruma uyarlanmıştır. Çalışma kapsamında (20) fonksiyonel ve (20) teknik performans unsurlarına göre öğrencilerin memnuniyet düzeylerine ilişkin yanıtlarını almak için bir değerlendirme çalışması yürütülmektedir. Öğrenci yurduna ilişkin yapılan iskân sürecinde değerlendirme sonuçlarına yer verilmektedir. Kullanılan metodoloji, yurt kullanıcılarının kullanıcı memnuniyetini sistematik olarak değerlendirmek için gelişmiş bir sistem için yükseltilebilir.

Anahtar Kelimeler: Öğrenci Yurtları, Yurt, Kullanıcı Memnuniyet Performansı, İskân Sürecinde Değerlendirme, Türkiye.

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[1] Post Occupancy Evaluation' metodunun, daha önceki çevirilerde 'Kullanım Sonrası Değerlendirme' (KSD) olarak çevrildiği göz önüne alınmalıdır. Yazar, 'Occupancy' kelimesini, Türkçe tam karşılığı olacak şekilde 'İskân' olarak çevirmektedir. 'Post' kelimesinin Türkçe karşılığı 'sonrası' olmasına rağmen, ilgili metodun yapı üretim sürecindeki yeri bağlamında yazar, terimin Türkçe kullanımının 'sürecinde' olması gerektiğini savunmaktadır.

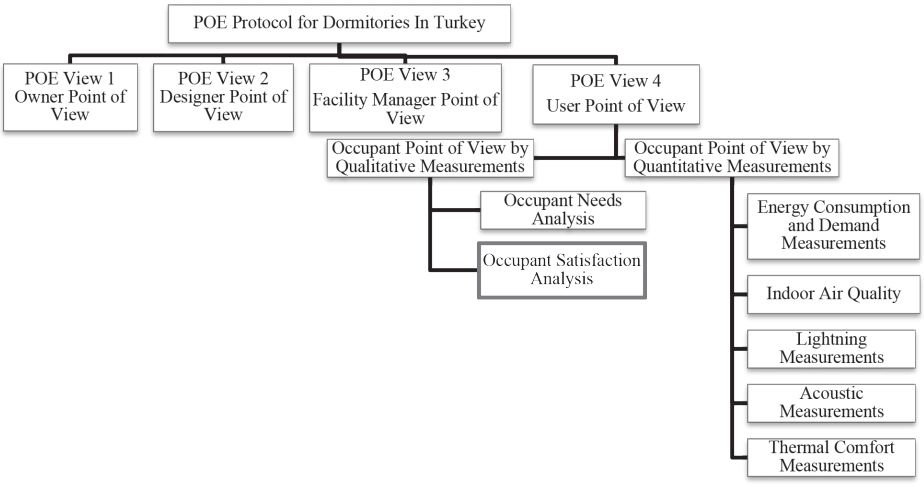
Introduction

Student dormitories whether on campus or outside of campus, public or private facilities, play an important role on the students' performance. The quality of the dormitories reflects the intellectual, social, and physical state of the student. Student dormitories provide students with an experience in a different environment than their homes. They give students a chance to socialize with other students with different backgrounds and learn how to adapt to life together with people. Living in dormitories has its pros and cons. Dormitories should be designed and operated with the aim of raising the quality of life for the students and help them to maintain good health which will enable them to study well. The aim of this paper is to review the degree of students' satisfaction with some major elements of performance in a private student dormitory in Ankara. The findings of this paper are valuable to those who are involved in operating and designing new student dormitories or improving existing ones.

Literature Review

Post-occupancy evaluation (POE) is a procedure of assessing the performance of a building after it has been occupied for at least one year to understand the performance of the building in all seasons. Post-Occupancy Evaluation (POE) is a general method of drawing criticism about a buildings' performance in use, including indoor environment quality (IEQ), energy performance, occupants' satisfaction, etc. (Alborz & Berardi, 2015). In Figure 1, POE study and occupant comfort analysis relation is classified from the viewpoint of the author. The 'Occupant Satisfaction Analysis' is handled within the POE environment.

Figure 1. POE Study and Occupant Comfort Analysis Relation



Satisfaction with student dormitories can be defined as a pleasing feeling that occurs when students housing needs are satisfied. It is translated as the straight response from students towards their housing environment, which encourages constructive socialization progression, boosts the study temper, and offers efficient facilities. Studies have shown that different socio-physical backgrounds have its impact on the students' fulfilment with student dormitories. The level of satisfaction can vary depending on gender, economic status, and previous dorm involvement (Najib, Yusof, & Sani, 2012).

In literature there are several studies regarding the user satisfaction with student dormitories. To illustrate some examples, the user satisfaction of a student hostel was evaluated regarding six performance aspects through an interview conducted with 204 users (Lai, 2013). Thermal comfort of dormitories and hostels were also examined in the literature (Wu et al., 2019; Dhaka,2013). In another work, a POE study is investigated with 3 main buildings which are dormitory, canteen and sports facility in Peter the Great Polytechnic University in Saint Petersburg with questionnaires and physical measurements (Strelets et al., 2016). Indoor comfort and thermal comfort of student dormitories are evaluated in other studies (Dahlan et al, 2008; Wafi and Ismail, 2010).

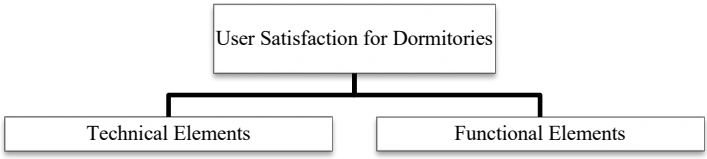
Post-Occupancy Evaluation has been employed in several studies focusing on the evaluation of dormitories. In the study of Hassanain (2008), the students' perceptions and the degree of their satisfaction with the dormitories were assessed through their responses to a user satisfaction survey in terms of both 22 technical (such as the thermal and acoustical comfort) and 26 functional (such as the room finishes and room layout) elements of performance listed under ten performance requirements categories. The results of the study revealed that the students were satisfied with all ten performance requirements groups with an overall mean response of 2.80. The study delivers a good means for explaining technical and functional problems in the dormitory building.

Another study addressed both physical and social variables on a campus of a Malaysian university where bedrooms are designed to accommodate two occupants at a time (Najib et al., 2012). The results showed that the students are mostly satisfied with their rooms, bathrooms, laundry room, and the leisure room; on the other hand, they were dissatisfied with the kitchenette, internet connection in the rooms and support services in general. The study of Najib, Yusof &Osman (2012) suggests the improvement of the services and quality of the on-campus dormitories by housing administrators and facility managers at Malaysian institutions as the results revealed a lower level of satisfaction in comparison to similar studies conducted in other countries.

Definition of Performance Necessities of Dormitories for Student Satisfaction

Student satisfaction of the dormitories is based on two performance requirement categories according to existing literature. The initial class is the technical performance elements which includes *the thermal comfort perception, acoustical comfort perception, visual comfort perception, indoor air quality perception,* and *fire safety perception*. While the subsequent category is defined as the functional performance elements and includes *interior and exterior finish systems quality perception, room layout and furniture quality perception, support services perception, the circulation efficiency perception*, and *the proximity to essential facilities perception*. In Figure 2, two dimensions of POE Study is shown.

Figure 2. POE Study Technical and Functional Elements Dimensions

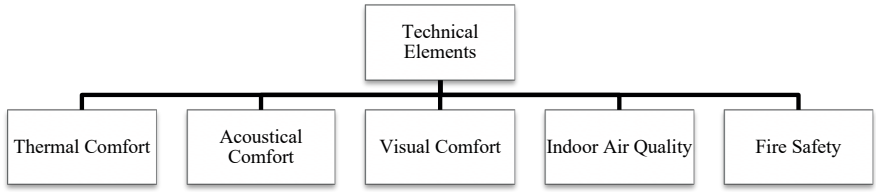


Technical Performance Requirements

The technical performance requirements include thermal, acoustical, visual comfort perceptions of students and indoor environment quality perception and fire safety perception. Thermal well-being is an important aspect regarding technical performance requirements (ASHRAE Standard, 2004). Acoustical well-being is another crucial aspect in occupant satisfaction since acoustics is a vital contemplation in residential structures, which comprises sound insulation of external and internal noise sources as well as sound absorption in rooms and other spaces. The limitations of a building are related to the building type, its form, number of floors, comparative location to noise sources and materials used in interiors and exteriors (Yu & Kang, 2009). Visual comfort is concerned with the lighting in spaces, which must provide a healthy visual environment that supports different occupants' activities by ensuring that the light is adequate to accomplish their tasks without causing eye stain or headache (L. Carpenter & A. Oloufa, 1995).

The poor indoor air quality has increasing health effects, a wide range of symptoms and illnesses that are related to non-industrial indoor air pollution. Indoor air pollutants originate from a range of sources, emitting from building materials, infiltration from outside, or they can be produced by the occupants' activities (Jones, 1999). Regarding the fire safety, people has responded to the risk of fire in buildings in some customs, such as building regulations, training for fire threats, control on the use of material and products, and the planning of buildings in a way that resists the effects of fire (Xin & Huang, 2013). In Figure 3, POE Study Technical Elements Sub Dimensions are shown.

Figure 3. POE Study Technical Elements Sub Dimensions



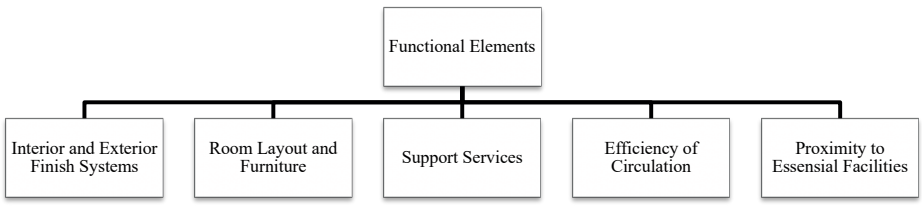
Functional Performance Requirements

The functional performance requirements include interior and exterior finish systems quality perception, room layout and furniture quality perception, support services quality perception, circulation efficiency quality perception, and the proximity to essential facilities. Interior and exterior finish systems should be durable, have a good appearance, and be easy to clean and maintain (Hosseinijou, Mansour, & Shirazi, 2014).

Room layout must be suitable to accommodate several functions such as, sleeping, eating, studying and socializing, in the relatively small space of the student's room. The location of the support services which include bathrooms, showers, and water closets must be at a close distance to the rooms, and they should have regular maintenance. It is also necessary to provide hot and cold-water supply. Cleanliness is important and trash removal must be done regularly to maintain a healthy environment (Hassanain, 2008).

Circulation efficiency refers to the ease of locating the rooms in each floor, the appropriate width for corridors, the number and location of stairs and elevators in the building. The proximity of the building to essential facilities such as hospitals, pharmacies, grocery stores, and public transportations is of a great importance and has an impact on the daily life of the occupants. In Figure 4, POE Study Functional Elements Sub Dimensions are shown.

Figure 4. POE Study Functional Elements Sub Dimensions



Building Properties

The analyzed building is a private dormitory located in Ankara, Turkey (Figure 5). It consists of eight floors and two basement floors, with one elevator and one staircase and another external staircase for emergencies. The ground floor contains the reception area with a lounge, the manager and accountant's rooms, as well as the study room (Figure 8). The basement floors have the cafeteria with its kitchen, the laundry and ironing rooms, the gym, the beauty salon, as well as the storages (Figure 11). The seven floors are typical in plan of clustered rooms (Figure 6). There are four clusters in each floor containing 11 rooms and 11 bathrooms of twin and individual occupancy, and each cluster has a closed corridor (Figure 7). Each floor consists of 20 students and the dormitory capacity is 140 students. The first cluster has two bedrooms and two bathrooms each for two persons. The second and third clusters have three bedrooms with three bathrooms each for two persons. The fourth cluster has one room for two persons with a bathroom and two rooms with two bathrooms each for one person. Each room has a refrigerator, heater, telephone, LCD television with satellite channels, Internet connection, bed, bedside table, cloth cabinet, shelves, and a studying desk. The cleaning of rooms and bathrooms is done daily. The furniture of all rooms has been renewed one year ago; bathroom fixtures were also modified to provide each room with one bathroom that contains all the fixtures.

Figure 5. Location of the Studied Dormitory

Figure 6. 6. Floor Plan of the Dormitory

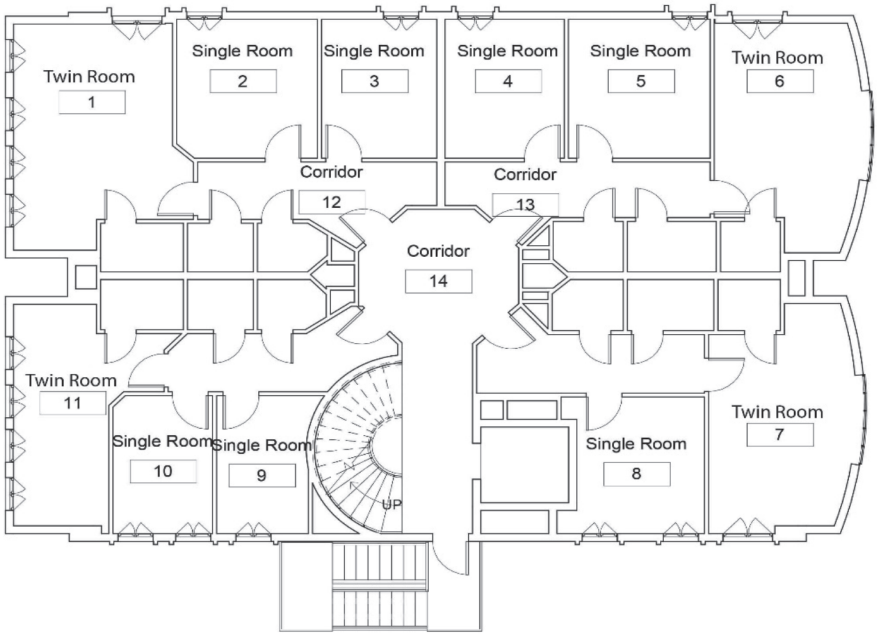


Figure 7. 3D Model Views of the Studied Dormitory

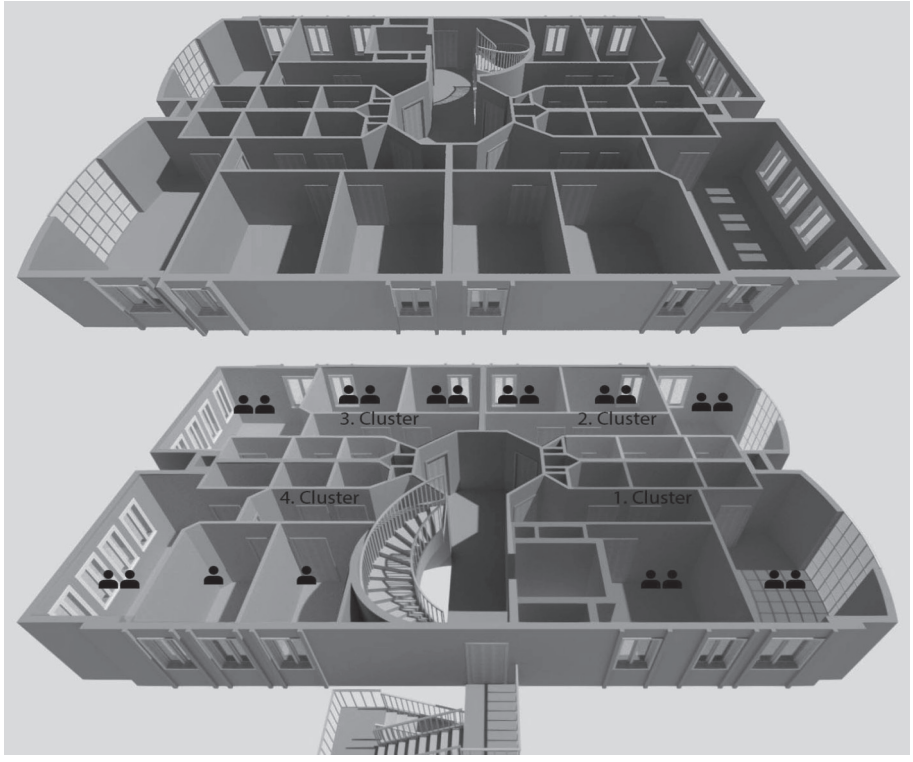


Figure 8. A Photo from the Reception Area of the Dormitory (Taken from Website of the Facility)

Figure 9. A Photo from Single Room of the Studied Dormitory (Taken from Website of the Facility)

Figure 10. A Photo from Twin Room of the Dormitory (Taken from Website of the Facility)

Figure 11. A Photo from the Cafeteria (Taken from Website of the Facility)

Figure 12. A Photo of the Dormitory's Facade

Method

Data Collection & Investigation

The data was collected by a user satisfaction questionnaire to obtain the students' feedback on their experience in the dormitory. The questionnaire is distributed to randomly selected 63 students studying in different universities in Ankara and occupying different rooms and floors. The sample represents approximately 45 % of 140 students occupying the dormitory. The user profile of the dormitory consists of 10% graduate students, 17,1% two-year vocational high school students and 72,9% undergraduate students (Table 1). The age of the students ranged from 18 to 27, with an average age of 20,33 years.

Table 1. User Profile of the Survey Participants

	Two-year vocational high school	Undergraduate Students	Graduate Students
Total Percentage	17,1%	72,9%	10,0%
Average Age	19	20	25

The questionnaire is prepared with some modifications by depending upon the literature via an expert view for Turkish case. Accordingly, 63 students were asked in the survey to mark their degree of satisfaction with 40 items of performance. These items were categorized under ten performance classes: *thermal comfort, acoustical comfort, visual comfort, indoor air quality, fire safety, interior and exterior finish systems, room layout and furniture quality, support services, circulation efficiency,* and *proximity to essential facilities*. The evaluation terms and the scale used in this study is similar with Hassanain's (2008) study which includes: *"Strongly Satisfied" with 4 points, "Satisfied" with 3 points, "Dissatisfied" with 2 points, "Strongly Dissatisfied" with 1 point.* The mean response for each element of performance was calculated by the sum of the products of multiplication is divided by the numeral of students who responded to the survey.

To measure the degree of satisfaction for each component of performance, the following calibration is used which was adapted from the literature (Hassanain, 2008), Accordingly, it is determined that the respondents are "Strongly Dissatisfied" if the mean reply is below 1.49, the respondents are categorized as "Dissatisfied" if the mean reply is between 1.50 and 2.49, the respondents are categorized as "Satisfied" if the mean reply is between 2.50 and 3.49, and the respondents are categorized as "Strongly Satisfied" if the mean reply is above 3.50. The students' degree of satisfaction with each of the technical and functional performance requirements items are represented in Table 2 and 3. A summary of the mean responses for the technical and functional performance requirements and the rates of satisfaction are presented in Table 4. The students' rates of satisfaction for each element of performance are discussed in the results section.

Results

Assessment of the Technical Performance Requirements

1. Thermal comfort perception: The mean response of 63 students indicated that the students were satisfied with the room temperature in winter; on the other hand, they were dissatisfied with it in summer as shown in Table 2. However, the average satisfaction rate of 2.73 with the overall thermal environment was obtained as shown in Table 4.

2. Acoustical comfort perception: The mean response to the items listed in this category indicated that the students were satisfied with three out of four items as shown in Table 2. An average satisfaction rate of 2.59 was obtained for this category (Table 4).

3. Visual comfort perception: The mean response showed that the students were satisfied with four out of five items as indicated in Table 2. An average satisfaction rate of 2.85 was acquired for this category (Illustrated in Table 4).

4. Indoor air quality perception: The mean response indicated that the students were satisfied with all four items in this category as shown in Table 2. An average satisfaction rate of 2.73 was obtained in this category.

5. Fire safety perception: The mean response by students showed that they were strongly satisfied with two elements and satisfied with the other two elements at this category as indicated in Table 2. An average satisfaction rate of 3.34 was obtained in this category.

Table 2. Technical Performance Requirements with Their Mean Responses and Rate of Satisfaction

Technical elements of performance	Mean	Rate of satisfaction
Thermal well-being perception		
1. Summertime room temperature	2.00	D
2. Wintertime room temperature	3.30	S
3. Overall satisfaction of the thermal environment in the whole building	2.90	S
Acoustical well-being perception		
4. Conservation privacy at the room	2.40	D
5. Noise level from heater or refrigerator in the room	2.70	S
6. Noise level coming from outside the room	2.60	S
7. Overall satisfaction of the acoustical environment in the building	2.65	S
Visual comfort perception		
8. Sufficiency of natural light in the room	2.80	S
9. Sufficiency of artificial light in the room	2.90	S
10. Sufficiency of artificial light in the study room	3.25	S
11. Sufficiency of artificial light in the corridors	2.35	D
12. Overall satisfaction of lighting in the building	2.95	S
Indoor air quality perception		
13. Air quality perception inside the room	2.80	S
14. Air quality perception in the corridors	2.65	S
15. Control of natural ventilation through windows	2.50	S
16. Overall satisfaction of indoor air in the whole building	2.95	S
Fire safety perception		
17. The ease to identify emergency exits	3.60	SS
18. Ease of exiting the building in case of fire emergencies	3.60	SS
19. Ease to reach fire alarms systems	3.00	S
20. Overall satisfaction of fire safety systems in the building	3.15	S

Notes: SS –Strongly Satisfied, S – Satisfied, D – Dissatisfied, SD – Strongly Dissatisfied

If the mean response is above 3.50, the respondents are “Strongly Satisfied”

Table 3. Functional Performance Requirements with Their Mean Responses and Rate of Satisfaction

Functional elements of performance	Mean	Rate of satisfaction
Interior and exterior surface arrangements perception		
21. Quality and appearance of the interior appearances in the room	3.15	S
22. Quality and ease of use of doors and windows in the room	2.90	S
23. Quality and appearance of appearances in common spaces	2.90	S
24. Quality and appearance of building's exterior finishes	3.10	S
Room layout and furniture arrangement perception		
25. Adequacy of study place in the room	2.80	S
26. Type and size of desk in the room	3.05	S
27. Type of chair in the room	3.00	S
28. Type of bed in the room	2.90	S
29. Capacity of wardrobe	2.20	D
30. Furniture arrangement in the room	2.80	S
31. Colors of furniture and surface finishes	3.25	S
32. Overall quality of furniture	2.90	S
Support services perception		
33. Quality of bathrooms facilities	3.10	S
34. Cleanliness and trash removal	3.45	S
35. Power sockets required for equipment in the room	3.20	S
36. Acceptability of circulation routs around the building	3.20	S
Circulation efficiency perception		
37. Arrangement of rooms in the floors	3.15	S
38. Width of corridors for circulation	3.15	S
39. Location and number of stairs and elevators	2.60	S
Proximity to essential facilities perception		
40. Building location relative to important facilities (healthcare grocery stores, public transportations	3.60	SS

Notes: SS –Strongly Satisfied, S – Satisfied, D – Dissatisfied, SD – Strongly Dissatisfied

Assessment of the Functional Performance Requirements:

Interior and exterior finish systems: The mean response of 63 students who participated into the survey indicated that they were satisfied with all four elements in this category as shown in Table 3. An average satisfaction rate of 3.01 was obtained as indicated in Table 4.

1. Room layout and furniture quality: The mean response showed that the students were satisfied with seven out of eight items as shown in Table 3. An average of 2.86 was obtained for this category.

2. Support services: The mean response of this category shows that the students were satisfied with all four elements as indicated in Table 3. An average rate of satisfaction of 3.24 was obtained.

3. Circulation efficiency: The mean response showed that the students were satisfied with all three elements of this category as illustrated in Table 3. An average satisfaction rate of 2.97 was acquired.

4. Proximity to essential facilities: The mean response for this category indicated that the students were strongly satisfied with 3.60 rate of satisfaction.

Table 4. Summary of The Mean Response for the Technical and Functional Performance Requirements and Their Rate of Satisfaction

No.	Performance requirements	Mean response	Degree of satisfaction perception
1.	Perception of thermal comfort	2.73	Satisfied
2.	Perception of acoustical comfort	2.59	Satisfied
3.	Perception of visual comfort	2.85	Satisfied
4.	Perception of indoor air quality perception	2.73	Satisfied
5.	Perception of fire safety	3.34	Satisfied
6.	Perception of interior and exterior finish systems	3.01	Satisfied
7.	Perception of room layout and furniture arrangement	2.86	Satisfied
8.	Perception of support services	3.24	Satisfied
9.	Perception of circulation efficiency	2.97	Satisfied
10.	Perception of proximity to essential facilities	3.60	Strongly Satisfied
Overall average		**3.00**	**Satisfied**

Discussion

The responses of the occupants play a great role in enhancing the quality of existing designs or for considering improvable areas in the new ones. For that reason, in order to evaluate the level of occupant satisfaction in a private student dormitory, a user satisfaction survey was conducted to acquire students' feedback on the quality of different aspects of their occupancy. This study obtained students' satisfaction rate based on 40 items of performance (technical and functional) arranged in ten categories. 4 of 40 questions resulted in dissatisfaction. They are summertime room temperature, conservation privacy at the room, amount of artificial light of the corridors and capacity of wardrobe. In a general perspective, the study showed that the students were satisfied with nine out of ten categories and strongly satisfied with the last one. The results obtained at the end of this study showed that students were mostly "Satisfied" with the overall items of performance, and in this study, the overall rate of satisfaction average was found to be 3.00. This study revealed that the studied dormitory meets the user needs except 4 subjects. Although the dormitory is located by the road, acoustical performance was satisfied. The information obtained from this study can be used to improve the dormitories performances and plan the future dormitories according to the collected data. The methodology of this study can also be applied to other student dormitories in Turkey with appropriate customization.

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Appendix

User Satisfaction Questionnaire

This survey is about your satisfaction with the dormitory you are staying now.

Please mark your degree of satisfaction with the following elements:

G1. Perception of Thermal Comfort

1-Room temperature during summer

Strongly Satisfied	☐	Satisfied	☐	Dissatisfied	☐	Strongly Dissatisfied	☐

2-Room temperature during winter

Strongly Satisfied	☐	Satisfied	☐	Dissatisfied	☐	Strongly Dissatisfied	☐

3-The overall quality of the thermal environment in the building

Strongly Satisfied	☐	Satisfied	☐	Dissatisfied	☐	Strongly Dissatisfied	☐

G2. Perception of Acoustical Comfort

4-Conservation privacy at the room relative to other rooms

Strongly Satisfied	☐	Satisfied	☐	Dissatisfied	☐	Strongly Dissatisfied	☐

5-Level of noise coming from heater, refrigerator in the room

Strongly Satisfied	☐	Satisfied	☐	Dissatisfied	☐	Strongly Dissatisfied	☐

6-Level of noise generated from outside the room

Strongly Satisfied	☐	Satisfied	☐	Dissatisfied	☐	Strongly Dissatisfied	☐

7-The overall quality of the acoustical environment in the building

Strongly Satisfied	☐	Satisfied	☐	Dissatisfied	☐	Strongly Dissatisfied	☐

G3. Perception of Visual Comfort

8- Sufficiency of natural light in the room

Strongly Satisfied	☐	Satisfied	☐	Dissatisfied	☐	Strongly Dissatisfied	☐

9- Sufficiency of artificial light in the room

Strongly Satisfied	☐	Satisfied	☐	Dissatisfied	☐	Strongly Dissatisfied	☐

10-Sufficiency of artificial light in the study room

Strongly Satisfied		Satisfied		Dissatisfied		Strongly Dissatisfied	

11-Sufficiency of artificial light in the corridors

Strongly Satisfied		Satisfied		Dissatisfied		Strongly Dissatisfied	

12-The overall satisfaction of lighting in the building

Strongly Satisfied		Satisfied		Dissatisfied		Strongly Dissatisfied	

G4. Perception of Indoor Air Quality

13-The quality of air inside the room

Strongly Satisfied		Satisfied		Dissatisfied		Strongly Dissatisfied	

14-The quality of air in the corridors

Strongly Satisfied		Satisfied		Dissatisfied		Strongly Dissatisfied	

15-The control of natural ventilation through windows

Strongly Satisfied		Satisfied		Dissatisfied		Strongly Dissatisfied	

16-The overall quality of indoor air in the building

Strongly Satisfied		Satisfied		Dissatisfied		Strongly Dissatisfied	

G5. Perception of Fire Safety

17-The ease to identify emergency exits

Strongly Satisfied		Satisfied		Dissatisfied		Strongly Dissatisfied	

18-The ease of exiting the building in case of fire emergencies

Strongly Satisfied		Satisfied		Dissatisfied		Strongly Dissatisfied	

19-The ease to find and reach fire alarms systems

Strongly Satisfied		Satisfied		Dissatisfied		Strongly Dissatisfied	

20-The overall quality of fire safety systems in the building

Strongly Satisfied		Satisfied		Dissatisfied		Strongly Dissatisfied	

G6. Perception of Interior and Exterior Finish Systems

21-Quality and appearance of the interior finishes of the room

Strongly Satisfied		Satisfied		Dissatisfied		Strongly Dissatisfied	

22-Quality and ease of use of doors and windows in the room

Strongly Satisfied		Satisfied		Dissatisfied		Strongly Dissatisfied	

23-Quality and appearance of finishes in common spaces

Strongly Satisfied		Satisfied		Dissatisfied		Strongly Dissatisfied	

24-Quality and appearance of building's exterior finishes

Strongly Satisfied		Satisfied		Dissatisfied		Strongly Dissatisfied	

G7. Perception of Room Layout and Furniture Quality

25-Adequacy of study place in the room

Strongly Satisfied		Satisfied		Dissatisfied		Strongly Dissatisfied	

26-Type and size of desk in the room

Strongly Satisfied		Satisfied		Dissatisfied		Strongly Dissatisfied	

27-Type of chair in the room

Strongly Satisfied		Satisfied		Dissatisfied		Strongly Dissatisfied	

28-Type of bed in the room

Strongly Satisfied		Satisfied		Dissatisfied		Strongly Dissatisfied	

29-Capacity of wardrobe

Strongly Satisfied		Satisfied		Dissatisfied		Strongly Dissatisfied	

30-Furniture arrangement in the room

Strongly Satisfied		Satisfied		Dissatisfied		Strongly Dissatisfied	

31-Colors of furniture and surface finishes in the room

Strongly Satisfied		Satisfied		Dissatisfied		Strongly Dissatisfied	

32-The overall quality of furniture in the room

Strongly Satisfied		Satisfied		Dissatisfied		Strongly Dissatisfied	

G8. Perception of Support Services

33-Quality of Bathrooms facilities

Strongly Satisfied		Satisfied		Dissatisfied		Strongly Dissatisfied	

34-Cleanliness and trash removal on your room and the building

Strongly Satisfied		Satisfied		Dissatisfied		Strongly Dissatisfied	

35-Adequacy of power sockets required for equipment in the room

Strongly Satisfied		Satisfied		Dissatisfied		Strongly Dissatisfied	

36-Acceptability of circulation routs around the building

Strongly Satisfied		Satisfied		Dissatisfied		Strongly Dissatisfied	

G9. Perception of Circulation Efficiency

37-Arrangement of rooms in the floors

Strongly Satisfied		Satisfied		Dissatisfied		Strongly Dissatisfied	

38-Width of corridors for circulation in the building

Strongly Satisfied		Satisfied		Dissatisfied		Strongly Dissatisfied	

39-Location and number of stairs and elevators in the building

Strongly Satisfied		Satisfied		Dissatisfied		Strongly Dissatisfied	

G10. Perception of Proximity to Essential Facilities

40-Building location relative to important facilities such as, health care facilities (hospital, pharmacy), grocery stores, public transportations

Strongly Satisfied		Satisfied		Dissatisfied		Strongly Dissatisfied	