



Republic of Turkey
Ministry of Environment, Urbanization and Climate Change

ENERGY EFFICIENCY IN PUBLIC BUILDINGS PROJECT (EEPBP)

RESULT REPORT OF DES&SUP 4-5-6 SUB- PROJECTS PRE-RENOVATION SURVEY

February 2022 – September 2022

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SUMMARY OF EXECUTIVE

The Energy Efficiency in Public Buildings (EEPBP) project is implemented by the Ministry of Environment, Urbanization and Climate Change, **General Directorate of Construction Affairs** with the support of the Ministry of Energy and Natural Resources (MENR) with funding from the World Bank.

With the project, which aims to renew 500-700 public buildings in an energy efficient way, it is aimed to combat climate change by providing energy savings, increasing comfort and reducing greenhouse gases.

This survey study was carried out with 450 participants in total in 9 buildings that will be renovated within the scope of the EEPB Project Second Package. The main purpose of the survey is;

- to measure the knowledge and awareness of users and beneficiaries of buildings on energy efficiency
- to measure the knowledge and awareness of users and beneficiaries of buildings on energy saving,
- to determine the problems of the heating system,
- to determine the insulation problems of buildings,
- to determine the problems of illumination
- to determine the problems of general ventilation,
- to determine the suitability of the building for disabled access.

EEPBP Project Second Package Pre-Renovation Survey Study was applied online¹ to beneficiaries and users of public buildings, hospitals and universities in Antalya, Kocaeli, Karaman, Denizli, Karabük, Zonguldak and İzmir between 21.04.2022 and 25.07.2022.

There are 17 buildings in the 2nd Package of EEPB Project. As a result of the negotiations with the World Bank Ankara Office, it was decided to select 3 of the 3 building types (hospital, university, administrative building) as the sample of the survey study. The buildings included in the survey within the scope of the study are listed below:

- Alanya Courthouse (public building)
- Karabük Governorate (public building)
- Karaman Environment, Urbanization and Climate Change Province Directorate (public building)
- Antalya Training and Research Hospital (hospital building)
- Kocaeli University Hospital (hospital building)

¹ <https://www.kabev.org/> survey application was carried out from the "Energy Efficiency Pre-Renovation Social Survey" section on the website.

- Karadeniz Eeğli State Hospital (hospital building)
- Pamukkale University (university building)
- İzmir Bakırçay University (university building)
- İzmir High Technology Institute (university building)

It was ensured that 50 building users and beneficiaries from each building answered the questionnaire. The data of 450 participants were analyzed by the “SPSS Statistics 25 Program”. Within the scope of the study, 42 frequency tables and 39 cross tables were interpreted in the context of gender, building name and occupation dependent variables.

The main results of the survey study are as follows:

- that most of the participants are familiar with the energy efficiency issue but are partially aware of the energy efficiency measures in their own buildings,
- participants are partially aware of the energy saving measures in the buildings where they work/study,
- general ventilation level inside the building is considered normal,
- heating prompt works well, but room interiors can be more airy and warm,
- heating quality in buildings is evaluated as lower, this situation is due to the heating system and structure of buildings,
- the breeze is coming through the doors and the windows, so the insulation is not efficient in the buildings,
- although the windows are closed, there is still sound coming from the outside, so the insulation is not efficient,
- the current light level in the rooms is generally sufficient, but some of the participants have evaluated it as insufficient because of low power of the lighting equipments.
- they should take necessary precautions regarding the suitability of buildings for disabled access.
- Within the scope of the EEPB Project, it has been revealed that the renovations (energy efficiency and saving measures) will increase comfort of the building users and beneficiaries.

The fact that general evaluations of building users and planned renovation processes related to energy efficiency in buildings show that right decisions are taken both in building selections and in renovation processes.

Project Implementation Unit

INTRODUCTION

Within the scope of the Energy Efficiency in Public Buildings (EPPB) Project, a survey was conducted in order to determine the awareness level of the buildings' beneficiaries and users regarding the current status of the buildings, the renovations to be implemented, (exterior insulation, replacement of door window and lighting fixtures, improvement of the air conditioning system, installation of pv panels, etc.), energy efficiency, and energy saving in the buildings in where energy efficiency improvements will be made.

The survey data of 450 participants entered into the "SPSS Statistics 25 Program". In addition to demographic information, survey study was also included questions about heating system, indoor noise level and lighting performance in the buildings. The survey applied online to beneficiaries and users of public buildings, hospitals and universities in Antalya, Kocaeli, Karaman, Denizli, Karabük, Zonguldak and İzmir between April 2022 and July 2022.

Prior to this survey, another survey was conducted between 01.02.2022 and 11.03.2022 in which 214 people participated, but as a result of responses to some questions, some questionnaires and their contents should be revised and therefore this study was evaluated as a pilot.

In the Pre-Renovation Survey Report, the frequency tables for all questions were developed and interpreted. The data obtained transferred to the report in the form of "Bar Table" with percentage calculation. Within the scope of the study, cross-tabulations of the dependent variables of gender, occupation and building name and the data of 26 different questions in total created.

There was a significant data loss in the First Package Survey Study of the EPPB Project. This problem was prevented in the Second Packet Pre-Renovation Survey Study. Also the First Package Pre Renovation Survey had not any questions about energy efficiency. Therefore, 5 new questions about energy efficiency were added to the Second Package Survey Study. Some data in the Second Package Survey Results Report were also compared with the results in the First Package Survey Results Report.

In the first section of the report, the methodology used during the survey study (pilot study, sample determination, data collection and analysis process) is explained; in the second section bar tables related to frequencies, in the third section cross-tables related to gender, in the fourth section of the cross-tables related to the profession, in the fifth section of the cross-tables related to buildings and descriptions of tables are included. A total of 42 bar tables and 39 cross tables were interpreted within the scope of the report.

1. The Methodology of Second Package PreRenovation Survey

Within the scope of the EEPB Project, this survey study was carried out in order to understand the current situation of the buildings.

1.1. Pilot Study

Within the scope of the Public Buildings Energy Efficiency Project, online survey was conducted between 01.02.2022- 11.03.2022. Responses from 214 participants were evaluated.

However, it was decided that the analysis would not be healthy due to the problems in the issues described in detail below during the survey study, thus it was decided to evaluate this study as a pilot study.

Table 1 Name of Beneficiary Institution

Name of Beneficiary Institution	Count	Percent
Hendek State Hospital	2	,9
Alanya Alaaddin Keykubat Training and Research Hospital	1	,5
Elmalı State Hospital	89	41,6
Gazipaşa State Hospital	2	,9
Antalya Training and Research Hospital	1	,5
Karaman State Hospital	1	,5
Karaman Çevre, Şehircilik ve İklim Değişikliği İl Müdürlüğü	22	10,3
Pamukkale University	43	20,1
İzmir High Technology Institute	47	22,0
Kocaeli University Hospital	6	2,8
Total	214	100,0

As a result of the answers received during the survey, it was suspected that some questions were not understood/misunderstood or were not asked clearly enough. It is useful to briefly mention the problems experienced in these questions:

- Profession: Data on the occupation variable were collected through an open-ended question. The occupational question in the survey form was tried to be asked as clearly and understandably as possible. Although it was specified that civil servants/workers should also indicate their professions, only one fifth (20%) of the participants stated a duty or staff instead of a profession.

Figure 1 Occupational Question in the Survey

7.Please, define your Profession. (Staffs and officers should also write their professions/jobs. Students can write their professions as ‘student’)

In order to minimize the data loss of this question, it was decided to ask the question as follows:

Figure 2 Edited Version of the Question of Occupation

7.Please, define your Profession. (Staffs and officers SHOULD ALSO THEIR PROFESSIONS/JOBS. Students can write their professions as ‘student’)

Table 2 Occupations of Participants

		Count	Percent
Profession	Not answered	2	,9
	Science and Engineering Fields	17	7,9
	Associate professionals in science and engineering	10	4,7
	Health Professionals	43	20,1
	Associate Health Professionals	17	7,9
	Managers	5	2,3
	Office workers	27	12,6
	Law, social and cultural Professionals	1	,5
	Educational Job Professionals	32	15,0
	Non qualified jobs	8	3,7
	Students	8	3,7
	Art and Design	1	,5
	Position or cadre specified instead of profession	43	20,1
	Total	214	100,0

- Suitability of the building for disabled access: The question about the building's suitability for disabled access was also asked as an open-ended question to be categorized later. However, although it was requested to specify the disabled accessibility structures in this question, 75% of the participants stated that these structures were “existing” but did not state what these structures were.

Figure 3 Question of Disability Accessibility of the Building Included in the Survey

32. Are there any disability access in your buildings? Please, define these acceses. (Exp: lift, wheelchair ramp/platform, tactile floor for visually handicapped people etc.)

In order to minimize the data loss related to this question, it was decided to ask the question as follows:

Figure 4 Edited Version of the Question of Suitability of the Building for Disabled Access

32. Are there any disability access in your buildings? Please, define these acceses. (Exp: lift, wheelchair ramp/platform, tactile floor for visually handicapped people etc.)

- ☐ Usable tactile floor
- ☐ Usable disability lift
- ☐ Usable wheelchair ramp
- ☐ Usable Disability toilets
- ☐ All of them are available
- ☐ None of them are available

Table 3 Disabled Access Suitability of the Building

	Count	Percent
Not answered	1	,5
No	7	3,3
The building is fully handicap accessible	10	4,7
No idea	2	,9
Partially, entry ramp only	2	,9
Partially disabled lift only	13	6,1
Partially, disabled lift and entrance ramp	6	2,8
Disabled access structures are existing	161	75,2
Disabled lift, sensible floor and entrance ramp are available	6	2,8
Not suitable for visually impaired access	2	,9
Disabled lift and perceivable ground	2	,9
Disabled toilet	1	,5
Entrance ramp and disabled toilet	1	,5
Total	214	100,0

While there were questions about energy saving in the First Package Survey Study, it was noticed there were no questions about energy efficiency. Therefore, 5 new questions on energy efficiency were added to the survey in order to compensate for this deficiency.

For the reasons stated above, this survey study was considered as a pilot study. After these revisions were carried out, a new official letter was sent to the relevant building administrations and a new survey was conducted.

1.2 Data Collection and Analysis Process

The survey was applied online² between 21.04.2022 and 25.07.2022 to the beneficiaries and users of public buildings, hospitals and universities in the provinces of Antalya, Kocaeli, Karaman, Denizli, Karabük, Zonguldak and İzmir. An official survey participation letters were sent by the General Directorate of Construction Affairs of the Ministry of Environment, Urbanization and Climate Change to all buildings that are part of the survey. Since some buildings had difficulties in participation, several meetings were held with the contacts of the buildings. Many questions are required to be marked in

² <https://www.kabev.org/> survey application was carried out from the "Energy Efficiency Pre-Renovation Social Survey" section on the website.

the survey. In this way, data loss has been tried to be prevented. However, despite this, in open-ended questions, some participants used only punctuation marks and phrases such as ‘...’, “xxxx” without answering. Responses received in this way were coded under the “question not answered” category.

The survey data of 450 participants were entered into the “SPSS Statistics 25 Program” simultaneously with the data collection process. Apart from demographic information, the survey includes questions about heat, noise and lighting performance and energy efficiency in the building.

Within the scope of the second package of the project, energy saving and efficiency renovations have been planned to be carried out in 17 buildings. In order to make the sample calculation from all the buildings to be renovated, gender breakdown of the staffs was requested. Feedback was received from 12 buildings ³.

Tablo 4: Building Personnel Numbers and Sample Calculation Building Personnel Numbers and Sample Calculation

No	Name of Building	Number of Building Users (Cinsiyet Kırılımlı)	Örneklem Sayısı (Cinsiyet Kırılımlı)
1	Karabuk Governorate	56 female, 146 male (Total 202)	56 female, 77 male (total 133)
2	Karadeniz Ereğli State Hospital	597 female, 433 male (total 1030)	140 female, 140 male (total 280 katılımcı)
3	Elmalı State Hospital	123 kadın, 87 male (total 210)	72 female, 65 male (total 137)
4	Gazipaşa State Hospital	220 female, 116 male (total 336)	120 female, 60 male (total 180)
5	Antalya Training and Reserach Hospital	3298 female, male 1543 (toplam 4841)	200 female, 156 male (total 356)
6	Karaman State Hospital	872 female, 618 male (total 1490)	156 female, 150 male (total 306)
7	Karaman Governorate	64 female, 170 male (total 234)	64 female, 82 male (total 234)
8	Karaman Environment, Urbanization and Climate Change Province Directorate	19 female, 65 erkek (total 84)	19 female, 51 male (total 70)
9	İzmir Bakırçay University	3223 female, 2747 male (total 5970)	240 female, 121 male (total 361)

³ The Sample Calculations were created on <https://tr.surveymonkey.com/mp/sample-size-calculator/> web site. The sample calculation was calculated according to 95% confidence and 5% margin of error.

10	Pamukkale University	5494 female, 8080 male (total 13574)	167 female, 207 male (total 374)
11	İzmir High Technology Institute	3735 female 4183, male (total 7918)	181 female, 186 male (total 367)
12	Kocaeli University Hospital	1374 female, 768 male (total 2142)	166 female, 160 male (total 366)
13	Hendek State Hospital	189 female, 133 male (total 322)	90 female, 86 male (total 176)
14	Kandıraz Eczacı M. Kazım Dinç State Hospital	151 female, 148 male (total 299)	85 female, 84 male (total 169)
15	Alanya Courthouse	The number of personnel could not be reached	The sample could not be calculated
16	Korucuk Training and Reserach Hospital	The number of personnel could not be reached	The sample could not be calculated
17	Karasu State Hospital	The number of personnel could not be reached	The sample could not be calculated

According to the table above, there are total of 38,652 employees in 17 buildings, including 19,415 women and 19,237 men. As a result of sample calculations, total of 3381 people, 1,756 women and 1,625 men, should answer the questionnaire in order for the research to be scientific. It was conveyed to the Ankara Office of the World Bank that it was not possible working with a 1 social expert such a high sample. For this reason, the work is restricted to 9 buildings (university, hospital, public building) with their representatives from each type of buildings in different cities.

Representatives from all building types have been provided to increase the diversity of building users and beneficiaries and thus the richness of data. However, due to the size of the sample calculated in some buildings, it was decided that 50 participants from each building were sufficient in terms of representation. The buildings that were participate in the survey are as follows:

- Alanya Courthouse (public building)
- Karabük Governorate (public building)
- Karaman Environment, Urbanization and Climate Change Province Directorate (public building)
- Antalya Training and Research Hospital (hospital building)
- Kocaeli University Hospital (hospital building)
- Karadeniz Eeğli State Hospital (hospital building)
- Pamukkale University (university building)
- İzmir Bakırçay University (university building)
- İzmir High Technology Institute (university building)

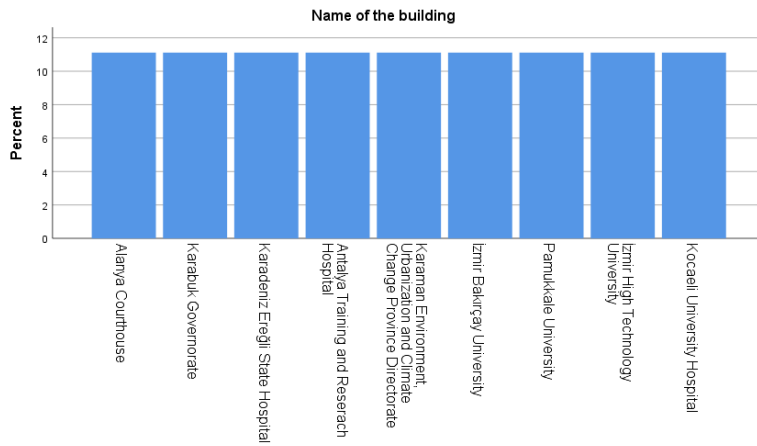
2. Results

In this report, the frequency table was created, interpreted and shown in the form of 42 separate “Bar Tables” with percentage calculation. Within the scope of the study, gender, profession and building name dependent variables and 39 cross-tables were created with the data of 26 different questions in total.

2.1. Bar Tables of Frequencies

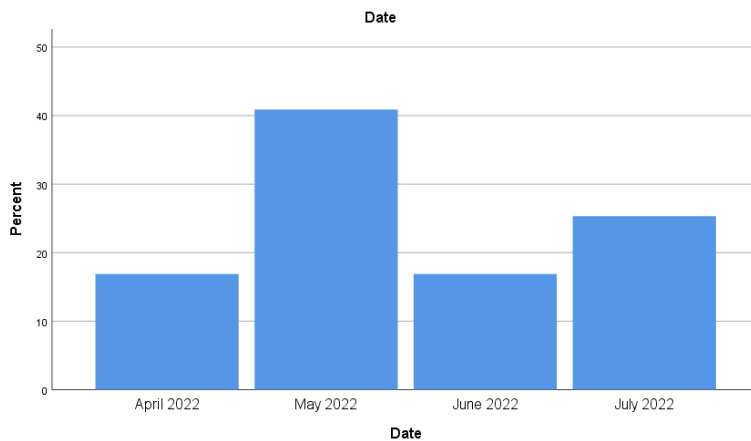
In this section, frequency findings of 42 questions are interpreted.

Bar Table 1.Name of the Building



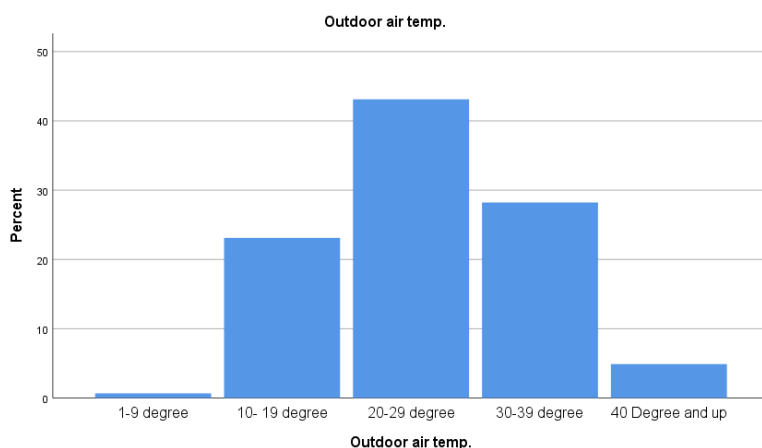
As stated in the "Data Collection and Analysis" section, 50 people from each building have participated in this study. A total of 450 people participated in this survey.

Bar Table 2.Date



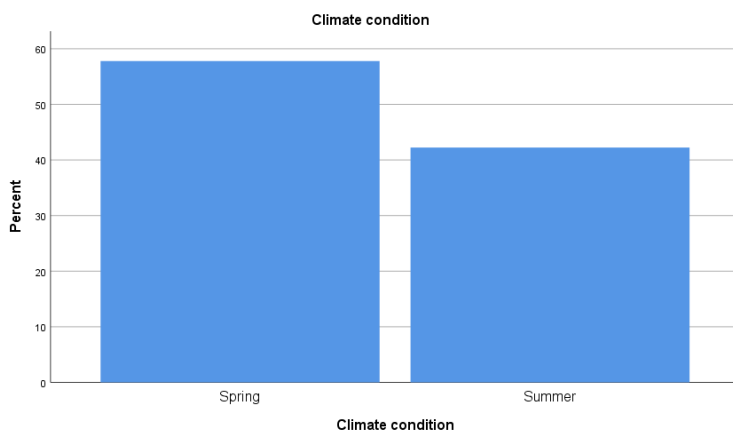
EEPB Project 2nd Package Pre-Renovation Survey was conducted between April 2022 and July 2022. Approximately 41% of the participants answered the questionnaire in May, 25% in July, approximately 17% in April and again approximately 17% in June.

Bar Table 3.Outdoor Air Temperature



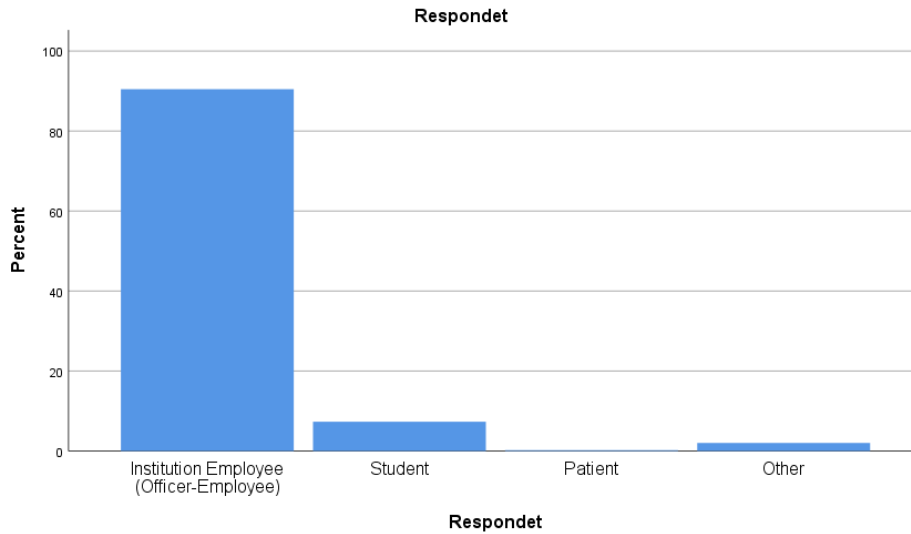
The research was carried out simultaneously in many different cities (Karaman, Karabük, Antalya, Zonguldak, Kocaeli, İzmir, Denizli). 41% of the participants stated that the air temperature is between 20-29, 28% 30-39, 23% 10-19, about 5% 40 degrees and above, about 1% 1-9 degrees.

Bar Table 4.Climate Condition



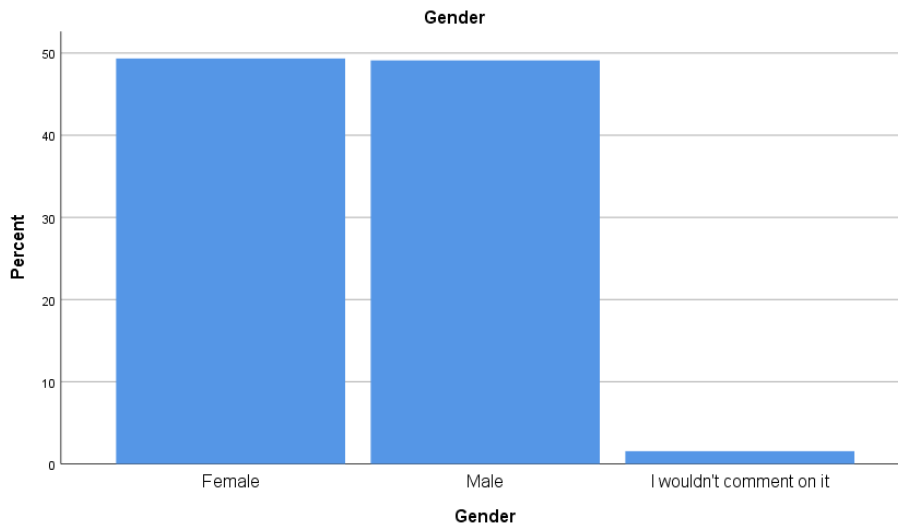
The dates of the survey study has coincided to spring and summer. Approximately 58% of the participants stated that the season was spring, and approximately 42% stated that it was summer.

Bar Table 5.Respondent



The questionnaire was applied to building users (institution employees) and beneficiaries (student, patient, business owner, etc.). Most of the respondents (90.4%) are employees of the institutions. 7.3% of the participants are students and 2% are in the “other”⁴ category. Only 1 patient who received service from the hospital answered the questionnaire.

Bar Table 6.Gender of the Respondent

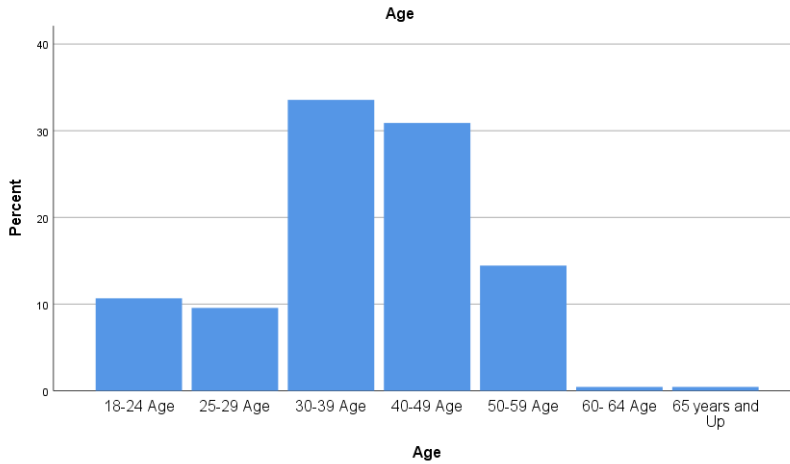


As stated in the methodology section, the sample group was manipulated. Binalardaki katılımcı sayılarının eşit bir dağılım göstermesi sağlanmıştır. The questionnaire was intervened to ensure rhasst the gender distrution of the participants was close to each other. Responses of 222 female (49.3%) and

⁴ All participants in the "Other" category participated from universities. For this reason, it is estimated that they are business owners (canteen, stationery, etc.).

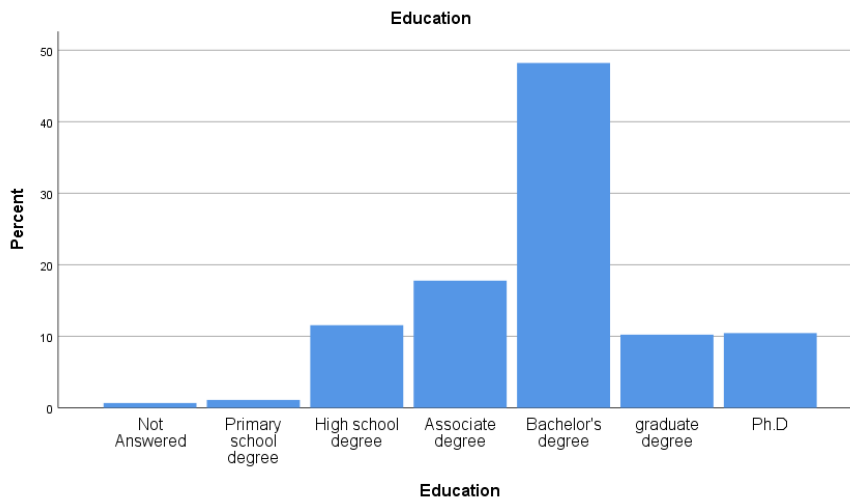
221 male (49.1%) respondents were included in the analysis. 7 people said that they did not want to reveal their gender.

Bar Table 7. Age of the Respondent



When the age distribution of the participants is examined, it is noteworthy that there is a backlog in the 30-39 age range. Katılımcıların yaş dağılımına bakıldığında ise 30-49 yaş aralığında bir yığılma olduğu dikkat çekmektedir (64.5%). Approximately 14% of the participants are in the age range of 50-59, approximately 11% are in the age range of 18-24, and 9.6% are in the age range of 25-29. There are 2 people in each category between 60-64 years old and 65 years old and over.

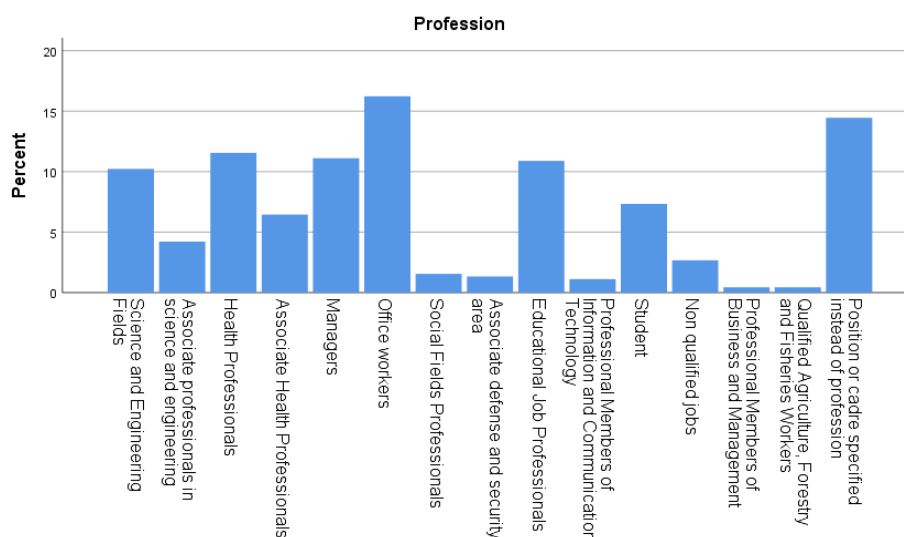
Bar Table 8. Education of the Respondent



When the educational status of the participants are examined, it is seen that approximately half of the sample has a bachelor's degree (48.2%), 18% of the participants stated that they had an associate

degree, 12% have a high school degree, 10% have a master's degree, and 10% have a Ph.D degree. Only 5 participants (1%) have primary school degree (3 participants have not answered the question⁵).

Bar Table 9.Profession of the Respondent



When we look at the occupational distribution, a partially homogeneous distribution stands out. Another open-ended question within the scope of the study was profession. In order to provide data entry, the categorization was made according to the International Standard Classification of Occupations 08 developed by the ILO.

- 10.2% of the respondents are professionals from the fields of science and engineering (biologists, all engineering areas, statisticians, economists, etc.)
- 4.1% of the participants are associate professionals in science and engineering (construction/machinery/electrical technicians etc.),
- 11.6% of the participants are health professionals (doctors, midwives, nurses, veterinarians, etc.),
- 6.4% of the respondents are associate health professionals (health/biomedical/anesthesia technicians, midwife assistants, nurse assistants⁶ etc.),
- 11.1% of the respondents are managers (administrators and their assistants),

⁵This question was one of the required questions to be marked. In other words, the participant cannot submit the form without answering this question. It is not known how the participants submitted the form without answering the question.

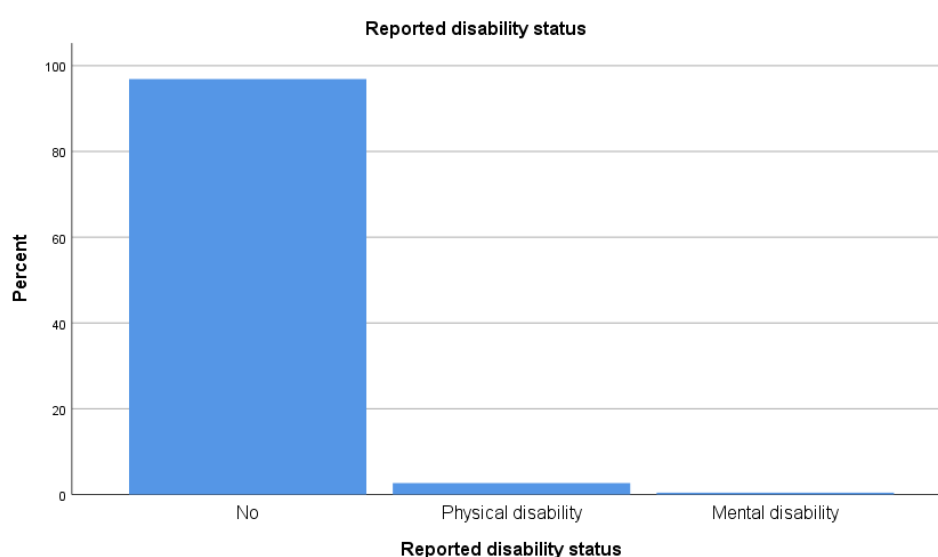
⁶Midwives and nurses with high school and associate degree were evaluated in the category of associate health professionals. And Midwives and nurses with bachelor's degree and higher education degree were evaluated in the category of health professionals.

- 16.2% of the participants are office workers (secretary, data preparation and control officers, clerk etc.),
- 1.3% of the participants are security guards,
- 10.9% of the respondents are professionals in educational jobs (teacher, lecturer etc.)
- 2.7% of the participants are personnel who do non-qualified jobs (cleaning etc.)
- 1.6% of the respondents are professionals in law, social and cultural area
- 1.1% of the participants are professionals in information and communication technology area (software, computing)
- 0.4% of the respondents are professional members of business and management (accountant, financial advisor etc.)

0.4% of the respondents are qualified agricultural, forestry and aquaculture workers

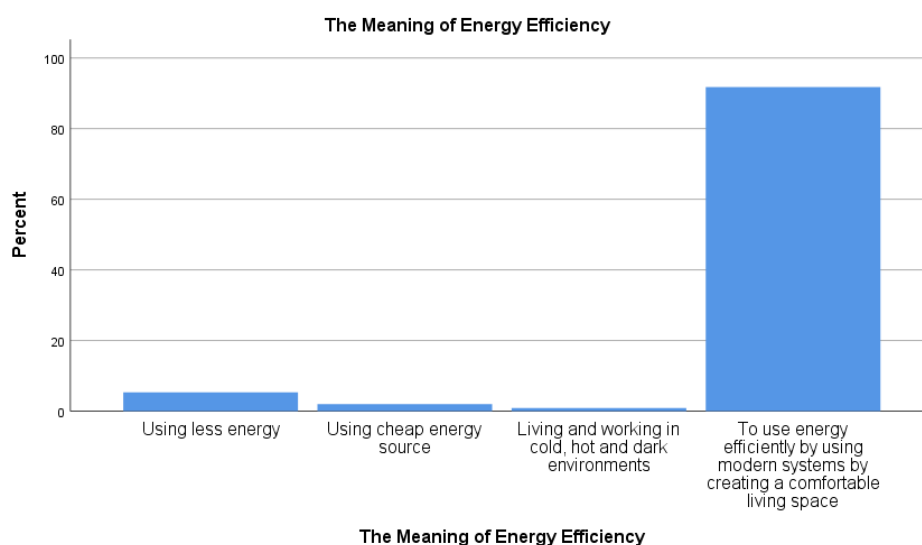
14.4% of the sample stated their cadres such as officers/workers/contractors instead of occupation, although they were explicitly asked for occupation (The question in the survey form could be seen in Diagram 2). In the previous pilot study, this rate was 20.1%.

Bar Table 10. Reported Disability Status



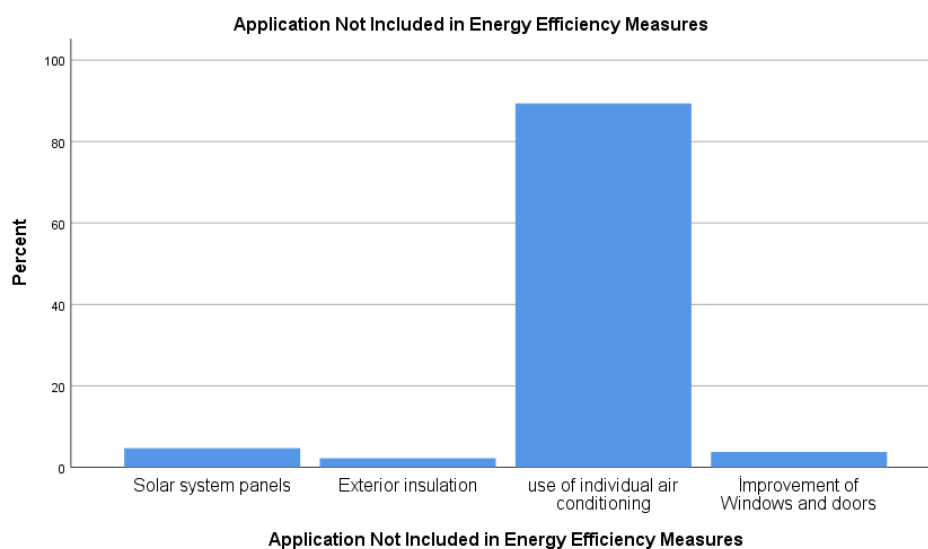
Approximately 92% of the participants do not have a reported disability. In the sample group, 12 people have a physical disability (2.7%) and 2 people have a mental disability (0.4%).

Bar Table 11.The Meaning of Energy Efficiency



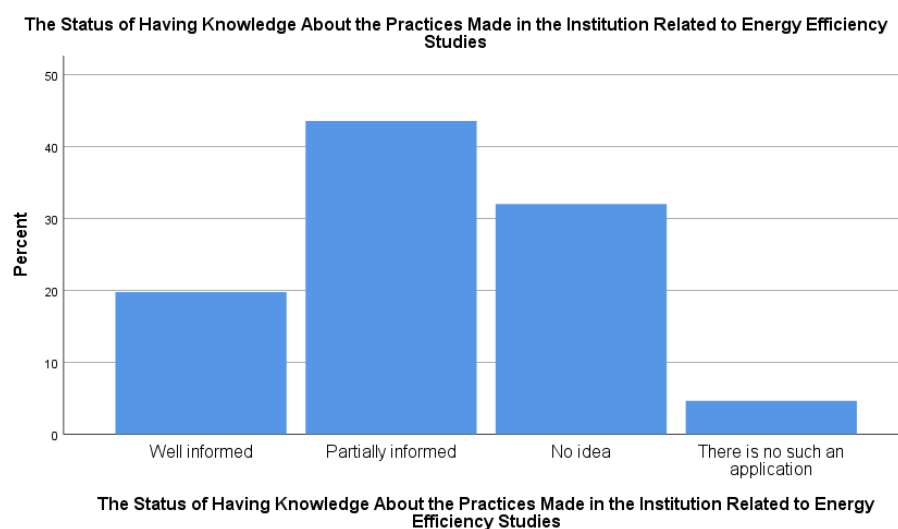
The First Package Pre-Renovation Survey did not include question measuring knowledge and awareness on energy saving. This deficiency was corrected in this survey study. Most of the participants (92%) have answered correctly as "Using energy efficiently by creating a comfortable living space by using modern systems". In other words, most of the sample group knows the meaning of energy efficiency.

Bar Table 12.Application Not Included in Energy Measures



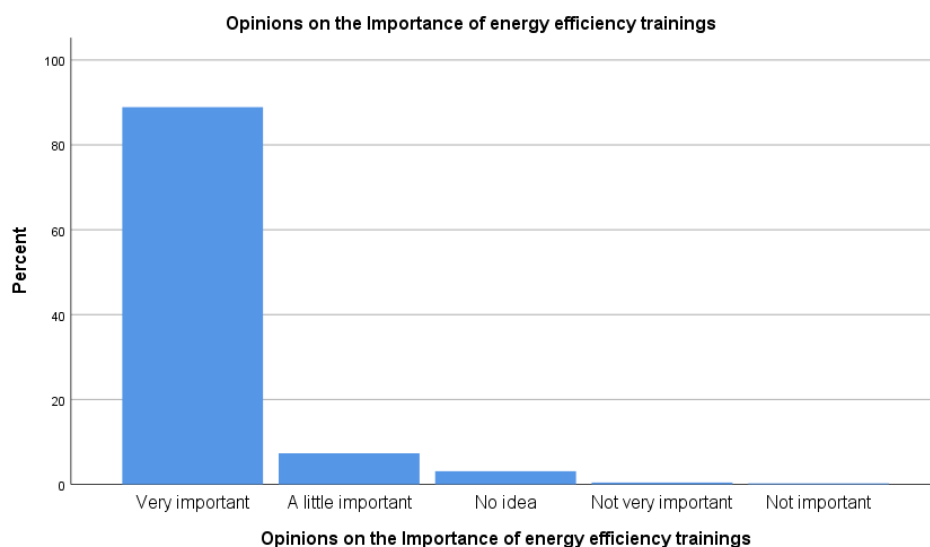
Another question that measured knowledge and awareness of energy efficiency was related to applications that were not included in energy efficiency measures. Approximately 89% of the participants gave the correct answer by marking the option "use of individual air conditioner".

Bar Table 13. The Status Knowledge About the Practices Made in the Institution in the Related to Energy Efficiency Studies



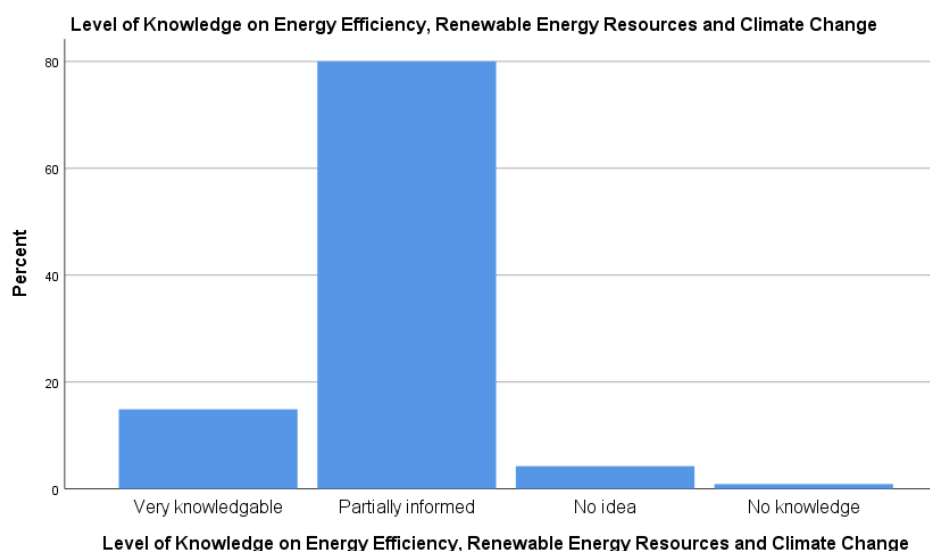
It was aimed to measure the level of knowledge of the participants about the energy efficiency studies applied in the institution where they work/study. About 43% of the participants said they had some knowledge, 32% said they had no knowledge, and 20% said they had complete knowledge. Approximately 5% of the sample stated that there was no study on energy efficiency in the institution where they worked.

Bar Table 14.Opiniois on the Importance of Energy Efficiency Trainings



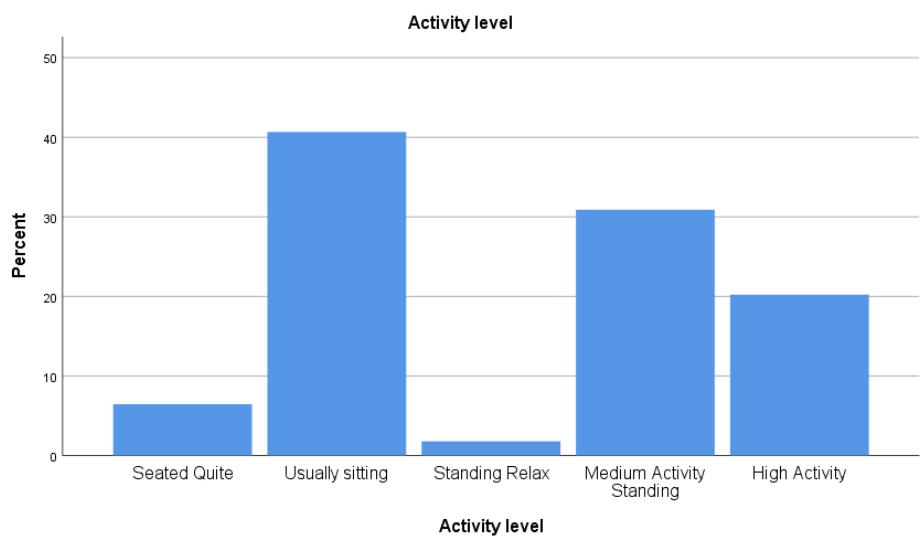
Approximately 89% of the participants stated that they found the trainings on energy efficiency “very important”. 7.3% of the sample described the training on this subject as “a little important”. There are 3 people in total who marked the options "not important" and "not very important". Those who declare that they do not have an opinion constitute 3% of the participants. The trainings to be given on energy efficiency are considered important by the sample group.

Bar Table 15. Level of Knowledge on Energy Efficiency, Renewable Energy Recources and Climate Change



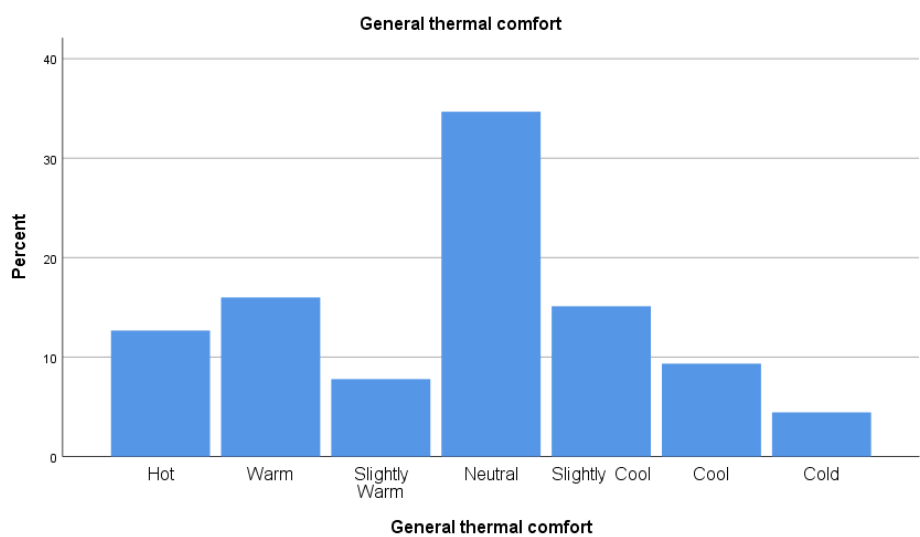
Within the survey study; participant’s level of knowledge about energy efficiency, renewable energy resources and climate change was also researched. 80% of the participants stated that they were partially knowledgeable, about 15% were very knowledgeable, about 4% had no idea/knowledge, and about 1% had no knowledge at all.

Bar Table 16.Activity Level at Work/University



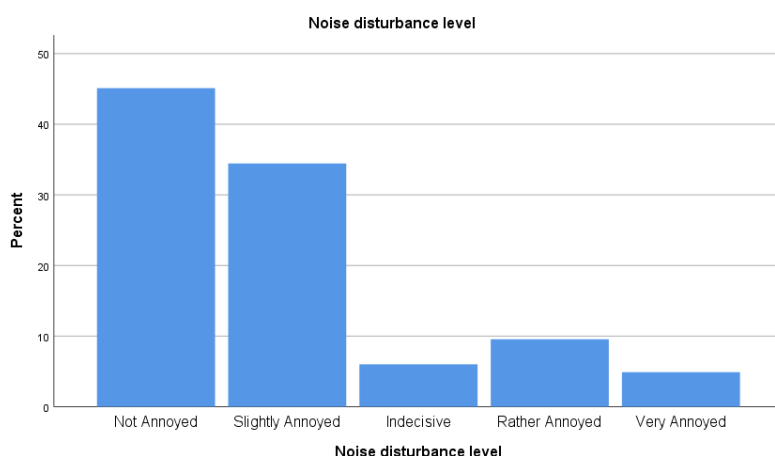
When the participants were asked about their daily activity levels at work/school; About 41% of the participants stated that they usually sit, about 31% are a little active, about 20% are highly active, about 6% are sitting constantly, and about 2% are standing calmly.

Bar Table 17.General Thermal Comfort



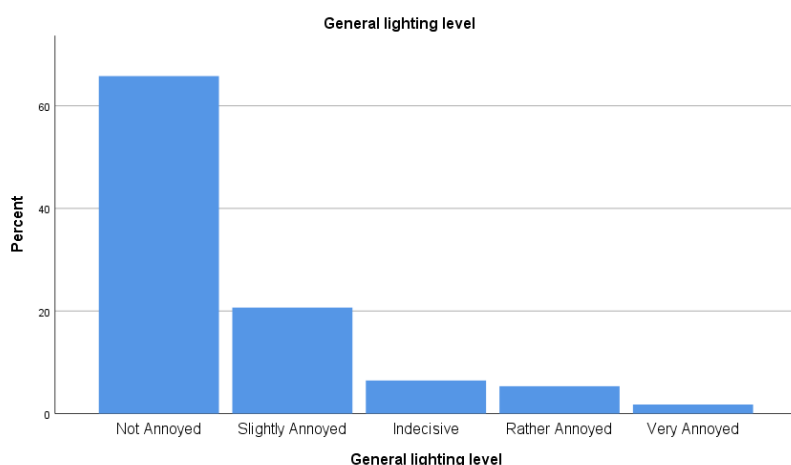
General indoor temperature comfort can be affected according to the insulation of the building, the heating system and many factors depending on the person. For this reason, the participants were asked about the indoor temperature comfort of the building where they work/study. Approximately 35% of the participants rated the indoor temperature comfort as normal, 16% as warm, 15% as slightly cool, 13% as hot, 9% as cool, 8% as slightly warm and 4% as cold.

Bar Table 18.Indoor Noise Disturbance Level



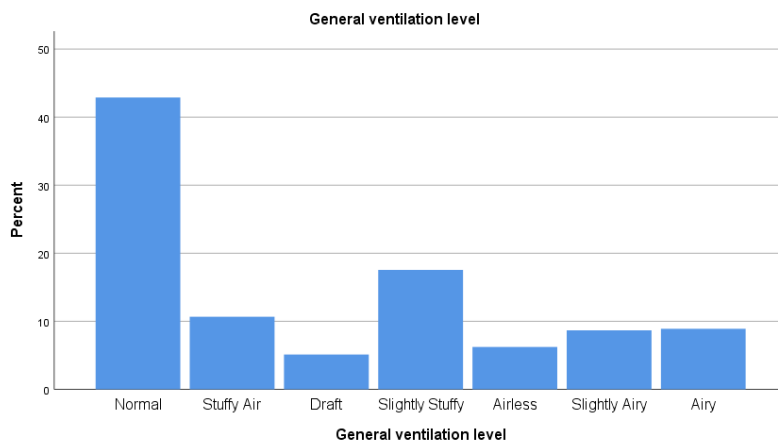
Participants were also asked about their level of discomfort with indoor noise. About 45% of the respondents stated that the indoor noise is not annoyed, about 34% is slightly annoyed, about 10% is rather annoyed, 6% is indecisive, and about 5% does find it very annoyed.

Bar Table 19.Indoor General Lighting Level



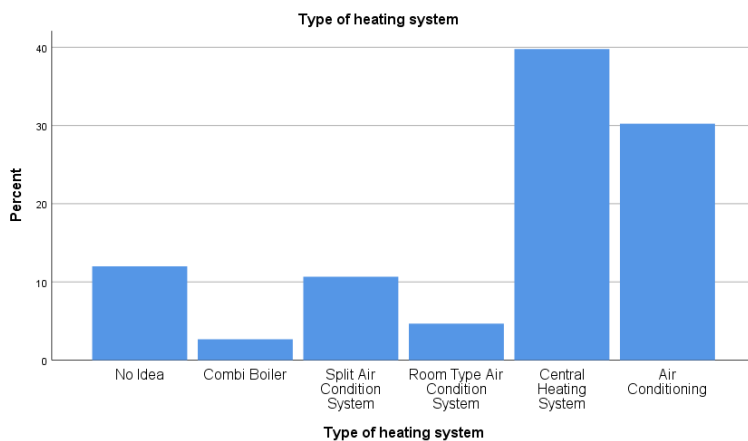
The overall level of lighting in the interior was another issue that was resaeched within the study. More than half of the sample (66%) stated that they did not find the indoor lighting annoyed, one in 5 participants found it slightly annoyed, 6% of the participants are indecisive, about 10% found it annoyed, and about 2% found it very annoyed.

Bar Table 20.Indoor General Ventilation Level



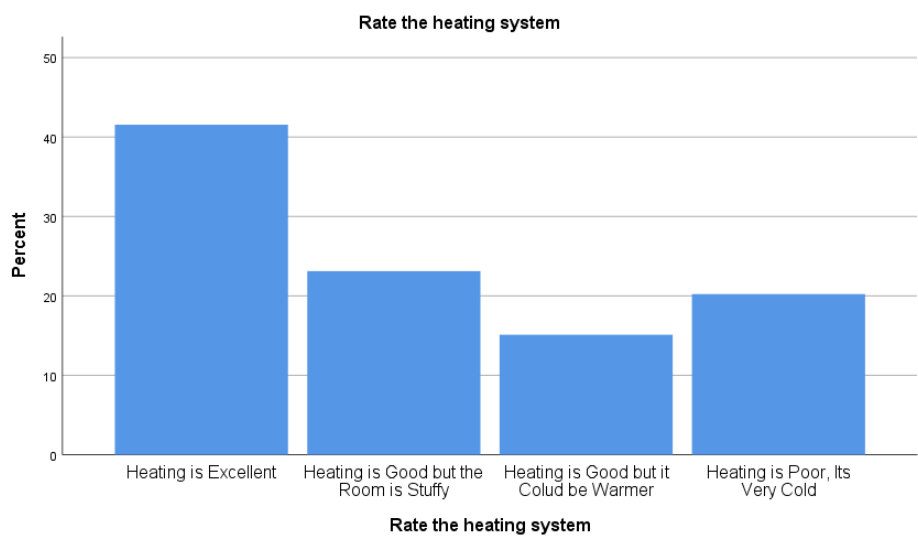
Within the scope of the study, the participants were also asked about the general ventilation level in the building. Approximately 43% of the participants stated that the general ventilation quality was normal, approximately 18% slightly stuffy, approximately 11% stuffy air, 9% slightly airy, 9% fresh/airy, 6% airless and 5% as breezy/under draft.

Bar Table 21.The Level of Respondent's Awareness of the Type of Existing Heating System Used in the Building



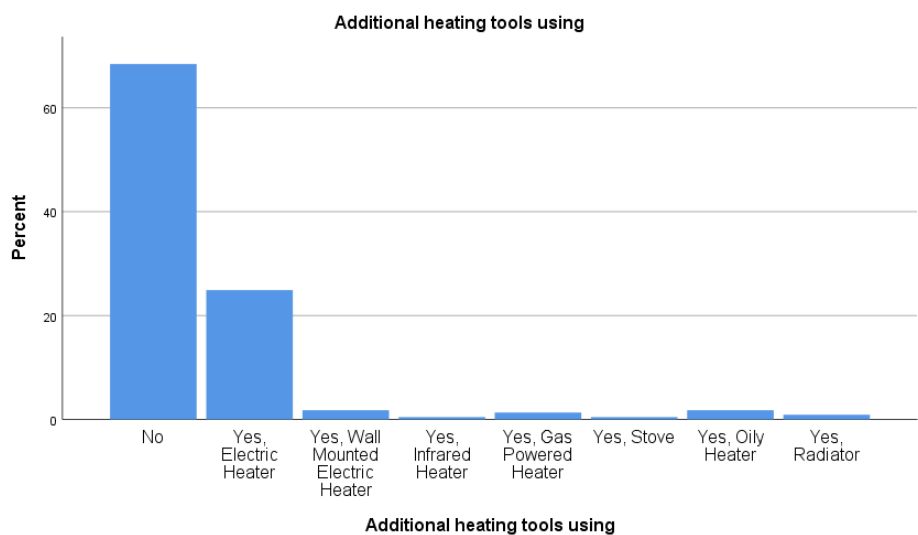
Approximately 40% of the participants stated that the heating system of the building where they worked/studied was the central heating, 30% air conditioning system, approximately 11% split air conditioning system and approximately 5% room type air conditioning system. 12% of the sample said that they had no idea about the heating system.

Bar Table 22.Respondent’s Evaluation on Efficiency of the Existing Heating System in the Building



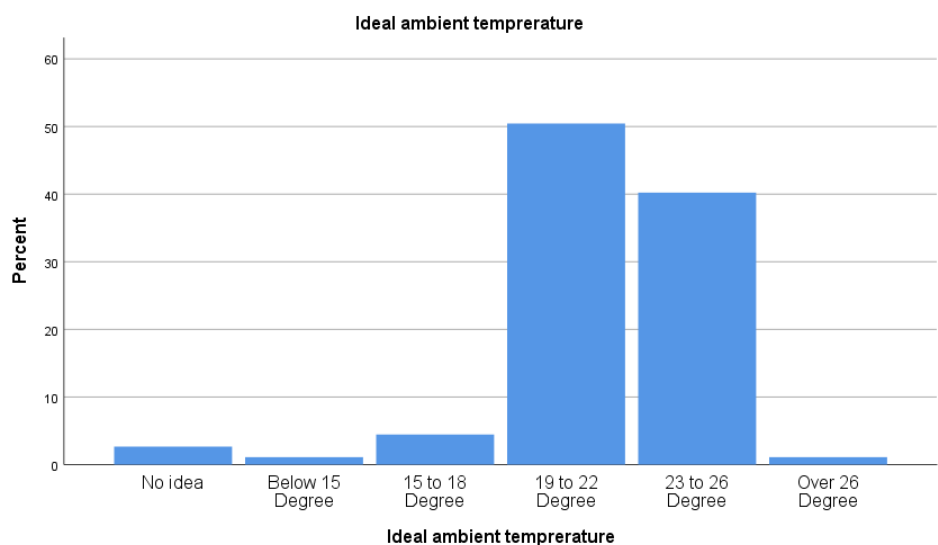
Participants were asked to evaluate the efficiency of the heating system currently used in the building. A large proportion of respondent (about 42%) think that the system works excellent, 23% think that the system is good but the room is stuffy, 20% think that the system is poor and its very cold and 15% think that the system is good but it could be warmer.

Bar Table 23.Respondent’s Demand Level of Using Additional Heating Device in Workplace



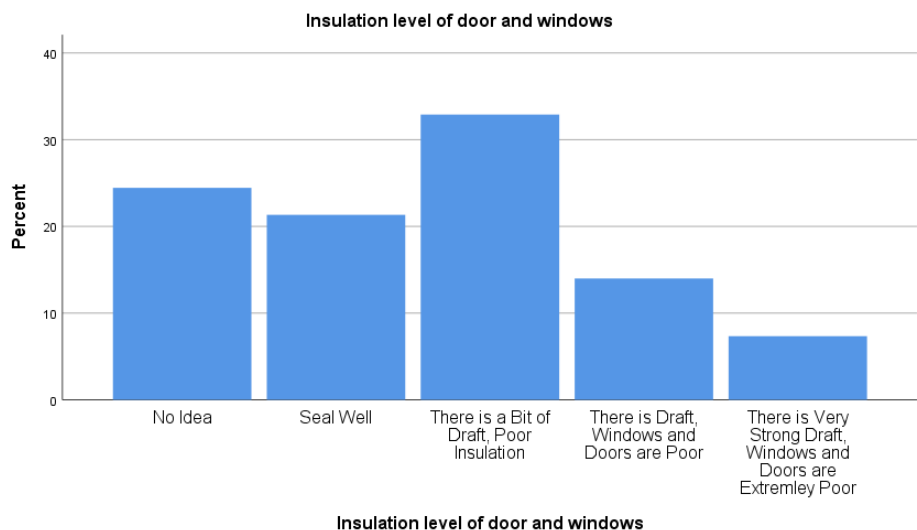
In terms of energy efficiency, especially the problem of indoor heating is important. In this context, the need for an additional heating tool in order for the indoor temperature to reach the individual comfort level will give an idea of the energy efficiency of the building. A large part of the participants, approximately 68%, stated that they did not use an additional warm-up tool. Approximately 25% of the sample group declared that they use an electric heater.

Bar Table 24.Respondent’s Evaluation on Ideal Indoor Temperature Level in the Workplace



When the participants were asked their opinions about the ideal indoor temperature, half of the participants (50%) answered that the temperature between 19 and 22 degrees is ideal. Again, a high proportion of the participants (approximately 40%) considered the indoor temperature between 23 and 26 degrees as ideal.

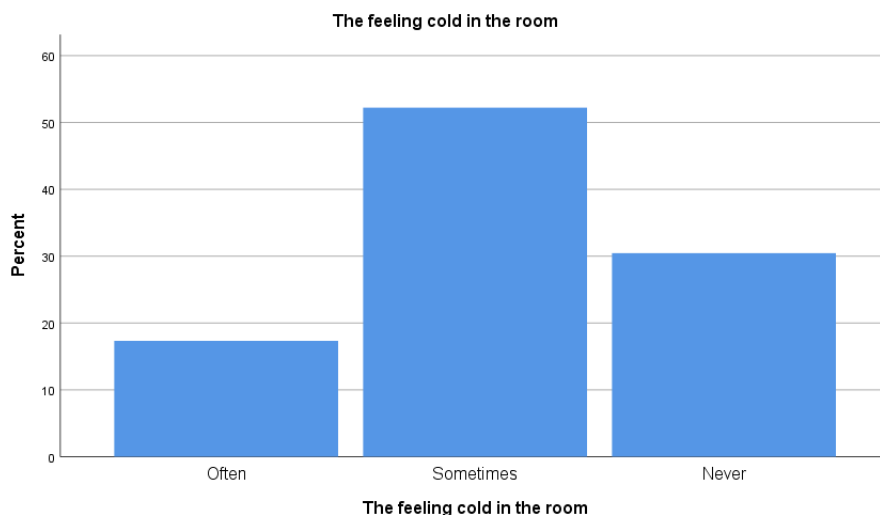
Bar Table 25.Respondent’s Evaluation on the Isolation’s Efficiency Level of Existing Doors and Windows



When the participant group was asked their opinions on the insulation of the doors and windows in the building where they work/study, one third of the sample (approximately 33%) stated that there is some breeze from the doors and windows. One in 5 participants (21%) said that they found the insulation excellent, 14% said that the environment was breezy and the insulation quality was poor, and approximately 7% said that the environment was very breezy and the insulation quality was quite poor. Approximately one out of every four respondents (24%) stated that they had no idea about the

insulation of doors and windows. Those expressing the insulation problem caused by doors and windows constitute approximately 54% of the participant group.

Bar Table 26.The Feeling Hands Cold in the Room



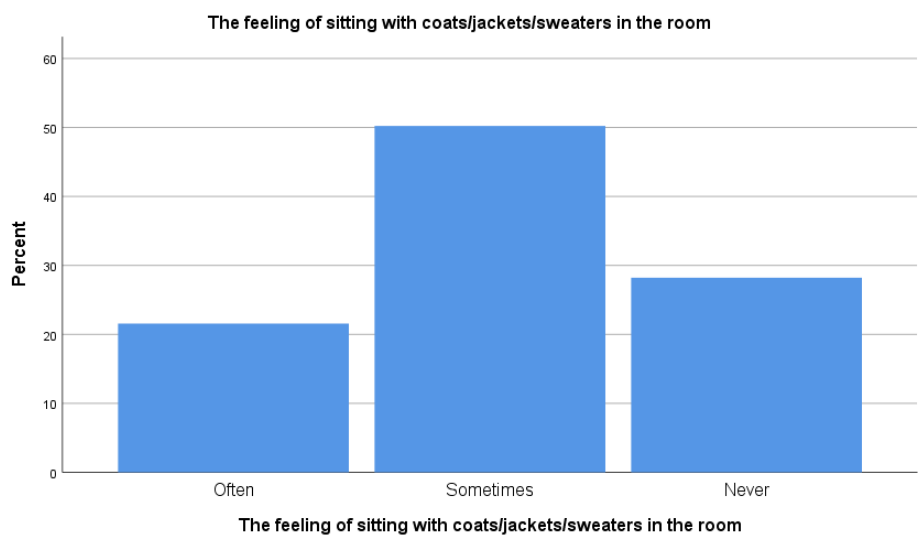
More than half (52%) of respondents said their hands felt cold occasionally, and 17% said they felt cold often, and the 30% said they felt cold never.

Bar Table 27.The Feeling Feets Cold in the Room



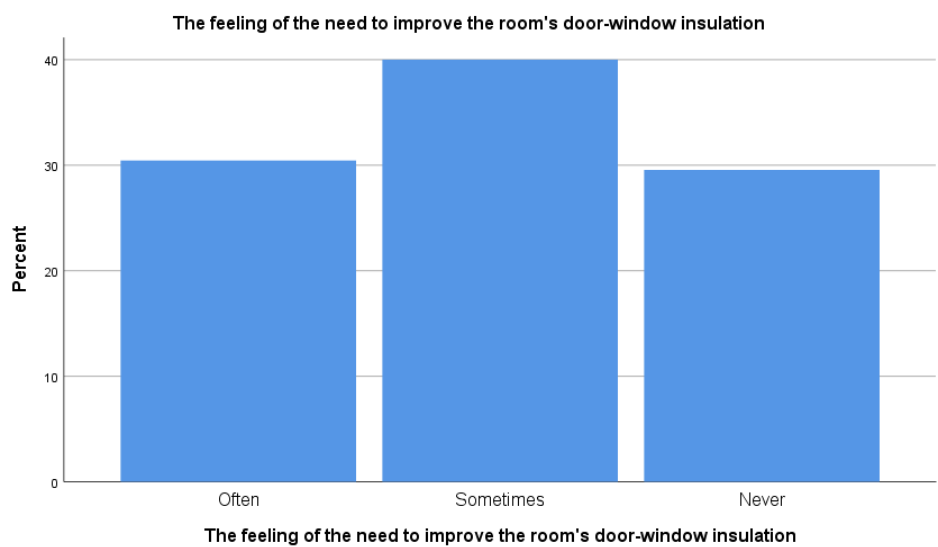
Nearly half (49%) of respondents said they feel cold occasionally with their feet, while 24% say they experience it often. 27% of the sample group also stated that their feet do not feel cold in the room.

Bar Table 28.The Feeling of Sitting with Coats/Jackets/Sweaters in the Room



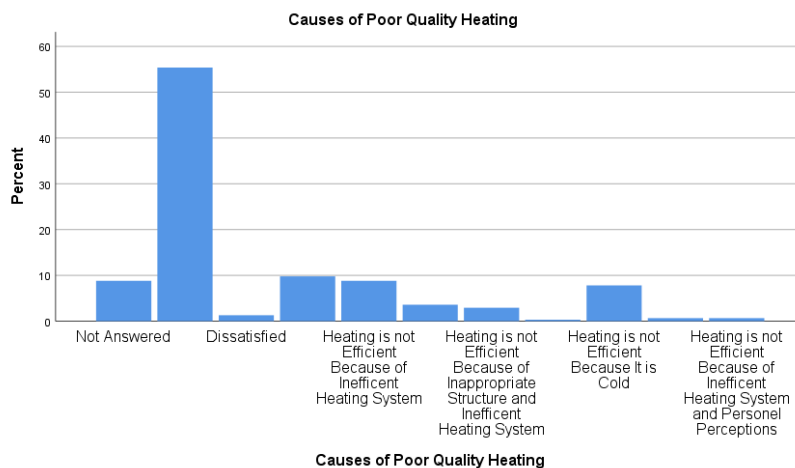
Participants were also asked if they felt the need to warm their bodies with coats/jackets/sweaters in the rooms where they worked/studied. Half of respondents (50%) said they occasionally need additional clothing in their room, such as coats/jackets/sweaters, and 22% said they need it often. 28% of the participants stated that they did not feel such a need.

Bar Table 29.The Feeling of the Improve the Room’s Door, Window Insulation



As mentioned before, insulation processes and needs are important for the energy efficiency and saving of buildings. When asked if they felt there was a need to better the insulation of the doors and windows of the rooms, 40% of those replied indicated they sometimes feel there was a need to better the said insulation and 30% of those replied indicated they often felt there was a need to better the said insulation. 30% of the participants have indicated they felt there was no need for such an action.

Bar Table 30.Respondent's Prediction on Causes of Heating Inefficiency in the Building



This question about insufficient heating was asked as an open-ended question. Therefore, there were many different responses from the participants. These answers are also categorized. Elements under the category of problems related to structural causes:

- Structure of the building
- No windows in the rooms
- Isolation of the building
- Damage of Windows, roofs and doors

Elements under the category of problems related to heating system causes;

- Deficiencies related to heating cores,
- Failure to adjust the temperature from the system,
- System failure
- The system heats only the certain places
- The necessity of modern heating systems,
- Using different heating systems in the same building,
- Problems of ventilation

Elements under the category of problems related to personnel factors;

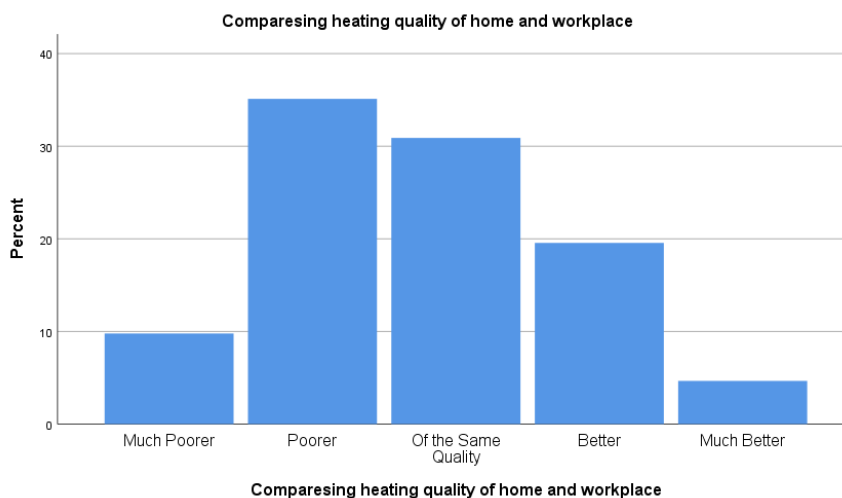
- Failure to maintain heating systems on time and with quality,
 - Frequent opening of doors and windows
 - Not activating heating/cooling system on the right time
 - Using poor quality fuel
 - Not planning the units where there are a lot of transportation operations in the basement
- In newly constructed buildings or buildings undergoing renovations, engineers do have not gone to the building in person and do not have taken over the building.

Some answers (because it is cold; hot in summer, cold in winter; I am not satisfied) could not be included in these categories and were evaluated under the category of "I am not satisfied" in order to prevent data loss.

Respondents also provided responses covering several categories. The data of these responses were analyzed by opening new categories.

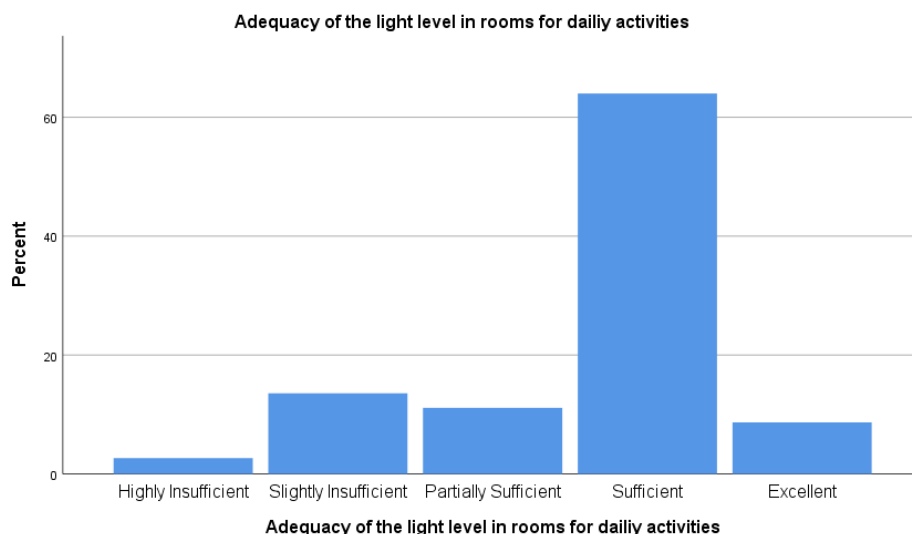
Approximately 35% of the participants said that warming up was sufficient. Approximately 20% of the sample stated that there were heating problems caused by the heating system and 19% due to the structural features of the building. 8% of the sample group pointed out the problems caused by the human factor, and about 5% of the problems including the structural features of the building and the heating system as the cause of poor quality heating. About 4% of the participants did not answer the question and again about 4% declared that they had no idea. Those who find warming sufficient, those who do not answer the question and those who declare that they do not have an opinion constitute 43% of the sample. In other words, more than half of the participants (approximately 57%) find the indoor temperature comfort insufficient.

Bar Table 31.Respondent's Comparison on Heating Quality Between his/her Home and Workplace



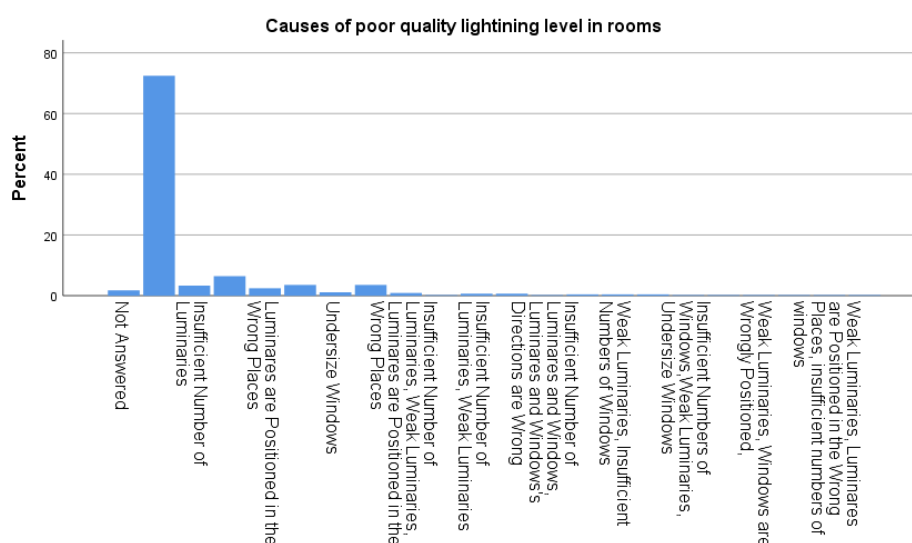
The participants were asked to compare the internal temperatures of the building they work/study in and their homes. Because people's reference points for heating are mainly their homes and workplaces/schools. Because people spend most of their time in these areas. The rate of those who state that the building where they work/study warms worse than their homes is 35%. 31% of the sample group said that the heating quality of the house they live in and the places they work is the same. 20% of the participants stated that the place where they worked warmed better, 10% warmed up much worse and 5% warmed up much better.

Bar Table 32.Respondent' Satisfaction Level of Existing Illumination Level in Rooms/Workplaces while conducting Daily Activities



64% of the participants said that the light level in the room where they work/study is quite sufficient. 13.6% of the sample group stated that they found the light level in the rooms insufficient, 11% were undecided on this issue, approximately 9% found it excellent, and approximately 3% found it very insufficient. Those who answered "I am undecided" "inadequate" or "very inadequate" were asked to answer the questions in Table 33, Table 34 and Table 35 (1.8% of the sample did not answer the question).

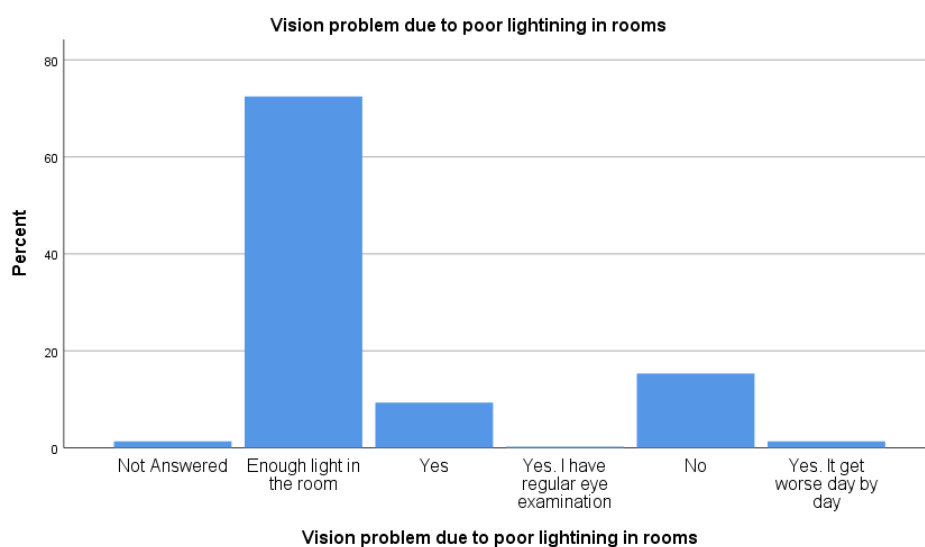
Bar Table 33.Respondent's Opinion on Causes of insufficient Illumination Level in Rooms / Workplaces



The opinions of the participants about the lighting inadequacies in the rooms where they work/study are another issue investigated within the scope of this study. Participants had the chance to mark more than one choice on this question. For this reason, the answers given by the sample group were

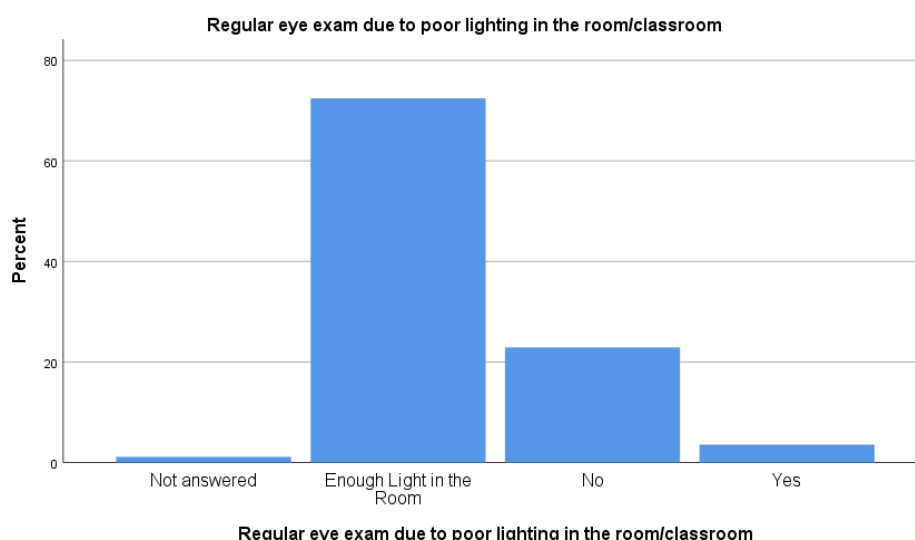
categorized. The number of categories has also been many, as there have been quite a number of different responses. Those categories with less than 1% share have not been mentioned. Those participants who confirmed the lighting in the rooms as considerably sufficient were tallied under "lighting in the room is sufficient" category and approximately 73% of the participants fall into this category. 6% of the sample group have indicated that cause of an insufficient lighting with low power output, 4% have indicated that the cause to be insufficient number of windows and also another 4% indicated the cause to be the wrong positioning of the windows and 3% indicated the reason to be insufficient number of lighting elements. (1.8% of the sample did not answer the question).

Bar Table 34. Having Vision Problem Due to Insufficient Illumination Level in Rooms/Workplaces



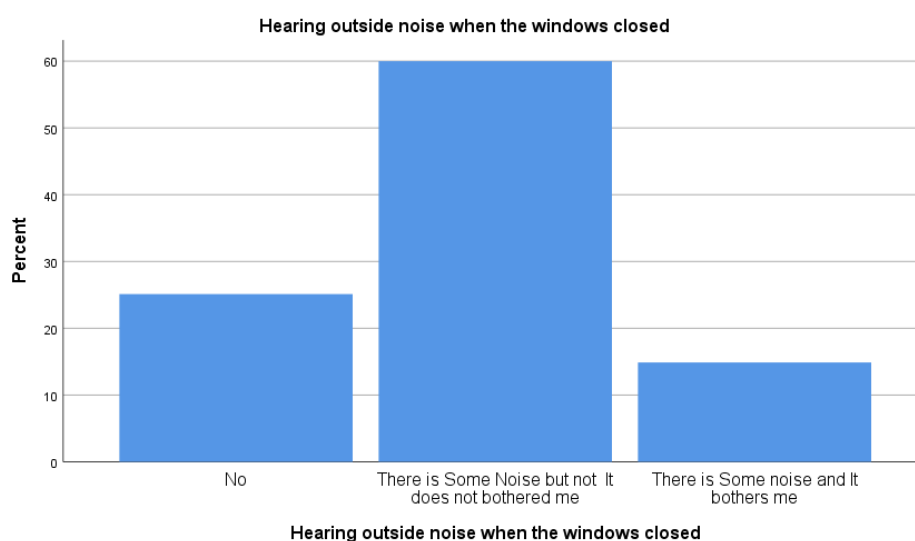
Approximately 23% of the participants stated that they did not have vision problems due to weak light, 9% had vision problems and 1% had a worsening vision problem (1.3% of the sample did not answer the question).

Bar Table 35.Regular Eye Exam Due to Poor Lighting in the Room/Classroom



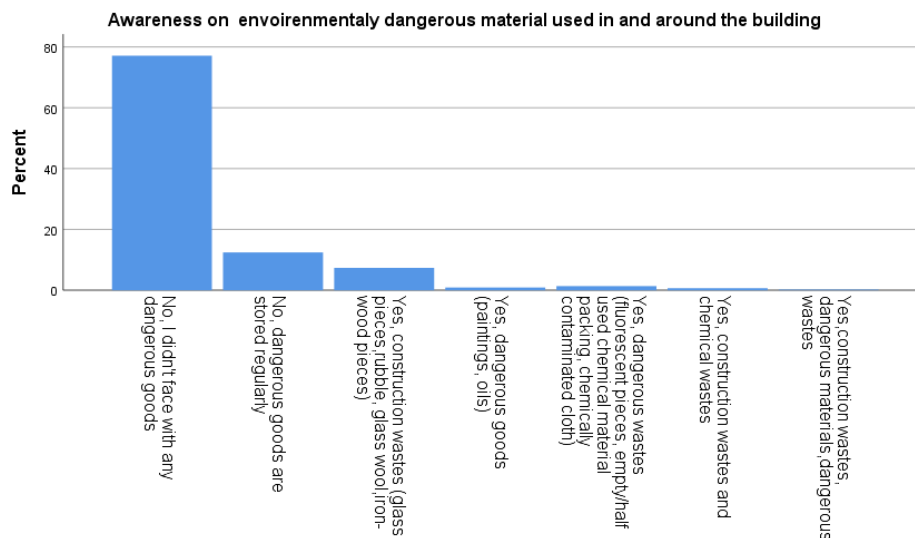
Approximately 23% of the participants stated that they did not feel the need to go to regular eye examinations due to poor light, and 4% stated that they felt this need. (1.1% of the sample did not answer the question).

Bar Table 36.Pen Hearing Outside Noise Even When the Windows are Closed



Approximately 25% of the participants stated that they do not hear outside noise in the room when the windows are closed. 60% of participants expressed that they are not disturbed by the noise coming from outside, 15% of participants stated that they are very uncomfortable with the incoming noise

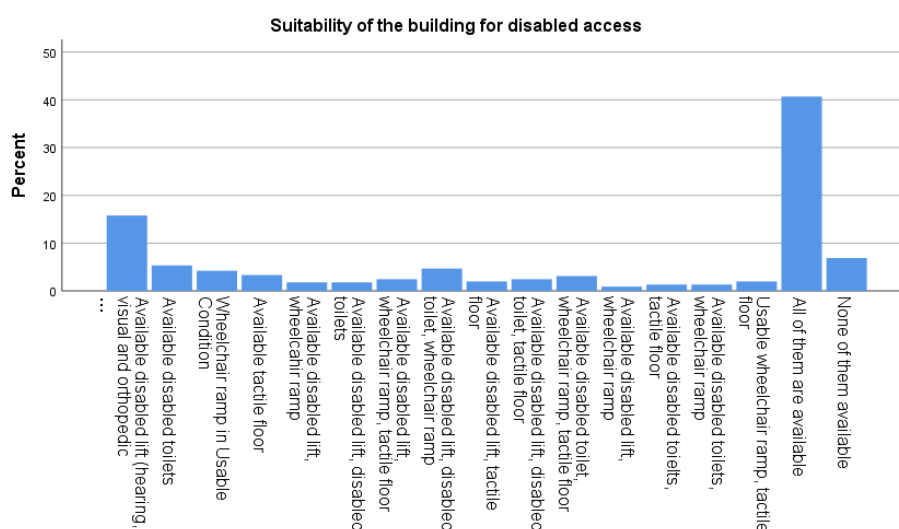
Bar Table 37.Awareness/knowledge of the Respondent whether any Environmentally Dangerous Material used in and around the building



Before the renovation processes began, the situation of mixing with materials or waste harmful to nature and human health in and around the building have also wondered. During the period in which the survey was implemented, no renovations were carried out in any of these buildings within the scope of the project.

77% of the participants stated that they did not encounter any harmful materials, 12% stated that they were stored regularly and protected, 7% encountered construction wastes and 1% encountered hazardous materials.

Bar Table 38.Existence of Unobstructed access for people with Disabilities in the Building



Another subject researched within the scope of the project is the disabled accessible structures in the building. The question is asked in a closed ended manner however the participants were enabled to

choose more than one answer. Regarding this question, especially the usable structures were impressed upon. The reasoning was to exclude the inclusion of nonfunctional structures such as locked disabled restrooms, damaged feelable surfaces etc. In this context;

- disabled lift in working condition (hearing, seeing and orthopedically impaired)
- wheelchair ramp in working condition
- disabled restroom in working condition and
- feelable tactile in working condition are the structures that have been researched.

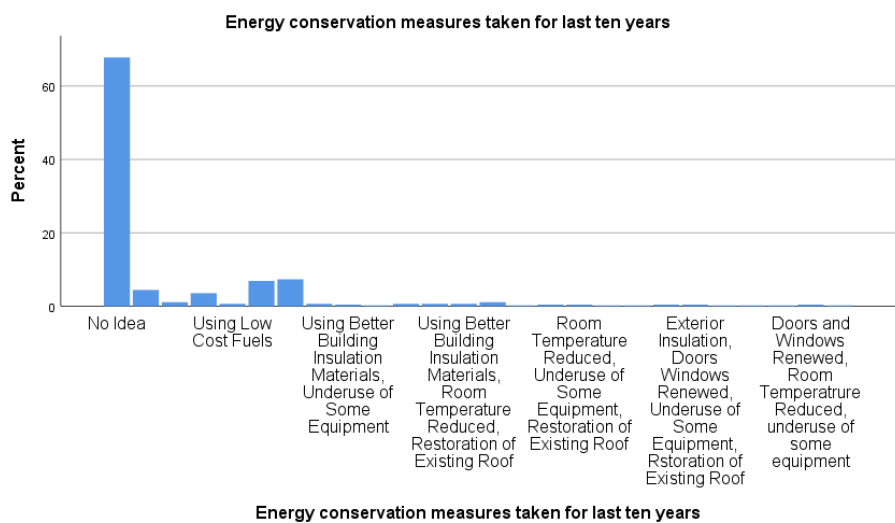
41% of the sample said that all the structures mentioned above were present in the building where they worked/studied. 16% of the participants stated that they have a usable disabled lift, 5% a usable disabled toilet, and 4% a usable wheelchair ramp. 7% of the sample group have stated that there were no disabled accessible structures in the building.

Bar Table 39. Familiarity with Energy Saving Measures in the Building



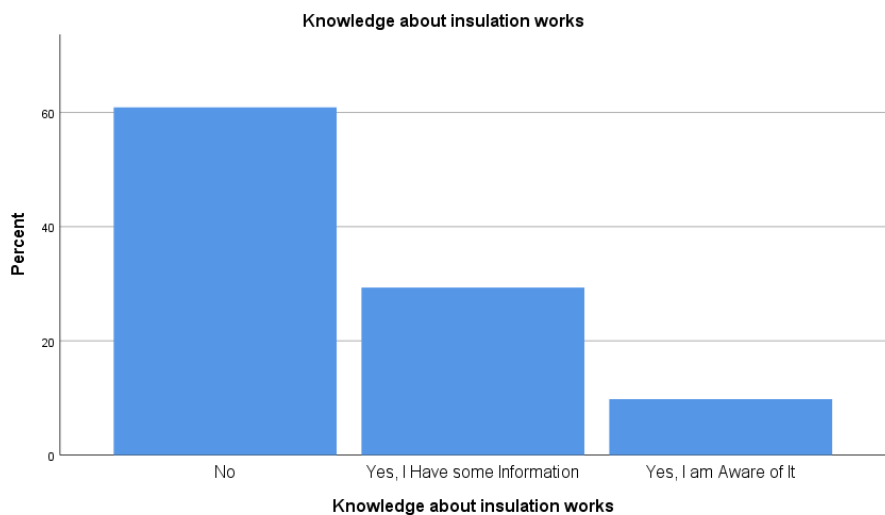
With the survey conducted, the awareness of the participants about the energy saving measures, if any, in the institutions where they work / study have been investigated. It has been revealed that 35% of the participants have no knowledge or idea about this issue. 40% of the respondents also stated that they are aware of the existence of some measures, but they do not have information or ideas about them. In other words, it is seen that approximately 75% of the participants do not have an idea about the energy saving measures of the building of which they are the user/beneficiary. One of 4 participants (25%) knows about the measures taken.

Bar Table 40. Energy Conservation Measures Taken for Last 10 Years in The Building



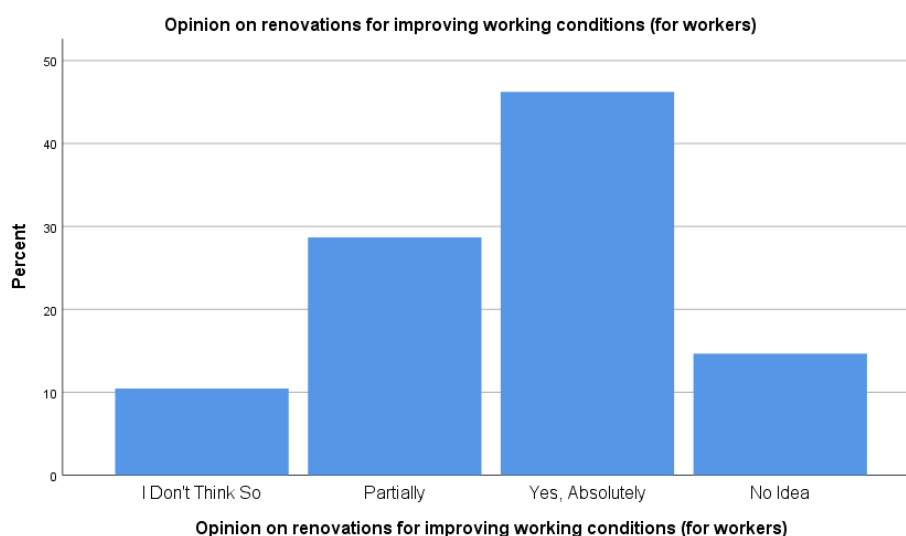
When the participants were asked about the energy saving measures taken in their buildings in the last 10 years, it was seen that 68% did not have an idea about the question. In this question, too, there was a need to create many categories because the respondents could select more than one option. 7.3% of the participants stated that the roof was repaired; 7% stated that the frequency of use of some tools was reduced, 4.4% stated that they were replaced with better insulation materials, and approximately 3.6% stated that the room temperature was reduced.

Bar Table 41. Knowledge on Insulation Processes in the Building



It is aimed to measure the awareness level of the participants about the renovation activities such as door, window, roof changes, insulation works to be done in their buildings. Approximately 61% of the participants are not aware of the insulations to be made in their buildings; about 29% have heard something; About 10% stated that they were fully aware of the insulations.

Bar Table 42. Opinion on Renovations for Improving Working Conditions (for Workers) in Buildings



The predictions of the building users about the renovation works' contribution on conditions of the building were asked within the scope of the survey. About half of the participants (46%) think that the changes to be made through the renovation will be beneficial for the building users. 15% of the participant said that they did not have knowledge about this subject, therefore they had no foresight; 10% stated that they do not think that the renovation will improve conditions of the building.

Notes From The Participitans

At the end of the survey form, the participants were asked "Is there anything you would like to add?" The main purpose here was to get the opinions of the participants about the issues that were not asked or overlooked in the questionnaire. Since the data were entered simultaneously while the survey work was ongoing, the feedbacks related to the survey study were reflected in the survey form.

In this way, the need to add an option has emerged in the 36th question (disabled access structures in the building) in the questionnaire. One of the Pamukkale University participants said "I think there is an mistake in the 36. question. I marked the most appropriate one since it is mandatory to answer. In the building where I work, no action has been taken for the disabled (vision, walking, etc.)." This option was added to the questionnaire form.

Below are additions and comments from participants ⁷:

Karaman Environment, Urbanization and Climate Change Province Directorate

- It is necessary to immediately switch to solar panel systems in areas with a lot of sunshine. I request to move to tribunes in regions where wind energy is efficient. I also demand that

⁷ Spelling and spelling errors were not intervened, and the responses from the participant were conveyed with all their naturalness. However, since certain units mentioned are very specific, the unit names are hidden in order to maintain the anonymity of the participants.

institutions reduce their lamps that are lit in the garden after working hours. I would like to see the application purpose of this beautiful and necessary survey put into action.

- The cleaning staff are unfortunately not sensitive. Our rooms are not cleaned regularly. Apart from energy, this issue should also be given importance. Solar panels should be laid on the roofs instead of tiles. When building buildings, attention should be paid to the direction of sunbathing. offices should receive sun, warehouses, archives, meeting rooms and toilets should be placed in the direction with less sunlight. Dining halls should be built on the top floor. Sensor lighting should be installed in corridors and toilets. LED technology should be used. Garden lighting should be realized with led and battery system. all utility vehicles (cars) must be electric. When planning the building, planning for rainwater storage should be made. Garden irrigation and car washing operations should be done with this stored water These are the first things that come to my mind ;)
- The control of the combustion system must be carried out by knowledgeable technical persons.

Pamukkale University

- Pamukkale University service buildings will start to provide better quality service with energy efficiency renovation projects. Thank you.
- I work at (*name of the depertamnt*). Very good from my point of view (in every aspect)
- We get more tired because air conditioners work very noisy.
- I think there is an mistake in the 36. question. I marked the most appropriate one since it is mandatory to answer. In the building where I work, no action has been taken for the disabled (vision, walking, etc.).⁸
- Im waiting for energy effeciency.
 - Thank you for your contribution.
 - Since the cost of air conditioning electricity per office cannot be fully calculated, it is turned off by all air conditioning systems (unit name). We currently have no devices or methods for either heating or cooling. We were asked to buy individual air conditioners.
 - I work at (*name of the depertamnt*). When the air conditioners on our floor do not work, it is too hot during summer. By the way, our air conditioners are maintained and opened for use in the middle of the summer. Until then, we try to cool ourselves with papers in our hands. When we talk about this problem, they said that they have no allowance.
 - SINCE THERE IS NO STATE SUPERVISION, THE DELIVERY AREAS NEED TO BE MORE CAREFUL. THERE IS NOT EVEN AN AUDIT AT THE BEGINNING OF THE WORK. ALL OF THEM ARE DELIVERED AT THE TABLE.

⁸ This review came from the 83.th participant. Since the survey work has just begun, the proposal can be reflected in the survey form.

- The contribution of the glass roof systems in our building can be evaluated. The building I am in is not designed as a workspace. It was built as a dining hall. I don't think it's appropriate in terms of workspace. The working conditions of the building need to be rearranged considering efficiency.
- I believe that the studies carried out in my institution within the scope of energy efficiency will be very beneficial. And I want it implemented as soon as possible.
- Heating maintenance should also be done, for example, when I want to turn it down, water leaks. Heating and air conditioning units should be maintained every year, but they have not done.
- I care about energy efficiency. It is very precious for my university and my state. It means saving. Thank you.
- There are heating problems in winter and cooling problems in summer, but the main problem is that the purpose of the building is different from the actual purpose of use. Therefore, I do not think that energy efficiency will be successful.
- There is no window, where I work. Ventilation is very poor. Denizli is a very hot city and the central heating and cooling done very late compared to the seasonal transitions. There is air conditioning in our room, but it does not work. With the lack of air and heat in our room, our working efficiency drops considerably and a sleep mode occurs with a constant fatigue.
- There is no window in our study room, so it gets very stuffy. Neither ventilation nor air conditioners are working. When the air temperature rises, our room temperature also becomes too high and it gets too stuffy and suffocating to work with. When we make a request to solve this problem, they said that there is no budget. There is no effort to find a solution for 1 year.

İzmir High Technology Institute

- There is no balance at the heating system, some places get warmer, and some places do not. Since there is no thermostat in the rooms, I felt this problem more. In addition, the heating system is used for cooling in summer. Some rooms get very cold and people open their windows.
- Lights should be photocell. Hundreds of people use the building. The lights stay on in the evenings and on the weekends.
- Since the north-facing part of the building is generally dark, the light turns on. This situation can also be seen as an advantage for İzmir. In my opinion, there are two big problems in the Mathematics building, most of all, about efficiency, the others are relatively less important: 1) no thermostat in the big lecture halls on the floor, that is, either too cold or too hot 2) no central heating-cooling in all parts. Thank you for your interest...

İzmir Bakırçay University

- I think that the efforts and support of our Ministry on energy efficiency and sustainability are very valuable.

Kocaeli University Hospital

- The monetary amount in economy code 03.7 is very important for energy efficiency. Repairing is nearly impossible. (Except copier, printer, computer etc.) No money for insulation repair.
- Many office workers work in a windowless rooms in the hospital. So some questions are unanswered which are related to windows and insulation. (For example, before asking whether the insulation is sufficient or not at the window, I think it would be more accurate to ask if there is a window or not in your room). Thanks.
- Room ventilation should be better. Since devices provide enough heat and sound, it is extremely hot, coolers should be opened at the beginning of the summer.

Karabük Governorate

- It would be nice if the windows underwent some maintenance
- Improving the service for the disabled, facilitating access to the building. creation of a library in a public building Cooling in summer is insufficient heating in winter. Precautions need to be taken as soon as possible.
- It would be more appropriate to carry out the work in coordination with employees of the Administrative Services Branch Office and technical staff.

Antalya Training and Research Hospital

- Electricity should be produced with solar energy panels in public institutions for savings on electricity bills. Solar energy panels should be made mandatory in homes and other buildings.
- I think you should add more questions about disability issue. There are also people with disabilities due to other kind of diseases. ⁹.
- The coldness of the reanimation intensive care unit is insufficient. It gets hot in the summer.
- I think that the most important need is roof insulation in the instutaion. I believe that making a serious technical arrangement regarding the balanced distribution to all areas of the hospital related to the cooling system, which I think is important in Antalya, will be another important activity that needs to be done in terms of energy efficiency.
- I hope the whole society will be conscious and the available resources will be used for the right purpose.
- It is necessary to maintane air-conditioning systems in the building, include opening and closing doors with sensors at hospital entrances, reviewe doors and windows, install solar energy panels,

⁹ Since the survey progressed to a certain extent, option addition could not be done (Previously, the data of 367 images were prepared for the analysis process. In case of option coverage, missing data would be revealed.)

reviewe the rooms in terms of square meters according to their functions and to add some places such as pharmacy and cargo delivery where transportation is frequent, in the basement of the hospital. The driver rooms, hospital vehicles, security office should be located in the hospital, the security office is inside the hospital - the units cannot be accessed from outside. Fire escapes are covered with breakable glass or doors are always closed with glass doors. The administrative units are located close to their responsibility areas within the hospital-building, and a central area to gather only in meetings is sufficient, applying a dark film to the sun-exposed and glass-covered wall areas. Controlling number of refrigerators and heaters, moving dining halls to places connected to the garden or ground floors, having horizontal access, using elevators less, making breastfeeding areas, male and female hairdressers in the hospital. To have additional cafeterias on the hospital floor for patients and employees. Parking arrangements, to have a full-time teacher's nursery, establishment of a support foundation for simple needs and shopping places (half of the daily employees leave the workplace even for a short time for these simple needs).supervision is not enough, it is necessary to implement these suggestions in all buildings. Conducting surveys can be helpful, but often locations can be determined without asking the units.

Alanya Courthouse

- It would be beneficial to change air conditioner in the apartment.
- It is too cold in winter season. So I don't want to sit with a coat in my room.
- Since the air conditioning system of our directorate is old, there are too many disturbing noises and it affects our working conditions too much.

2.2.EEPB PROJECT PACKAGE 2 PRE-RENOVATION SURVEY CROSS-TABLE FINDINGS

In this section, in EEPB Project Package 2 (DESU&SUP 4-5-6) Pre-Renovation Survey, the relationship between the independent variables determined by gender, profession and building name dependent variables was examined. The relationship between these 3 dependent variables and the independent variables examined are different. At the beginning of each section, the independent variables whose relationship with the dependent variable determined are examined.

2.2.1. Gender Variable Cross-Table Findings

In the study 222 of the participants were women and 221 were men and 7 has indicated they do not want to divulge their sex information. Firstly, a cross examination table of the variables of sex and occupational groups were made. As is known, dominant sex roles show themselves prevalently in the choice of career paths. Furthermore additional cross examination tables have been formulated and analyzed to see the relationship between the variables of those questions that require technical information or awareness of energy efficiency and savings and sex. List of cross examination tables formulated with the data gathered with the survey is provided below:

- Education
- Profession
- Meaning of energy efficiency
- Application not Included in energy measures the status knowledge about the practices made in the institution in the related to energy efficiency studies
- Opinios on the Importance of energy efficiency trainings
- Level of knowledge on energy efficiency, renewable energy recources and climate change knowing the type of heating system used in the building
- Having opinions on the heating system in the building
- Expressing an opinion on the ideal ambient temperature
- Respondent's evaluation on the isolation's efficiency level of existing doors and windows
- Having an idea about the energy saving measures taken in the building,
- Having information about renovation activities such as door, window, roof change, insulation works.
- Cross-tables were taken to see the relationship of the independent variables regarding knowing the energy saving measures taken in the last 10 years

Cross Table 1.The Relation Between Gender and Education

Education * Gender Crosstabulation						
			Gender			Total
			Female	Male	I wouldn't comment on it	
Education	Not Answered	Count	0	3	0	3
		% within Gender	0,0%	1,4%	0,0%	0,7%
		% of Total	0,0%	0,7%	0,0%	0,7%
	Primary school degree	Count	4	1	0	5
		% within Gender	1,8%	0,5%	0,0%	1,1%
		% of Total	0,9%	0,2%	0,0%	1,1%
	High school degree	Count	20	31	1	52
		% within Gender	9,0%	14,0%	14,3%	11,6%
		% of Total	4,4%	6,9%	0,2%	11,6%
	Associate degree	Count	45	34	1	80
		% within Gender	20,3%	15,4%	14,3%	17,8%
		% of Total	10,0%	7,6%	0,2%	17,8%
	Bachelor's degree	Count	99	116	2	217
		% within Gender	44,6%	52,5%	28,6%	48,2%
		% of Total	22,0%	25,8%	0,4%	48,2%
	graduate degree	Count	27	18	1	46
		% within Gender	12,2%	8,1%	14,3%	10,2%
		% of Total	6,0%	4,0%	0,2%	10,2%
	Ph.D	Count	27	18	2	47
		% within Gender	12,2%	8,1%	28,6%	10,4%
		% of Total	6,0%	4,0%	0,4%	10,4%
Total		Count	222	221	7	450
		% within Gender	100,0%	100,0%	100,0%	100,0%
		% of Total	49,3%	49,1%	1,6%	100,0%

Discrimination against gender is predominatly manifested in access to services and opportunities. For this reason, the relationship between gender and education was also wanted to be examined. While the rate of women who have not graduate from a any educational institution in Turkey¹⁰ is 7.1%, this rate is 2.2% for men. In the gender distribution of illiterates, the gap is much greater (female 6.5%, male 1%). Therefore, it is seen that women are more disadvantaged than men in accesing the right to education, which is the most basic human right.

When the sample group is examined, it is seen that the rate of women is higher in doctorate, master's and associate degree (This interpretation can be made because the number of men and women in the sample is almost equal). About 12% of women and 8% of men have a PhD degree. Insterstingly, the gender distribution of master's degree graduates is exactly the same as the doktorate. In other Word, approimantly one out of every 4 women in the sample group has a postgraduate education level.

The proportion of men with bachelor's and high school degrees is higher than that of women. Approximately 45% of women, 52.5% of men graduated from bachelor's, 9% of women and 14% of men graduate from high school.

¹⁰ https://www.tuik.gov.tr/media/announcements/toplumsal_cinsiyet_istatistikleri_2021.pdf

Cross Table 2.The Relationship Between Gender and Occupation

Profession * Gender Crosstabulation						
			Gender			Total
			Female	Male	I wouldn't comment on it	
Profession	Science and Engineering Fields	Count	23	23	0	46
		% within Gender	10,4%	10,4%	0,0%	10,2%
		% of Total	5,1%	5,1%	0,0%	10,2%
	Associate professionals in science and engineering	Count	1	17	1	19
		% within Gender	0,5%	7,7%	14,3%	4,2%
		% of Total	0,2%	3,8%	0,2%	4,2%
	Health Professionals	Count	36	15	1	52
		% within Gender	16,2%	6,8%	14,3%	11,6%
		% of Total	8,0%	3,3%	0,2%	11,6%
	Associate Health Professionals	Count	17	12	0	29
		% within Gender	7,7%	5,4%	0,0%	6,4%
		% of Total	3,8%	2,7%	0,0%	6,4%
	Managers	Count	11	39	0	50
		% within Gender	5,0%	17,6%	0,0%	11,1%
		% of Total	2,4%	8,7%	0,0%	11,1%
	Office workers	Count	47	26	0	73
		% within Gender	21,2%	11,8%	0,0%	16,2%
		% of Total	10,4%	5,8%	0,0%	16,2%
	Law, social and cultural professionals	Count	2	5	0	7
		% within Gender	0,9%	2,3%	0,0%	1,6%
		% of Total	0,4%	1,1%	0,0%	1,6%
	Security guards	Count	2	4	0	6
		% within Gender	0,9%	1,8%	0,0%	1,3%
		% of Total	0,4%	0,9%	0,0%	1,3%
	Educational Job Professionals	Count	27	21	1	49
		% within Gender	12,2%	9,5%	14,3%	10,9%
		% of Total	6,0%	4,7%	0,2%	10,9%
	Professional Members of Information and Communication Technology	Count	2	3	0	5
		% within Gender	0,9%	1,4%	0,0%	1,1%
		% of Total	0,4%	0,7%	0,0%	1,1%
	Student	Count	18	13	2	33
		% within Gender	8,1%	5,9%	28,6%	7,3%
		% of Total	4,0%	2,9%	0,4%	7,3%
	Non qualified jobs	Count	8	4	0	12
		% within Gender	3,6%	1,8%	0,0%	2,7%

		% of Total	1,8%	0,9%	0,0%	2,7%
	Professional Members of Business and Management	Count	1	1	0	2
		% within Gender	0,5%	0,5%	0,0%	0,4%
		% of Total	0,2%	0,2%	0,0%	0,4%
	Qualified Agriculture, Forestry and Fisheries Workers	Count	0	2	0	2
		% within Gender	0,0%	0,9%	0,0%	0,4%
		% of Total	0,0%	0,4%	0,0%	0,4%
	Position or cadre specified instead of profession	Count	27	36	2	65
		% within Gender	12,2%	16,3%	28,6%	14,4%
		% of Total	6,0%	8,0%	0,4%	14,4%
Total		Count	222	221	7	450
		% within Gender	100,0%	100,0%	100,0%	100,0%
		% of Total	49,3%	49,1%	1,6%	100,0%

It is known that the field which is generally called STEM (Science, technology, engineering, mathematics) is preferred by men rather than women in connection with traditional gender roles, or men are directed to these fields. However, in this study, a picture opposite to the traditional situation was encountered. In this study, it is noteworthy that the representation of women and men in the category of science and engineering profession (economist, biologist, engineering statistician, etc.) is equal. However, it should be bear in mind that the survey is conducted only in public buildings and if this study is conducted in the private sector, where working hours are more flexible, there is a possibility that the results may differ.

The dominant traditional gender perception towards professions; it assumes that jobs that require decision-making, analytical thinking and guarding skills in particular are suitable for men's qualifications and roles. On the other hand, there is a belief that gender roles in traditional societies, jobs and professions that require more compassion and care should be performed by women. For this reason, while management is described as a "male profession"; fields such as teaching and nursing are associated with the "characteristics" of women. However, it appears that the distribution of occupations of the participants of this study to the mentioned occupational groups was partially balanced (Approximately 57% of associate health professionals are women).

In this sample group, the occupational category that does not require qualifications consists of cleaning personnel. The prestige and economic return of jobs that do not require qualifications is low. For this reason, cleaning jobs are attributed to women in terms of social gender roles. In this study, a conclusion was found that coincides with this. Approximately 67.2% of the participant in this category are women.

The category of Educational Job Professionals consist of academics in this study. In Cross Table 1, it is seen that women with master's and phd degrees are more than men. Therefore, it is normal for the rate of women to be high in education professionals.

In the questionnaire, especially civil servants and workers were also asked to indicate their professions, but 14% of the sample group wrote their cadre instead of their professions.

Cross Table 3.The Relation Between The Meaning of Energy Efficiency and Gender

The Meaning of Energy Efficiency * Gender Crosstabulation						
			Gender			Total
			Female	Male	I wouldn't comment on it	
The Meaning of Energy Efficiency	Using less energy	Count	6	18	0	24
		% within Gender	2,7%	8,1%	0,0%	5,3%
		% of Total	1,3%	4,0%	0,0%	5,3%
	Using cheap energy source	Count	3	6	0	9
		% within Gender	1,4%	2,7%	0,0%	2,0%
		% of Total	0,7%	1,3%	0,0%	2,0%
	Living and working in cold, hot and dark environments	Count	2	2	0	4
		% within Gender	0,9%	0,9%	0,0%	0,9%
		% of Total	0,4%	0,4%	0,0%	0,9%
	To use energy efficiently by using modern systems by creating a comfortable living space	Count	211	195	7	413
		% within Gender	95,0%	88,2%	100,0%	91,8%
		% of Total	46,9%	43,3%	1,6%	91,8%
	Total	Count	222	221	7	450
		% within Gender	100,0%	100,0%	100,0%	100,0%
		% of Total	49,3%	49,1%	1,6%	100,0%

The knowledge and awareness of the participants on energy efficiency were also investigated within the scope of this survey. When the sample group was asked about the meaning of energy efficiency, 92% of the participant marked the option of “to use energy efficiently by using modern systems by creating a comfortable living space”. It was revealed that 95% of women, 88% of men and the whole group who did not want to specify their gender knew the meaning of energy efficiency.

Cross Table 4.The Relation Between Application Not Included in Energy Efficiency Measures and Gender

Application Not Included in Energy Efficiency Measures * Gender Crosstabulation						
			Gender			Total
			Female	Male	I wouldn't comment on it	
Application Not Included in Energy Efficiency Measures	Solar system panels	Count	5	16	0	21
		% within Gender	2,3%	7,2%	0,0%	4,7%
		% of Total	1,1%	3,6%	0,0%	4,7%
	Exterior insulation	Count	5	5	0	10
		% within Gender	2,3%	2,3%	0,0%	2,2%
		% of Total	1,1%	1,1%	0,0%	2,2%
	use of individual air conditioning	Count	203	192	7	402
		% within Gender	91,4%	86,9%	100,0%	89,3%
		% of Total	45,1%	42,7%	1,6%	89,3%
	Improvement of Windows and doors	Count	9	8	0	17
		% within Gender	4,1%	3,6%	0,0%	3,8%
		% of Total	2,0%	1,8%	0,0%	3,8%
Total		Count	222	221	7	450
		% within Gender	100,0%	100,0%	100,0%	100,0%
		% of Total	49,3%	49,1%	1,6%	100,0%

Another question asked to measure knowledge and awareness of energy efficiency was related to applications that are not included in energy efficiency. A very large part of the sample group (89.3%) answered correctly by selecting the option of “use of individual air conditioning”. 91.4% of the women and about 87% of the men answered correctly and all of the participants who did not want to specify their gender. The fact that 7.2% of men do not know that solar energy panels (PV) are not included in the energy efficiency application is also an interesting finding of the study. Although there is not a huge difference in proportion, it seems that women give more correct answers to this question.

Cross Table 5.The Relation Between The Status of Having Knowledge About the Practices Made in the Institution Related to Energy Efficiency Studies and Gender

The Status of Having Knowledge About the Practices Made in the Institution Related to Energy Efficiency Studies * Gender						
Crosstabulation						
			Gender			Total
			Female	Male	I wouldn't comment on it	
The Status of Having Knowledge About the Practices Made in the Institution Related to Energy Efficiency Studies	Well informed	Count	34	55	0	89
		% within Gender	15,3%	24,9%	0,0%	19,8%
		% of Total	7,6%	12,2%	0,0%	19,8%
	Partially informed	Count	90	105	1	196
		% within Gender	40,5%	47,5%	14,3%	43,6%
		% of Total	20,0%	23,3%	0,2%	43,6%
	No idea	Count	88	50	6	144
		% within Gender	39,6%	22,6%	85,7%	32,0%
		% of Total	19,6%	11,1%	1,3%	32,0%
	There is no such an application	Count	10	11	0	21
		% within Gender	4,5%	5,0%	0,0%	4,7%
		% of Total	2,2%	2,4%	0,0%	4,7%
Total		Count	222	221	7	450
		% within Gender	100,0%	100,0%	100,0%	100,0%
		% of Total	49,3%	49,1%	1,6%	100,0%

Another issue within the scope of the study is whether there are applications related to energy efficiency in the buildings to be renovated and if so, the building users and beneficiaries should have information about the applications. Approximately 5% of the participants declared that there is no application related to energy efficiency in their buildings. More than half of the male participants (about 62%) stated that they are fully aware of the energy efficiency practices in the buildings they are in. This rate in women is very low compared to men (%38). Again, 40.5% of women and 47.5% of men stated that they "know a little" about the energy efficiency practices in their buildings.

Cross Table 6.The Relationship Between Opinions On The Importance Of Energy Efficiency Trainings and Gender

Opinions on the Importance of energy efficiency trainings * Gender Crosstabulation						
			Gender			Total
			Female	Male	I wouldn't comment on it	
Opinions on the Importance of energy efficiency trainings	Very important	Count	198	196	6	400
		% within Gender	89,2%	88,7%	85,7%	88,9%
		% of Total	44,0%	43,6%	1,3%	88,9%
	A little important	Count	15	18	0	33
		% within Gender	6,8%	8,1%	0,0%	7,3%
		% of Total	3,3%	4,0%	0,0%	7,3%
	No idea	Count	9	4	1	14
		% within Gender	4,1%	1,8%	14,3%	3,1%
		% of Total	2,0%	0,9%	0,2%	3,1%
	Not very important	Count	0	2	0	2
		% within Gender	0,0%	0,9%	0,0%	0,4%
		% of Total	0,0%	0,4%	0,0%	0,4%
	Not important	Count	0	1	0	1
		% within Gender	0,0%	0,5%	0,0%	0,2%
		% of Total	0,0%	0,2%	0,0%	0,2%
Total		Count	222	221	7	450
		% within Gender	100,0%	100,0%	100,0%	100,0%
		% of Total	49,3%	49,1%	1,6%	100,0%

Participants find the information and awareness activities to be carried out on energy efficiency extremely important. 89% of men and women and 86% of those who do not want to specify their gender stated that they find the training to be given on this subject "very important".

Cross Table 7.The Relationship Between Level of Knowledge on Energy Efficiency, Renewable Energy Resources and Climate Change and Gender

Level of Knowledge on Energy Efficiency, Renewable Energy Resources and Climate Change * Gender Crosstabulation						
			Gender			Total
			Female	Male	I wouldn't comment on it	
Level of Knowledge on Energy Efficiency, Renewable Energy Resources and Climate Change	Very knowledgeable	Count	20	46	1	67
		% within Gender	9,0%	20,8%	14,3%	14,9%
		% of Total	4,4%	10,2%	0,2%	14,9%
	Partially informed	Count	188	167	5	360
		% within Gender	84,7%	75,6%	71,4%	80,0%
		% of Total	41,8%	37,1%	1,1%	80,0%
	No idea	Count	13	5	1	19
		% within Gender	5,9%	2,3%	14,3%	4,2%
		% of Total	2,9%	1,1%	0,2%	4,2%
	No knowledge	Count	1	3	0	4
		% within Gender	0,5%	1,4%	0,0%	0,9%
		% of Total	0,2%	0,7%	0,0%	0,9%
Total		Count	222	221	7	450
		% within Gender	100,0%	100,0%	100,0%	100,0%
		% of Total	49,3%	49,1%	1,6%	100,0%

To the participants when asked about their views on their level of knowledge of energy efficiency, renewable energy sources, climate change 86% of women, 76% of men and 71% of those who do not want to specify their gender have said they were partially knowledgeable. In crosstab 5, the fact that men "fully know" the subject is also seen in this table. The education level of women in the sample group is higher. The ratios of women and men in the profession category of science and engineering professionals are almost the same. Despite this, men said they were 2 times more "very knowledgeable" than women. (About 9% of women, about 21% of men).

Cross Table 8.Relationship Between Gender and Heating System¹¹

Type of heating system * Gender Crosstabulation						
			Gender			Total
			Female	Male	I wouldn't comment on it	
Type of heating system	No Idea	Count	38	14	2	54
		% within Gender	17,1%	6,3%	28,6%	12,0%
		% of Total	8,4%	3,1%	0,4%	12,0%
	Combi Boiler	Count	1	11	0	12
		% within Gender	0,5%	5,0%	0,0%	2,7%
		% of Total	0,2%	2,4%	0,0%	2,7%
	Split Air Condition System	Count	27	20	1	48
		% within Gender	12,2%	9,0%	14,3%	10,7%
		% of Total	6,0%	4,4%	0,2%	10,7%
	Room Type Air Condition System	Count	8	13	0	21
		% within Gender	3,6%	5,9%	0,0%	4,7%
		% of Total	1,8%	2,9%	0,0%	4,7%
	Central Heating System	Count	84	91	4	179
		% within Gender	37,8%	41,2%	57,1%	39,8%
		% of Total	18,7%	20,2%	0,9%	39,8%
	Air Conditioning	Count	64	72	0	136
		% within Gender	28,8%	32,6%	0,0%	30,2%
		% of Total	14,2%	16,0%	0,0%	30,2%
Total		Count	222	221	7	450
		% within Gender	100,0%	100,0%	100,0%	100,0%
		% of Total	49,3%	49,1%	1,6%	100,0%

The relationship between knowledge of the warming system and gender has been researched. It is seen that 70.4% of those who say they do not know the type of heating system are women¹¹. The fact that men are more familiar with such technical issues than women is an expected result in the context of general gender perception. However, it is also important here whether the information about the general heating system is correct for both genders. During the data entry, it was noted that different heating systems were given in response within the same building. About 38% of women and 41% of men selected the right option with the central system.

¹¹ In the EEPB Project First Package Pre-Renovation Survey, this ratio was almost the same (70.9%).

Cross Table 9.Relationship between Gender and Heating System Evaluation

Rate the heating system * Gender Crosstabulation						
			Gender			Total
			Female	Male	I wouldn't comment on it	
Rate the heating system	Heating is Excellent	Count	82	105	0	187
		% within Gender	36,9%	47,5%	0,0%	41,6%
		% of Total	18,2%	23,3%	0,0%	41,6%
	Heating is Good but the Room is Stuffy	Count	61	41	2	104
		% within Gender	27,5%	18,6%	28,6%	23,1%
		% of Total	13,6%	9,1%	0,4%	23,1%
	Heating is Good but it Colud be Warmer	Count	41	25	2	68
		% within Gender	18,5%	11,3%	28,6%	15,1%
		% of Total	9,1%	5,6%	0,4%	15,1%
	Heating is Poor, Its Very Cold	Count	38	50	3	91
		% within Gender	17,1%	22,6%	42,9%	20,2%
		% of Total	8,4%	11,1%	0,7%	20,2%
Total		Count	222	221	7	450
		% within Gender	100,0%	100,0%	100,0%	100,0%
		% of Total	49,3%	49,1%	1,6%	100,0%

Participants were asked to evaluate the heating system and its relationship with the gender variable was examined. Approximately one in three women (36.9%) and approximately one in 2 men (47.5%) have rated the heating system as efficient. Given that the gender distribution of the participants was almost equal, it can be said that men were more satisfied with the type of heating system.

When the gender distribution of those who say that the system works efficiency but the room is stuffy is examined, it is seen that 59% of those who have this opinion are women, 39% are men and about 2% are those who do not want to specify their gender.

18.5% of women and about 11.3% of men stated that the system works well, but they prefer the indoor environment to be warmer.

Men make up more than half (about 55%) of those who describe the system as inadequate and the interior as quite cold. There are many scientific studies on the heat perception of women and men. However, a recent study conducted at the Berlin Center for Social Sciences revealed that women are more productive

in warmer environments compared to men. This finding of the study does not coincide with the finding of the Berlin Center for Social Sciences.

Cross Table 10.The Relationship Between Gender and Ideal Indoor Temperature

Ideal ambient temprerature * Gender Crosstabulation						
			Gender			Total
			Female	Male	I wouldn't comment on it	
Ideal ambient temprerature	No idea	Count	7	5	0	12
		% within Gender	3,2%	2,3%	0,0%	2,7%
		% of Total	1,6%	1,1%	0,0%	2,7%
	Below 15 Degree	Count	2	3	0	5
		% within Gender	0,9%	1,4%	0,0%	1,1%
		% of Total	0,4%	0,7%	0,0%	1,1%
	15 to 18 Degree	Count	12	8	0	20
		% within Gender	5,4%	3,6%	0,0%	4,4%
		% of Total	2,7%	1,8%	0,0%	4,4%
	19 to 22 Degree	Count	116	109	2	227
		% within Gender	52,3%	49,3%	28,6%	50,4%
		% of Total	25,8%	24,2%	0,4%	50,4%
	23 to 26 Degree	Count	83	93	5	181
		% within Gender	37,4%	42,1%	71,4%	40,2%
		% of Total	18,4%	20,7%	1,1%	40,2%
	Over 26 Degree	Count	2	3	0	5
		% within Gender	0,9%	1,4%	0,0%	1,1%
		% of Total	0,4%	0,7%	0,0%	1,1%
Total		Count	222	221	7	450
		% within Gender	100,0%	100,0%	100,0%	100,0%
		% of Total	49,3%	49,1%	1,6%	100,0%

In connection with the previous table, the relationship between the genders of the views on the ideal indoor temperature was also examined. More than half of women (52.5%), about half of men (49.5%), and a quarter of those who did not want to specify their gender (28.6%) answered an a ideal temperature range between 19-22 degrees. Those who think this temperature range is suitable constitute half of the sample group. World Health Organization recommends the ideal ambient temperature as 21 degrees in rooms where daily life practices are carried out. The sample group exhibited a heterogeneous distribution in this question. 40% of the participants think that the ideal indoor temperature is in the range between 23-26 degrees. 37.4% of women, 42.1% of men and 42.1% of those who did not want to specify their gender answered 23-26 degrees.

Cross Table 11.Relationship Between Gender and Evaluations of Door and Window Insulation

Insulation level of door and windows * Gender Crosstabulation						
			Gender			Total
			Female	Male	I wouldn't comment on it	
Insulation level of door and windows	No Idea	Count	60	47	3	110
		% within Gender	27,0%	21,3%	42,9%	24,4%
		% of Total	13,3%	10,4%	0,7%	24,4%
	Seal Well	Count	44	51	1	96
		% within Gender	19,8%	23,1%	14,3%	21,3%
		% of Total	9,8%	11,3%	0,2%	21,3%
	There is a Bit of Draft, Poor Insulation	Count	75	72	1	148
		% within Gender	33,8%	32,6%	14,3%	32,9%
		% of Total	16,7%	16,0%	0,2%	32,9%
	There is Draft, Windows and Doors are Poor	Count	32	31	0	63
		% within Gender	14,4%	14,0%	0,0%	14,0%
		% of Total	7,1%	6,9%	0,0%	14,0%
	There is Very Strong Draft, Windows and Doors are Extremley Poor	Count	11	20	2	33
		% within Gender	5,0%	9,0%	28,6%	7,3%
		% of Total	2,4%	4,4%	0,4%	7,3%
Total		Count	222	221	7	450
		% within Gender	100,0%	100,0%	100,0%	100,0%
		% of Total	49,3%	49,1%	1,6%	100,0%

One of the main factors affecting indoor temperature is door and window insulation. One out of every four women (27%), about one out of every four men (21.3%) and about 43% of those who did not want to specify their gender declared that they had no idea about door and window insulation (%24.4 all of the participant). A large proportion of respondent (about 33%) think that there is some draft originating from the doors and windows. This rate is 33.8% for women, 32.6% for men and 14.3% for those who do not want to state their gender. One out of every fifth women (19.8%) and about one out of every four men (23.1%) and and 14.3% of those who do not want to state their gender stated the insulation is well. 14% of women and men said that the environment is breezy and the insulation quality is poor.

Cross Table 12.The Relationship Between Gender and Knowledge of the Measures Taken for Energy Saving at the School

Familiarity with energy saving measures * Gender Crosstabulation						
			Gender			Total
			Female	Male	I wouldn't comment on it	
Familiarity with energy saving measures	There are in place but i am not Familiar with Them	Count	87	93	1	181
		% within Gender	39,2%	42,1%	14,3%	40,2%
		% of Total	19,3%	20,7%	0,2%	40,2%
	There are in place, i am Familiar with Them	Count	51	61	1	113
		% within Gender	23,0%	27,6%	14,3%	25,1%
		% of Total	11,3%	13,6%	0,2%	25,1%
	No Idea	Count	84	67	5	156
		% within Gender	37,8%	30,3%	71,4%	34,7%
		% of Total	18,7%	14,9%	1,1%	34,7%
Total		Count	222	221	7	450
		% within Gender	100,0%	100,0%	100,0%	100,0%
		% of Total	49,3%	49,1%	1,6%	100,0%

The relationship between the relationship between gender and the knowledge and awareness status of the measures taken to save energy in buildings was wondered within the scope of the study. Approximately 38% of women, about 30% of men and 71.4% of those who did not want to specify their gender stated that they had no idea about this issue. More than one third (35%) of the participants have given the answer. As can be seen in Cross-Table 6, the sample group considers the issue of energy efficiency to be very important. However, the same group does not know about energy saving measures in the buildings where they work/study.

39% of women and 42% of men and 14% of the participants who did not want to specify their gender stated that they were aware of the existence of some measures in terms of energy conservation, but they did not know much about the measures. A quarter of the sample group (25.1%) stated that they were aware of the measures taken. 23% of women, 27.6% of men and 14.3% of those who do not want to indicate their gender stated that they are aware of the energy saving measures taken. Men and women show a homogeneous distribution proportionally at the point of partially knowing and fully knowing the measures taken.

Cross Table 13.The Relationship Between Gender and Knowledge on the Energy Saving Measures Taken in the Last Ten Years in the Building

Energy conservation measures taken for last ten years * Gender Crosstabulation						
			Gender			Total
			Female	Male	I wouldn't comment on it	
Energy conservation measures taken for last ten years	No Idea	Count	146	153	6	305
		% within Gender	65,8%	69,2%	85,7%	67,8%
		% of Total	32,4%	34,0%	1,3%	67,8%
	Using Better Building Insulation Materials	Count	9	11	0	20
		% within Gender	4,1%	5,0%	0,0%	4,4%
		% of Total	2,0%	2,4%	0,0%	4,4%
	Doors and Windows Renewed	Count	3	2	0	5
		% within Gender	1,4%	0,9%	0,0%	1,1%
		% of Total	0,7%	0,4%	0,0%	1,1%
	Room Temperature Reduced	Count	7	9	0	16
		% within Gender	3,2%	4,1%	0,0%	3,6%
		% of Total	1,6%	2,0%	0,0%	3,6%
	Using Low Cost Fuels	Count	0	3	0	3
		% within Gender	0,0%	1,4%	0,0%	0,7%
		% of Total	0,0%	0,7%	0,0%	0,7%
	Underuse of Some Equipment	Count	18	12	1	31
		% within Gender	8,1%	5,4%	14,3%	6,9%
		% of Total	4,0%	2,7%	0,2%	6,9%
	Restoration of Existing Roof	Count	20	13	0	33
		% within Gender	9,0%	5,9%	0,0%	7,3%
		% of Total	4,4%	2,9%	0,0%	7,3%
	Doors and Windows Renewed, Underuse of Some Equipment	Count	2	1	0	3
		% within Gender	0,9%	0,5%	0,0%	0,7%
		% of Total	0,4%	0,2%	0,0%	0,7%
	Using Better Building Insulation Materials, Underuse of Some Equipment	Count	1	1	0	2
		% within Gender	0,5%	0,5%	0,0%	0,4%
		% of Total	0,2%	0,2%	0,0%	0,4%
	Using Better Building Insulation Materials, Doors and Windows Renewed, Underuse of Some Equipment	Count	0	1	0	1
		% within Gender	0,0%	0,5%	0,0%	0,2%
		% of Total	0,0%	0,2%	0,0%	0,2%
		Count	1	2	0	3
		% within Gender	0,5%	0,9%	0,0%	0,7%

	Room Temperature Reduced, Underuse of Some Equipment	% of Total	0,2%	0,4%	0,0%	0,7%
	Using Better Building Insulation Materials, Doors and Windows Renewed	Count	2	1	0	3
		% within Gender	0,9%	0,5%	0,0%	0,7%
		% of Total	0,4%	0,2%	0,0%	0,7%
	Using Better Building Insulation Materials, Room Temperature Reduced, Restoration of Existing Roof	Count	2	1	0	3
		% within Gender	0,9%	0,5%	0,0%	0,7%
		% of Total	0,4%	0,2%	0,0%	0,7%
	Underuse of Some Equipment, Restoration of Existing Roof	Count	2	3	0	5
		% within Gender	0,9%	1,4%	0,0%	1,1%
		% of Total	0,4%	0,7%	0,0%	1,1%
	Doors and Windows Renewed, Restoration of Existing Roof	Count	0	1	0	1
		% within Gender	0,0%	0,5%	0,0%	0,2%
		% of Total	0,0%	0,2%	0,0%	0,2%
	Room Temperature Reduced, Restoration on Existing Roof	Count	1	1	0	2
		% within Gender	0,5%	0,5%	0,0%	0,4%
		% of Total	0,2%	0,2%	0,0%	0,4%
	Room Temperature Reduced, Underuse of Some Equipment, Restoration of Existing Roof	Count	2	0	0	2
		% within Gender	0,9%	0,0%	0,0%	0,4%
		% of Total	0,4%	0,0%	0,0%	0,4%
	Doors and Windows Renewed, Using Low Cost Fuels, Underuse of Some Equipment	Count	1	0	0	1
		% within Gender	0,5%	0,0%	0,0%	0,2%
		% of Total	0,2%	0,0%	0,0%	0,2%
	Doors and Windows Renewed, Room Temperature Reduced	Count	1	0	0	1
		% within Gender	0,5%	0,0%	0,0%	0,2%
		% of Total	0,2%	0,0%	0,0%	0,2%
	Using Better Building Insulation Materials, Restoration of Existing Roof	Count	0	2	0	2
		% within Gender	0,0%	0,9%	0,0%	0,4%
		% of Total	0,0%	0,4%	0,0%	0,4%
	Exterior Insulation, Doors Windows Renewed, Underuse of Some Equipment, Restoration of Existing Roof	Count	1	1	0	2
		% within Gender	0,5%	0,5%	0,0%	0,4%
		% of Total	0,2%	0,2%	0,0%	0,4%
	Doors and Windows Renewed, Room	Count	0	1	0	1
		% within Gender	0,0%	0,5%	0,0%	0,2%

	Temperatrure Reduced,Using Low Cost Fuels, Restoration of the Existing Roof	% of Total	0,0%	0,2%	0,0%	0,2%
	Exterior Insulation,Doors	Count	1	0	0	1
	Windows Renewed,Underuse	% within Gender	0,5%	0,0%	0,0%	0,2%
	Some Equipment	% of Total	0,2%	0,0%	0,0%	0,2%
	Doors and Windows	Count	0	1	0	1
	Renewed, Underuse of Some	% within Gender	0,0%	0,5%	0,0%	0,2%
	Equipment, Restoration of the Existing Roof	% of Total	0,0%	0,2%	0,0%	0,2%
	Doors and Windows	Count	2	0	0	2
	Renewed, Room	% within Gender	0,9%	0,0%	0,0%	0,4%
	Temperatrure Reduced, underuse of some equipment	% of Total	0,4%	0,0%	0,0%	0,4%
	Room Temperature Reduced, using low cost fuels,	Count	0	1	0	1
	Underuse of Some	% within Gender	0,0%	0,5%	0,0%	0,2%
	Equipment	% of Total	0,0%	0,2%	0,0%	0,2%
Total		Count	222	221	7	450
		% within Gender	100,0%	100,0%	100,0%	100,0%
		% of Total	49,3%	49,1%	1,6%	100,0%

In the EEPB Project 1st Package pre-renovation survey 56% of the sample have not answered this question. The reason for this was estimated that there was not be an option by "no idea". in this study, "no idea" option was added to this question to reduce data loss. About 66% of women, about 69% of men, and about 86% of those who did not want to specify their gender have choosen the option "I don't know/have no idea". Women and men marked the option I don't know/I have no idea at a very close rate. In the general sample, this rate is approximately 68%. In this question, the number of categories was high because the participants were given the opportunity to mark more than one option. Therefore, instead of interpreting each category separately, it is decided that it would be more meaningful to interpret the categories with high data density. 9% of women, 6% of men stated that the roof was repaired; 8.1% of women, 5.4% of men and 14.3% of those who did not want to specify their gender stated that some equipment is used less; 3.2% of women and 4.1% of men stated that the room temperature was lowered; about 4% of women and 5% of men stated that thermal insulation (building envelope insulation) was introduced.

Considering that other less mentioned categories are also included in these statements, the savings measures taken in the last 10 years in the buildings where this study was carried out can be summarized as follows:

- Roof repairing (11.1%)

- Underusing of some equipment (11.8%)
- Reducing the room temperature (6.8%)
- using newer insulation materials (7.4%)

Cross Table 14.The Relationship Between Gender and Knowledge on Insulation Processes in the Building

Knowledge about insulation works * Gender Crosstabulation						
			Gender			Total
			Female	Male	I wouldn't comment on it	
Knowledge about insulation works	No	Count	131	137	6	274
		% within Gender	59,0%	62,0%	85,7%	60,9%
		% of Total	29,1%	30,4%	1,3%	60,9%
	Yes, I Have some Information	Count	70	61	1	132
		% within Gender	31,5%	27,6%	14,3%	29,3%
		% of Total	15,6%	13,6%	0,2%	29,3%
	Yes, I am Aware of It	Count	21	23	0	44
		% within Gender	9,5%	10,4%	0,0%	9,8%
		% of Total	4,7%	5,1%	0,0%	9,8%
Total		Count	222	221	7	450
		% within Gender	100,0%	100,0%	100,0%	100,0%
		% of Total	49,3%	49,1%	1,6%	100,0%

The status of the participants' awareness of the door, window, roof replacement and insulation renovations to be made in the building, according to gender variable was also examined.

59% of women, 62% of men and 87% of those who did not want to specify their gender stated that they were not aware of these renovations. More than one-third of the participating women (%31.5), 21.2% of the men and 14.3% those who do not want to state their gender stated that they knew something about it. 9.5% of women, 10.4% of men and 87% have said they knew everything about the insulation renovations.

More than a third of women (%31.5), more than a quarter of men (27.6%), and 14.3% of those who did not want to specify their gender said they knew something; 9.5% of women and 10.4% of men stated that they fully knew about the renovation process to be carried out. The issue being fully aware of the modifications to be carried out is very close to each other between the genders.

2.2.2. Occupational Crosstables

Within the scope of the study, it was also desired to measure the knowledge and awareness of the participant group about the profession and the building where they work/study. For this purpose, the cross-tables were developed by taking into account of the profession variable and the answers to following questions:

- What is the type of heating system used in the building?
- How would you evaluate the heating system in the building?

- Do you have information about renovation activities such as door, window, roof change, insulation works?
- What is the energy saving measures taken in your building?
- What is the meaning of energy efficiency?
- What is the status of the participants to know the applications that are not included in the energy efficiency?
- What is the status of the participants to know the works on energy efficiency in the relevant institution?
- • What are the opinions of the participants on the importance of energy efficiency training?
- What is the level of knowledge of the participants about energy efficiency, renewable energy sources and climate change?
- What is the energy saving measures taken in your building in the last 10 years?

Since the percentage distribution of occupations is given in Bar Table 6, this issue is not mentioned separately here.

Since there are too many occupational categories, reminders were made about the bar tables on the subject before examining the relationship between variables.

Cross Table 15.Relationship Between Occupation and Knowledge of Heating System in Building

			Type of heating system * Profession Crosstabulation															Total
			Profession															
			Science and Engineering Fields	Associate professionals in science and engineering	Health Professionals	Associate Health Professionals	Managers	Office workers	law, social and cultural professionals	Security guards	Educational Job Professionals	Professional Members of Information and Communication Technology	Student	Non qualified jobs	Professional Members of Business and Management	Qualified Agriculture, Forestry and Fisheries Workers	Position or cadre specified instead of profession	
Type of heating system	No Idea	Count	0	0	9	8	3	12	1	0	5	0	12	1	0	0	3	54
		% within Profession	0,0%	0,0%	17,3%	27,6%	6,0%	16,4%	14,3%	0,0%	10,2%	0,0%	36,4%	8,3%	0,0%	0,0%	4,6%	12,0%
		% of Total	0,0%	0,0%	2,0%	1,8%	0,7%	2,7%	0,2%	0,0%	1,1%	0,0%	2,7%	0,2%	0,0%	0,0%	0,7%	12,0%
	Combi Boiler	Count	0	2	0	0	3	1	0	0	0	0	2	0	0	0	4	12
		% within Profession	0,0%	10,5%	0,0%	0,0%	6,0%	1,4%	0,0%	0,0%	0,0%	0,0%	6,1%	0,0%	0,0%	0,0%	6,2%	2,7%
		% of Total	0,0%	0,4%	0,0%	0,0%	0,7%	0,2%	0,0%	0,0%	0,0%	0,0%	0,4%	0,0%	0,0%	0,0%	0,9%	2,7%
	Split Air Condition System	Count	3	0	2	2	7	9	0	0	12	1	6	2	0	0	4	48
		% within Profession	6,5%	0,0%	3,8%	6,9%	14,0%	12,3%	0,0%	0,0%	24,5%	20,0%	18,2%	16,7%	0,0%	0,0%	6,2%	10,7%
		% of Total	0,7%	0,0%	0,4%	0,4%	1,6%	2,0%	0,0%	0,0%	2,7%	0,2%	1,3%	0,4%	0,0%	0,0%	0,9%	10,7%
	Room Type Air Condition System	Count	0	0	1	2	1	6	0	0	2	0	8	0	0	0	1	21
		% within Profession	0,0%	0,0%	1,9%	6,9%	2,0%	8,2%	0,0%	0,0%	4,1%	0,0%	24,2%	0,0%	0,0%	0,0%	1,5%	4,7%
		% of Total	0,0%	0,0%	0,2%	0,4%	0,2%	1,3%	0,0%	0,0%	0,4%	0,0%	1,8%	0,0%	0,0%	0,0%	0,2%	4,7%
	Central Heating System	Count	27	12	18	5	17	31	2	3	19	0	3	6	1	2	33	179
		% within Profession	58,7%	63,2%	34,6%	17,2%	34,0%	42,5%	28,6%	50,0%	38,8%	0,0%	9,1%	50,0%	50,0%	100,0%	50,8%	39,8%
		% of Total	6,0%	2,7%	4,0%	1,1%	3,8%	6,9%	0,4%	0,7%	4,2%	0,0%	0,7%	1,3%	0,2%	0,4%	7,3%	39,8%
	Air Conditioning	Count	16	5	22	12	19	14	4	3	11	4	2	3	1	0	20	136
		% within Profession	34,8%	26,3%	42,3%	41,4%	38,0%	19,2%	57,1%	50,0%	22,4%	80,0%	6,1%	25,0%	50,0%	0,0%	30,8%	30,2%
		% of Total	3,6%	1,1%	4,9%	2,7%	4,2%	3,1%	0,9%	0,7%	2,4%	0,9%	0,4%	0,7%	0,2%	0,0%	4,4%	30,2%
Total		Count	46	19	52	29	50	73	7	6	49	5	33	12	2	2	65	450
		% within Profession	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%
		% of Total	10,2%	4,2%	11,6%	6,4%	11,1%	16,2%	1,6%	1,3%	10,9%	1,1%	7,3%	2,7%	0,4%	0,4%	14,4%	100,0%

The relationship Between Occupation and Knowledge of Heating System in Building has been invastigated. The main purpose here is to see the situation of knowing the heating system of the building in which the professional groups are located. Occupational groups that never gave the answer "I have no idea" are listed below:

- Science and Engineering Fields
- Security guards
- Professional Members of Information and Communication Technology
- Qualified Agriculture, Forestry and Fisheries Workers

It was foreseen that professionals working in the field of science and engineering would be more dominant than non professionals working in the field of science and engineering due to their branches. 12% of the sample group stated that they do not know the heating system. According to the the internal distribution of the professions, it is seen that students who answer this question (36.4%) do not have any ideas. This result is not surprising while considering that students who spend less time in the buildings have less interest to the subject than other occupational groups. It is seen that the answers of the sample group are predominantly clustered in the central system (about 40%) and the air conditioning system (about 30%).

From this point of view, it would not be wrong to say that buildings which are predominantly heated by the central system and air conditioning system. More than half of science and engineering fields professionals (about %59),

- About 63% of Associate professionals in science and engineering
- 35% of health professionals
- 34% of managers,
- 42.5% of office workers,
- Half of security guards (50%)
- About %40 of Educational Job Professionals,
- Half of non qualified jobs workers (50%),
- Half of Professional Members of Business and Management (50%)
- All of Qualified Agriculture, Forestry and Fisheries Workers (%100)
- More than half of those who specified the duties or staff of the profession (about 51%) stated that the interior of the buildings was heated by the central heating system.

The second most marked response by the participating group is air conditioning system. The professions that mark this option mostly and their distribution among themselves are as follows:

- More than half of law, social and cultural professionals (about 57%)

- about 42% of health professionals,
- about %41.4 of Associate Health Professionals,
- 38% of managers,
- Half of security gurads (50%)
- 80% of Professional Members of Information and Communication Technology.

Only about a quarter of the students (24.2%) stated that the building where they were studying was heated by hall-type air conditioning.

Cross Table 16.The Relationship Between Occupation and Views on the Heating System

Profession * Rate the heating system Crosstabulation							
			Rate the heating system				Total
			Heating is Excellent	Heating is Good but the Room is Stuffy	Heating is Good but it Colud be Warmer	Heating is Poor, Its Very Cold	
Profession	Science and Engineering Fields	Count	29	6	7	4	46
		% within Profession	63,0%	13,0%	15,2%	8,7%	100,0%
		% of Total	6,4%	1,3%	1,6%	0,9%	10,2%
	Associate professionals in science and engineering	Count	6	4	5	4	19
		% within Profession	31,6%	21,1%	26,3%	21,1%	100,0%
		% of Total	1,3%	0,9%	1,1%	0,9%	4,2%
	Health Professionals	Count	18	19	9	6	52
		% within Profession	34,6%	36,5%	17,3%	11,5%	100,0%
		% of Total	4,0%	4,2%	2,0%	1,3%	11,6%
	Associate Health Professionals	Count	11	6	3	9	29
		% within Profession	37,9%	20,7%	10,3%	31,0%	100,0%
		% of Total	2,4%	1,3%	0,7%	2,0%	6,4%
	Managers	Count	19	7	10	14	50
		% within Profession	38,0%	14,0%	20,0%	28,0%	100,0%
		% of Total	4,2%	1,6%	2,2%	3,1%	11,1%
	Office workers	Count	23	17	9	24	73

		% within Profession	31,5%	23,3%	12,3%	32,9%	100,0%
		% of Total	5,1%	3,8%	2,0%	5,3%	16,2%
	Law, social and cultural professionals	Count	1	2	2	2	7
		% within Profession	14,3%	28,6%	28,6%	28,6%	100,0%
		% of Total	0,2%	0,4%	0,4%	0,4%	1,6%
	Security guards	Count	2	2	0	2	6
		% within Profession	33,3%	33,3%	0,0%	33,3%	100,0%
		% of Total	0,4%	0,4%	0,0%	0,4%	1,3%
	Educational Job Professionals	Count	24	10	7	8	49
		% within Profession	49,0%	20,4%	14,3%	16,3%	100,0%
		% of Total	5,3%	2,2%	1,6%	1,8%	10,9%
	Professional Members of Information and Communication Technology	Count	1	2	0	2	5
		% within Profession	20,0%	40,0%	0,0%	40,0%	100,0%
		% of Total	0,2%	0,4%	0,0%	0,4%	1,1%
	Student	Count	15	11	1	6	33
		% within Profession	45,5%	33,3%	3,0%	18,2%	100,0%
		% of Total	3,3%	2,4%	0,2%	1,3%	7,3%
	Non qualified jobs	Count	7	2	3	0	12
		% within Profession	58,3%	16,7%	25,0%	0,0%	100,0%
		% of Total	1,6%	0,4%	0,7%	0,0%	2,7%

	Professional Members of Business and Management	Count	2	0	0	0	2
		% within Profession	100,0%	0,0%	0,0%	0,0%	100,0%
		% of Total	0,4%	0,0%	0,0%	0,0%	0,4%
	Qualified Agriculture, Forestry and Fisheries Workers	Count	2	0	0	0	2
		% within Profession	100,0%	0,0%	0,0%	0,0%	100,0%
		% of Total	0,4%	0,0%	0,0%	0,0%	0,4%
	Position or cadre specified instead of profession	Count	27	16	12	10	65
		% within Profession	41,5%	24,6%	18,5%	15,4%	100,0%
		% of Total	6,0%	3,6%	2,7%	2,2%	14,4%
Total	Count	187	104	68	91	450	
	% within Profession	41,6%	23,1%	15,1%	20,2%	100,0%	
	% of Total	41,6%	23,1%	15,1%	20,2%	100,0%	

Before looking at the distribution of occupational groups within themselves, it is useful to look at the sample group in general. It is seen that the majority of the participants (42%) are satisfied with the operation of the system. About one out of every 5 people (23%) stated that the system works good but the room could be more airy; Again, one out of every 5 people (20%) stated that the system is weak, and the environment is very cold; 15% of the participants said that the system was good, but it would be better if the environment was warmer. Looking at the relationship between the occupation and the evaluation of the heating system as follows:

- More than half (563%) of professionals working in the field of science and engineering found the system efficient. 13% of the participants declared that the system works well but the room is stuffy. 15% of the surveyor stated that the system was good, but the room could be warmer. 9% of the participants noted that the system was inefficient, and the room was cold that they worked in.
- 32% of the assistant personnel working in the field of science and engineering found the system efficient; about 22% said that the system works well but the room is stuffy; 26% stated that they found the system good, but the room could be warmer, 21% stated that the system was inefficient and the room they worked in was cold.
- One-third (35%) of health professionals found the system efficient; 36.5% said that the system works well but the room is stuffy; It was revealed that 17% thought the system was good, but the room could be warmer, 11.5% thought the system was inefficient and the room they worked in was cold.
- Approximately 38% of allied health personnel found the system efficient; 21% said that the system works well but the room is stuffy; about 10% stated that they found the system good, but the room could be warmer, 31% stated that the system was inefficient and the room they worked in was cold. Among the occupational groups, the highest rate that says that the system is weak and the environment is very cold is encountered in this occupational group. The high count of personnel working in operating rooms within this group may have been effective in achieving this result.
- 38% of the managers found the system efficient; It was revealed that 14% thought the system was good, but the room could be warmer, 28% thought the system was inefficient and the room they worked in was cold.
- One-third (31.5%) of office workers found the system efficient; 23.3% said that the system works well but the room is stuffy; 12.3% stated that they found the system good, but the room could be warmer, 33% stated that the system was inefficient and the room they worked in was cold. Considering that office workers spend their time mainly in the office, it will not be wrong to say that there is a problem with heating indoors.

- The evaluations of the members of law, social and cultural professions related to the comfort of indoor temperatures are quite homogeneous. 14.3% of the participant in this group workers found the system efficient. The remaining participants appear to be evenly distributed across all three options.
- The striking point with security guards is that no one has ever replied that "the system is good but it could be warmer inside". The participants were evenly distributed to the other options with 33.3% each.
- Members of the education professionals are academics, which means that most of their time is spent in the classroom and in their own study rooms. About half of professionals working in the field of education (49%) found the system efficient; 20.4% said that the system works well but the room is stuffy; 14.3% stated that they found the system good, but the room could be warmer, 16.3% stated that the system was inefficient and the room they worked in was cold.
- One-fifth (20%) of Professional Members of Information and Communication Technology found the system efficient; 40% said that the system works well but the room is stuffy; 40% thought the system was inefficient and the room they worked in was cold.
- Approximately half of the (45.5%) of the students found the heating system efficient; about 33% said that the system works well but the room is stuffy; 3% stated that they found the system good, but the room could be warmer, 18.6% stated that the system was inefficient, and their classrooms were cold.
- All participants in the non-qualified profession category are cleaning staff. More than half of the (58%) non-qualified workers found the system efficient; 17% said that the system works well but the room is stuffy; 12.3% stated that they found the system good, but the room could be warmer, 25% stated that the system was inefficient and the room they worked in was cold.
- All of the Professional Members of Business and Management (2 person) said that the system works efficiently.
- All of the Qualified Agriculture, Forestry and Fisheries Workers (2 person) said that the system works efficiently.
- 41.5% of the participants who stated position or cadre instead of professions thought that the system works well, 24.6% said that the system works well but the room is stuffy; 18.5% stated that they found the system good, but the room could be warmer, 15.4% stated that the system was inefficient and the room they worked in was cold.

Cross Table 17.Relationship Between Occupation and Knowledge of Energy Saving Measures Taken in the Building

Profession * Familiarty with energy saving measures Crosstabulation						
			Familiarty with energy saving measures			Total
			There are in place but i am not Familiar with Them	There are in place, i am Familiar with Them	No Idea	
Profession	Science and Engineering Fields	Count	16	10	20	46
		% within Profession	34,8%	21,7%	43,5%	100,0%
		% of Total	3,6%	2,2%	4,4%	10,2%
	Associate professionals in science and engineering	Count	5	4	10	19
		% within Profession	26,3%	21,1%	52,6%	100,0%
		% of Total	1,1%	0,9%	2,2%	4,2%
	Health Professionals	Count	17	17	18	52
		% within Profession	32,7%	32,7%	34,6%	100,0%
		% of Total	3,8%	3,8%	4,0%	11,6%
	Associate Health Professionals	Count	11	7	11	29
		% within Profession	37,9%	24,1%	37,9%	100,0%
		% of Total	2,4%	1,6%	2,4%	6,4%
	Managers	Count	20	20	10	50
		% within Profession	40,0%	40,0%	20,0%	100,0%
		% of Total	4,4%	4,4%	2,2%	11,1%
	Office workers	Count	32	14	27	73
		% within Profession	43,8%	19,2%	37,0%	100,0%
		% of Total	7,1%	3,1%	6,0%	16,2%
	Law, social and cultural professionals	Count	2	1	4	7
		% within Profession	28,6%	14,3%	57,1%	100,0%
		% of Total	0,4%	0,2%	0,9%	1,6%
	Security guards	Count	2	2	2	6
		% within Profession	33,3%	33,3%	33,3%	100,0%
		% of Total	0,4%	0,4%	0,4%	1,3%
		Count	22	11	16	49

	Educational Job Professionals	% within Profession	44,9%	22,4%	32,7%	100,0%
		% of Total	4,9%	2,4%	3,6%	10,9%
	Professional Members of Information and Communication Technology	Count	2	1	2	5
		% within Profession	40,0%	20,0%	40,0%	100,0%
		% of Total	0,4%	0,2%	0,4%	1,1%
	Student	Count	19	3	11	33
		% within Profession	57,6%	9,1%	33,3%	100,0%
		% of Total	4,2%	0,7%	2,4%	7,3%
	Non qualified jobs	Count	6	2	4	12
		% within Profession	50,0%	16,7%	33,3%	100,0%
		% of Total	1,3%	0,4%	0,9%	2,7%
	Professional Members of Business and Management	Count	2	0	0	2
		% within Profession	100,0%	0,0%	0,0%	100,0%
		% of Total	0,4%	0,0%	0,0%	0,4%
	Qualified Agriculture, Forestry and Fisheries Workers	Count	0	2	0	2
		% within Profession	0,0%	100,0%	0,0%	100,0%
		% of Total	0,0%	0,4%	0,0%	0,4%
	Position or cadre specified instead of profession	Count	25	19	21	65
		% within Profession	38,5%	29,2%	32,3%	100,0%
		% of Total	5,6%	4,2%	4,7%	14,4%
Total		Count	181	113	156	450
		% within Profession	40,2%	25,1%	34,7%	100,0%
		% of Total	40,2%	25,1%	34,7%	100,0%

The relationship between the energy saving measures taken in the subject buildings and the professions of the building users was also examined within the scope of the survey. Before looking at the distribution of occupational groups within themselves, it is useful to look at the sample group in general. It was revealed that 35% of the participants did not have knowledge or idea about this issue. About %40 of the participants said that they were aware of the existence of some measures, but that they had no knowledge or idea about them. A quarter of the respondents (25%) of the sample group aware about the measures taken

The sample group is knowledgeable about energy efficiency and saving¹². But the vast majority of the sample (75%) does not know or knows little about the energy saving measures in their buildings.

- About half of professionals working in the field of science and engineering (43%) stated that they had no idea about energy saving measures. 38% of the participants in this occupational group said that some precautions were taken, but they had no idea about them. Merely 22% stated that there were some measures on energy saving taken and they were fully aware of them. It is understood that approximately 78% of this occupational group is either not aware of or has little idea about the energy saving measures in their buildings¹³.
- More than half (53%) of auxiliary personnel working in the field of science and engineering declared that they had no idea about this issue. 26% of this group stated that some measures were taken but they did not have much idea about them; about 21% of them also stated that there some measures on energy saving taken and they were fully aware of these measures.
- About out of every 3 people (35%) of the health professionals stated that they had no idea about this issue. 33% of the health professionals said that some measures were taken but they did not have much idea about them; 33% stated that there were some measures taken and that he was fully aware of them.
- Approximately 21% of the auxiliary personnel working in the field of health did not answer this question; one out of every 3 people (38%) of the auxiliary personnel working in the field of health declared that they had no idea about this issue. Again 38% of the auxiliary personnel working in this field stated that some measures were taken but they did not have much idea about them; about a quarter (24%) stated that there were some measures taken and they were fully aware of them.
- 20% of managers also declared that he had no idea about this issue. 40% of this occupational group stated that some measures were taken but they did not have much idea about them; again 40% also stated that there were measures taken and they were fully aware of them.
- It is natural that managers would be expected to know more about energy saving measures in their buildings. However, within this executive group; hospitals, universities, administrative buildings have directors of different business lines (editor-in-chief, executive director, etc.). The branches of managers and units they manage and energy saving issues do not intersect much. However, it is still professional group managers who are fully aware of energy saving measures in the context of their internal distribution of the professions.
- 37% of office workers stated that they had no idea about this issue.

¹² Bar Table 11 and Bar Table 12

¹³ As a self-criticism: the lack of an option such as "there are no energy saving measures in our building" in this question may also have influenced the findings. However, in the last question of the survey ("Is there anything you would like to add?"), the participants did not give feedback about this deficiency.

- 44 % of the participants in this occupational group stated that some measures were taken but they did not have much idea about them; 19.2% stated that there are measures taken and they are fully aware of them.
- 57% of the members of law, social and cultural professions stated that they had no idea about this issue. About out of every 4 people (26.6%) of this group stated that some measures were taken but they did not have much idea about them; 14% stated that there are measures taken and they are fully aware of them.
 - When we look at the security guards, a partially homogeneous distribution stands out. 33.3% of this group stated that they had no idea about this issue. 33.3 % of the participants in this occupational group stated that some measures were taken but they did not have much idea about them; again 33.3% stated that there are measures taken and they are fully aware of them.
 - 32.7% of education professionals stated that they had no idea about this issue. About half of this group (44.9%) of this group stated that some measures were taken but they did not have much idea about them; only 22.4% stated that there were measures taken and they were fully aware of them.
 - 40% of Professional Members of Information and Communication Technology stated that they had no idea about this issue. 40% of this group stated that some measures were taken but they did not have much idea about them; 20% stated that there were measures taken and they were fully aware of them.
 - Considering the level of knowledge of the students about energy saving, it is seen that; one out of every 3 students have no idea about this subject (33.3%). More than half (58%) of the students stated that some measures were taken but they had no idea about them; 9% stated that there are measures taken and they are fully aware of them.
 - Half of the non-qualified workers stated that they had no idea about this issue (50%). 33% of this group stated that some measures were taken but they did not have much idea about them; 17% stated that there were measures taken and they were fully aware of them.
 - All of the Professional Members of Business and Management (2 person) said that there are measures taken and they are fully aware of them.
 - All of the Qualified Agriculture, Forestry and Fisheries Workers (2 person) said that there are measures taken and they are fully aware of them.
 - 32% of the participants who stated position or cadre instead of professions stated that they had no idea about this issue. 38.5% of this group stated that some measures were taken but they did not have much idea about them; 17% stated that there were measures taken and they were fully aware of them

Cross Table 18.The Relationship Between Occupation and The Meaning of Energy Efficiency

Profession * The Meaning of Energy Efficiency Crosstabulation							
			The Meaning of Energy Efficiency				Total
			Using less energy	Using cheap energy source	Living and working in cold, hot and dark environments	To use energy efficiently by using modern systems by creating a comfortable living space	
Profession	Science and Engineering Fields	Count	0	0	0	46	46
		% within Profession	0,0%	0,0%	0,0%	100,0%	100,0%
		% of Total	0,0%	0,0%	0,0%	10,2%	10,2%
	Associate professionals in science and engineering	Count	3	1	0	15	19
		% within Profession	15,8%	5,3%	0,0%	78,9%	100,0%
		% of Total	0,7%	0,2%	0,0%	3,3%	4,2%
	Health Professionals	Count	1	1	0	50	52
		% within Profession	1,9%	1,9%	0,0%	96,2%	100,0%
		% of Total	0,2%	0,2%	0,0%	11,1%	11,6%
	Associate Health Professionals	Count	0	0	1	28	29
		% within Profession	0,0%	0,0%	3,4%	96,6%	100,0%
		% of Total	0,0%	0,0%	0,2%	6,2%	6,4%

	Managers	Count	5	2	0	43	50
		% within Profession	10,0%	4,0%	0,0%	86,0%	100,0%
		% of Total	1,1%	0,4%	0,0%	9,6%	11,1%
	Office workers	Count	2	2	1	68	73
		% within Profession	2,7%	2,7%	1,4%	93,2%	100,0%
		% of Total	0,4%	0,4%	0,2%	15,1%	16,2%
	Law, social and cultural professionals	Count	0	0	0	7	7
		% within Profession	0,0%	0,0%	0,0%	100,0%	100,0%
		% of Total	0,0%	0,0%	0,0%	1,6%	1,6%
	Security guards	Count	1	0	0	5	6
		% within Profession	16,7%	0,0%	0,0%	83,3%	100,0%
		% of Total	0,2%	0,0%	0,0%	1,1%	1,3%
	Educational Job Professionals	Count	0	0	0	49	49
		% within Profession	0,0%	0,0%	0,0%	100,0%	100,0%
		% of Total	0,0%	0,0%	0,0%	10,9%	10,9%
	Professional Members of Information and Communication Technology	Count	0	0	0	5	5
		% within Profession	0,0%	0,0%	0,0%	100,0%	100,0%
		% of Total	0,0%	0,0%	0,0%	1,1%	1,1%
	Student	Count	1	0	0	32	33
		% within Profession	3,0%	0,0%	0,0%	97,0%	100,0%

		% of Total	0,2%	0,0%	0,0%	7,1%	7,3%
	Non qualified jobs	Count	1	2	0	9	12
		% within Profession	8,3%	16,7%	0,0%	75,0%	100,0%
		% of Total	0,2%	0,4%	0,0%	2,0%	2,7%
	Professional Members of Business and Management	Count	0	0	0	2	2
		% within Profession	0,0%	0,0%	0,0%	100,0%	100,0%
		% of Total	0,0%	0,0%	0,0%	0,4%	0,4%
	Qualified Agriculture, Forestry and Fisheries Workers	Count	0	0	0	2	2
		% within Profession	0,0%	0,0%	0,0%	100,0%	100,0%
		% of Total	0,0%	0,0%	0,0%	0,4%	0,4%
	Position or cadre specified instead of profession	Count	10	1	2	52	65
		% within Profession	15,4%	1,5%	3,1%	80,0%	100,0%
		% of Total	2,2%	0,2%	0,4%	11,6%	14,4%
Total		Count	24	9	4	413	450
		% within Profession	5,3%	2,0%	0,9%	91,8%	100,0%
		% of Total	5,3%	2,0%	0,9%	91,8%	100,0%

Energy efficiency and energy saving are two concepts that are very confused with each other. Energy conservation is a behavior that leads to less use of energy. Energy efficiency is the development/use of technology and software that requires less energy to perform the same function.¹⁴ The vast majority of participants, about 92%, were clustered with the option "Using energy efficiently with using modern systems and consuming less to create comfortable living and working environments". This finding shows us that approximately 92% of the sample group knows the meaning of energy efficiency. Around 5% of participants used energy as little as possible; 2% answered "using cheap energy sources" and about 1% answered "living and working in cold, hot and dark environments". To focus on the distribution of answers to this questions of the professions within themselves:

- All members of professionals who are working in the field of science and engineering have given the correct answer to this question by selecting the option "Using energy efficiently by using modern systems and consuming as little as possible in a way to create comfortable living and working environments."
- Members of the auxiliary professionals who are working in the field of science and engineering answered this question less correctly than other occupational categories. Approximately 79% of the participants in this group answered "Using energy efficiently by using modern systems and consuming as little as possible to create comfortable living and working environments". Approximately 16% of the assistant professionals who are working in the field of science and engineering interpreted "using energy as little as possible" and about 5% interpreted "using cheap energy sources" as using energy efficiently.
- Almost all of participants (about 96%) in the occupational category of health professionals answered this question by "Using energy efficiently by using modern systems and consuming as little as possible in a way to create comfortable living and working environments." 2% of participants answered this question as "using energy as little as possible" and about 2% of participants answered "using cheap energy sources."
- 86% of managers answered this question correctly by selecting the option "Using energy efficiently by using modern systems and consuming as little as possible to create comfortable living and working environments". 4% of participants in this group also selected the option to "use cheap energy sources".
- Approximately 93% of office workers answered this question as "using energy efficiently by using modern systems and consuming as little as possible in a way to create comfortable living and working environments." 3% of participants answered "using energy as little as possible", about 3% of participants answered "using cheap energy sources" and about 1% answered this question "living and working in cold, hot and dark environments"

¹⁴ <https://www.ent.es.com.tr/enerji-verimlilik-nedir-enerji-tasarrufu-nedir/>

- All members of professionals related to law, social and culture have given the correct answer to this question by selecting the option "Using energy efficiently by using modern systems and consuming as little as possible in a way to create comfortable living and working environments".
- Approximately 83% of the security guards in the sample group gave the correct answer by selecting the option "Using energy efficiently by using modern systems and consuming as little as possible to create comfortable living and working environments". About 17% of respondents in this group also selected the option.
- All members of professionals related to education have given the correct answer to this question by selecting the option "Using energy efficiently by using modern systems and consuming as little as possible in a way to create comfortable living and working environments."
- All of professionals related to information and communication technology have given the correct answer to this question by selecting the option "Using energy efficiently by using modern systems and consuming as little as possible in a way to create comfortable living and working environments"
- Almost all of students (97%) interpreted "Using energy efficiently by using modern systems and consuming as little as possible to create comfortable living and working environments" and 3% interpreted "using energy as little as possible" as using energy efficiently
- Among occupational groups, the occupational category that gave the lowest correct answer to this question was "those who work in jobs that do not require qualifications". 75% of the participants in this group answered correctly by selecting the option "Using energy efficiently by using modern systems and consuming as little as possible to create comfortable living and working environments". Approximately 17% of those in this occupational category answered "using cheap energy sources" and about 8% answered "using energy as little as possible".
- All members of professionals related to business and management have given the correct answer to this question by selecting the option "Using energy efficiently by using modern systems and consuming as little as possible in a way to create comfortable living and working environments".
- All qualified agriculture, forestry and aquaculture workers answered this question correctly by selecting the option "Using energy efficiently by using modern systems and consuming as little as possible in a way to create comfortable living and working environments".
- 80% of participants who stated a task or staff instead of a profession answered correctly by selecting the option "Using energy efficiently by using modern systems and consuming as little as possible to create comfortable living and working environments". In this group, 15.4% of participants answered "using energy as little as possible", 3.1% of participants answered "living and working in cold, hot and dark environments" and 1.5% of participants answered "using cheap energy sources".

Cross Table 19.The Relationship Between Occupation and Application Not Included in Energy Efficiency Measures

Profession * Application Not Included in Energy Efficiency Measures Crosstabulation							
			Application Not Included in Energy Efficiency Measures				Total
			Solar system panels	Exterior insulation	use of individual air conditioning	Improvement of Windows and doors	
Profession	Science and Engineering Fields	Count	2	1	42	1	46
		% within Profession	4,3%	2,2%	91,3%	2,2%	100,0%
		% of Total	0,4%	0,2%	9,3%	0,2%	10,2%
	Associate professionals in science and engineering	Count	1	1	16	1	19
		% within Profession	5,3%	5,3%	84,2%	5,3%	100,0%
		% of Total	0,2%	0,2%	3,6%	0,2%	4,2%
	Health Professionals	Count	1	1	49	1	52
		% within Profession	1,9%	1,9%	94,2%	1,9%	100,0%
		% of Total	0,2%	0,2%	10,9%	0,2%	11,6%
	Associate Health Professionals	Count	0	0	27	2	29
		% within Profession	0,0%	0,0%	93,1%	6,9%	100,0%
		% of Total	0,0%	0,0%	6,0%	0,4%	6,4%
	Managers	Count	5	1	42	2	50
		% within Profession	10,0%	2,0%	84,0%	4,0%	100,0%
		% of Total	1,1%	0,2%	9,3%	0,4%	11,1%
	Office workers	Count	2	1	64	6	73

		% within Profession	2,7%	1,4%	87,7%	8,2%	100,0%
		% of Total	0,4%	0,2%	14,2%	1,3%	16,2%
	Law, social and cultural professionals	Count	0	0	7	0	7
		% within Profession	0,0%	0,0%	100,0%	0,0%	100,0%
		% of Total	0,0%	0,0%	1,6%	0,0%	1,6%
	Security guards	Count	0	0	6	0	6
		% within Profession	0,0%	0,0%	100,0%	0,0%	100,0%
		% of Total	0,0%	0,0%	1,3%	0,0%	1,3%
	Educational Job Professionals	Count	3	0	45	1	49
		% within Profession	6,1%	0,0%	91,8%	2,0%	100,0%
		% of Total	0,7%	0,0%	10,0%	0,2%	10,9%
	Professional Members of Information and Communication Technology	Count	0	0	5	0	5
		% within Profession	0,0%	0,0%	100,0%	0,0%	100,0%
		% of Total	0,0%	0,0%	1,1%	0,0%	1,1%
	Student	Count	1	0	31	1	33
		% within Profession	3,0%	0,0%	93,9%	3,0%	100,0%
		% of Total	0,2%	0,0%	6,9%	0,2%	7,3%
	Non qualified jobs	Count	1	3	7	1	12
		% within Profession	8,3%	25,0%	58,3%	8,3%	100,0%
		% of Total	0,2%	0,7%	1,6%	0,2%	2,7%

	Professional Members of Business and Management	Count	0	0	2	0	2
		% within Profession	0,0%	0,0%	100,0%	0,0%	100,0%
		% of Total	0,0%	0,0%	0,4%	0,0%	0,4%
	Qualified Agriculture, Forestry and Fisheries Workers	Count	0	0	2	0	2
		% within Profession	0,0%	0,0%	100,0%	0,0%	100,0%
		% of Total	0,0%	0,0%	0,4%	0,0%	0,4%
	Position or cadre specified instead of profession	Count	5	2	57	1	65
		% within Profession	7,7%	3,1%	87,7%	1,5%	100,0%
		% of Total	1,1%	0,4%	12,7%	0,2%	14,4%
Total		Count	21	10	402	17	450
		% within Profession	4,7%	2,2%	89,3%	3,8%	100,0%
		% of Total	4,7%	2,2%	89,3%	3,8%	100,0%

In addition to know the meaning of energy efficiency, the level of knowledge and awareness of the participant group for energy efficiency applications was also curious. And in this context, participants were asked about the practices that are not included in the energy efficiency measures. About 89% of the sample group answered correctly by selecting the option "individual air conditioning use". From this point of view, it is understood that the majority of participants know the application that is not included in the energy efficiency measures.

Approximately 5% of the sample group answered "solar energy panels", about 4% of participants answered "improvement of doors and windows" and about 2% of participants answered "exterior insulation". To summarize answers given to this question by individual occupational groups themselves:

- 91.3% of professionals, working in the field of science and engineering answered the question correctly by selecting the option of "individual air conditioning use". When the correct answer rate of other professional groups to this question is examined, it can be expected that the correct answer rate of professionals who are working in the field of science and engineering will be higher.
- 84.2% of assistant professionals working in the field of science and engineering answered "individual air conditioning use". The distribution to the other options has been even: 5.3% (1 person) answered "exterior insulation", 5.3% (1 person) "solar panels" and 5.3% (1 person) "improvement of doors and windows".
- Looking at the distribution of health professionals' responses to this question, almost all of them (about 94%) answered "individual air conditioning use"; about 2% marked "solar panels", 2% "exterior insulation" and 2% "improvement of doors and windows".
- Almost all of health professional assistants (about 93%) answered the question correctly by selecting the "use of individual air conditioning" option. Approximately 7% of respondents in this occupational category stated that "improving doors and windows" is a practice of energy efficiency measures.
- 84% of managers answered "individual air conditioning use", 10% "solar energy panels", 4% "improvement of doors and windows" and 2% "exterior insulation".
- When the distribution of answers of office workers to this question are examined, it is seen that approximately 88% of them are answered by selecting the option of "individual air conditioning use", about 8% of them are "improvement of doors and windows", about 3% of them are "solar energy panels" and about 1% of them are "exterior insulation".
- All members of professionals related to law, social and cultural have correctly answered this question by selecting the option of "use of individual air conditioning".
- All of security guards answered correctly by selecting the option of "individual air conditioning" in this question.
- Almost all of professionals involved in education (approximately 92%) answered the question correctly by selecting the option "individual air conditioning use".
- All members of professionals related to information and communication technology answered correctly by selecting the option "use of individual air conditioning" in this question.

- It is seen that students who have high knowledge and awareness on this subject. Approximately 94% of students in the sample group selected "individual air conditioning use", 3% "improvement of doors and windows" and again 3% "solar energy panels"
- Participants in the category of professions that do not require qualifications are the group that gives the least correct answer to this question. Only 58.3% of those in this occupational group answered correctly (individual air conditioning use) A quarter (25%) of the participants in this group answered by selecting the option "exterior insulation", 8.3% (1 person) answered "improvement of doors and windows" and 8.3% answered "solar energy panels".
- All members of professionals related to business and management answered correctly by selecting the option "individual air conditioning use" in this question.
- All qualified agricultural, forestry and aquaculture workers answered correctly by selecting the option of "individual air conditioning use" in this question
- Finally, when the proportional distribution of participants who stated duties or staff instead of professions is examined, it is seen that 87.7% answered the question by selecting "individual air conditioning use", 7.72% "solar energy panels", 3.1% answered "exterior insulation" and 1.5% "improvement of doors and windows".

Cross Table 20.The Relationship Between Occupation and Opinions on the Importance of Energy Efficiency Trainings

Profession * Opinions on the Importance of energy efficiency trainings Crosstabulation								
			Opinions on the Importance of energy efficiency trainings					Total
			Very important	A little important	No idea	Not very important	Not important	
Profession	Science and Engineering Fields	Count	41	2	2	1	0	46
		% within Profession	89,1%	4,3%	4,3%	2,2%	0,0%	100,0%
		% of Total	9,1%	0,4%	0,4%	0,2%	0,0%	10,2%
		Count	18	0	1	0	0	19

	Associate professionals in science and engineering	% within Profession	94,7%	0,0%	5,3%	0,0%	0,0%	100,0%
		% of Total	4,0%	0,0%	0,2%	0,0%	0,0%	4,2%
	Health Professionals	Count	45	4	2	0	1	52
		% within Profession	86,5%	7,7%	3,8%	0,0%	1,9%	100,0%
		% of Total	10,0%	0,9%	0,4%	0,0%	0,2%	11,6%
	Associate Health Professionals	Count	25	3	1	0	0	29
		% within Profession	86,2%	10,3%	3,4%	0,0%	0,0%	100,0%
		% of Total	5,6%	0,7%	0,2%	0,0%	0,0%	6,4%
	Managers	Count	44	4	2	0	0	50
		% within Profession	88,0%	8,0%	4,0%	0,0%	0,0%	100,0%
		% of Total	9,8%	0,9%	0,4%	0,0%	0,0%	11,1%
	Office workers	Count	64	5	4	0	0	73
		% within Profession	87,7%	6,8%	5,5%	0,0%	0,0%	100,0%
		% of Total	14,2%	1,1%	0,9%	0,0%	0,0%	16,2%
	Law, social and cultural professionals	Count	7	0	0	0	0	7
		% within Profession	100,0%	0,0%	0,0%	0,0%	0,0%	100,0%
		% of Total	1,6%	0,0%	0,0%	0,0%	0,0%	1,6%
	Security guards	Count	6	0	0	0	0	6
		% within Profession	100,0%	0,0%	0,0%	0,0%	0,0%	100,0%
		% of Total	1,3%	0,0%	0,0%	0,0%	0,0%	1,3%

	Educational Job Professionals	Count	43	6	0	0	0	49
		% within Profession	87,8%	12,2%	0,0%	0,0%	0,0%	100,0%
		% of Total	9,6%	1,3%	0,0%	0,0%	0,0%	10,9%
	Professional Members of Information and Communication Technology	Count	5	0	0	0	0	5
		% within Profession	100,0%	0,0%	0,0%	0,0%	0,0%	100,0%
		% of Total	1,1%	0,0%	0,0%	0,0%	0,0%	1,1%
	Student	Count	28	3	1	1	0	33
		% within Profession	84,8%	9,1%	3,0%	3,0%	0,0%	100,0%
		% of Total	6,2%	0,7%	0,2%	0,2%	0,0%	7,3%
	Non qualified jobs	Count	12	0	0	0	0	12
		% within Profession	100,0%	0,0%	0,0%	0,0%	0,0%	100,0%
		% of Total	2,7%	0,0%	0,0%	0,0%	0,0%	2,7%
	Professional Members of Business and Management	Count	2	0	0	0	0	2
		% within Profession	100,0%	0,0%	0,0%	0,0%	0,0%	100,0%
		% of Total	0,4%	0,0%	0,0%	0,0%	0,0%	0,4%
	Qualified Agriculture, Forestry and Fisheries Workers	Count	2	0	0	0	0	2
		% within Profession	100,0%	0,0%	0,0%	0,0%	0,0%	100,0%
		% of Total	0,4%	0,0%	0,0%	0,0%	0,0%	0,4%
	Position or cadre specified instead of profession	Count	58	6	1	0	0	65
		% within Profession	89,2%	9,2%	1,5%	0,0%	0,0%	100,0%

	% of Total	12,9%	1,3%	0,2%	0,0%	0,0%	14,4%
Total	Count	400	33	14	2	1	450
	% within Profession	88,9%	7,3%	3,1%	0,4%	0,2%	100,0%
	% of Total	88,9%	7,3%	3,1%	0,4%	0,2%	100,0%

The relationship between the importance attributed to energy efficiency and the profession was another subject that was wondered in this study. Although this information is included in Bar Table 14, it is thought that it would be useful to remember. Approximately 89% of the sample group thinks that energy efficiency training is very important, 7.3% is a little important, 3.1% has no opinion on this issue, 0.4% is not important and 0.2% is not important at all.

- A very large proportion of professionals working in science and engineering (about 89%) think that education in energy efficiency is very important, 4.3% of participants think that it is a little bit important, 4.3% of participants do not have an opinion on this issue and 2.2% of participants do not care.
- Almost all (approximately 95%) of assistants working in the field of science and engineering stated that training on energy efficiency is very important. About 5% of participants in this group said that they did not have an opinion on this issue.
- When distribution of answers of health professionals to this question are examined, 86.5% of the group believe that energy efficiency trainings are very important, 7.7% think that it is a little bit important, 3.8% of participants do not have an opinion on this issue and 1.9% of participants do not care at all.
- A large proportion of health Professional assistants (approximately 89%) stated that training on energy efficiency was very important and 10.3% stated that it was somewhat important. 3.4% of the participants in this occupational category stated that they did not have an opinion on this issue.
- 88% of executives say that training on energy efficiency is very important, 8% of thinks that it is a bit important and 4% have no idea about it.
- 87.7% of the office workers stated that these trainings were very important, 6.8% stated that they were a little important and 5.5% stated that they had no idea.
- All members of professionals related to law, social and cultural relations said that they consider training on energy efficiency very important.
- All of security officers stated that their training on energy efficiency is very important.
- When proportional distribution of professionals related to education is examined, it is seen that approximately 88% of them select the very important option in this question and about 7% of them select the slightly important option.

- All of professionals related to information and communication technology said that they consider training on energy efficiency very important.
- Approximately 85% of students think that training on energy efficiency is very important, about 9% think that it is a little important, 3% do not have an opinion on this issue and 3% think that it is not important.
- All participants in the profession category which do not require qualifications stated that their training on energy efficiency is very important
- All members of professionals related to business and management said that they consider training on energy efficiency very important.
- Qualified agriculture, forestry and agriculture employees stated that they consider training on energy efficiency is very important.
- Finally, when proportional distribution of participants who stated duties or staff instead of professions is examined, it is seen that approximately 89% of participants in this group chose options that are very important, about 3% are slightly important, 0.4% are not important and 0.2% are not important at all.

Cross Table 21.The Relationship Between Occupation and The Status of Having Knowledge About the Practices Made in the Institution Related to Energy Efficiency Studies

Profession * The Status of Having Knowledge About the Practices Made in the Institution Related to Energy Efficiency Studies Crosstabulation							
			The Status of Having Knowledge About the Practices Made in the Institution Related to Energy Efficiency Studies				Total
			Well informed	Partially informed	No idea	There is no such an application	
Profession	Science and Engineering Fields	Count	12	20	12	2	46
		% within Profession	26,1%	43,5%	26,1%	4,3%	100,0%
		% of Total	2,7%	4,4%	2,7%	0,4%	10,2%
		Count	5	11	2	1	19

	Associate professionals in science and engineering	% within Profession	26,3%	57,9%	10,5%	5,3%	100,0%
		% of Total	1,1%	2,4%	0,4%	0,2%	4,2%
	Health Professionals	Count	11	23	17	1	52
		% within Profession	21,2%	44,2%	32,7%	1,9%	100,0%
		% of Total	2,4%	5,1%	3,8%	0,2%	11,6%
	Associate Health Professionals	Count	3	15	10	1	29
		% within Profession	10,3%	51,7%	34,5%	3,4%	100,0%
		% of Total	0,7%	3,3%	2,2%	0,2%	6,4%
	Managers	Count	19	21	6	4	50
		% within Profession	38,0%	42,0%	12,0%	8,0%	100,0%
		% of Total	4,2%	4,7%	1,3%	0,9%	11,1%
	Office workers	Count	6	34	24	9	73
		% within Profession	8,2%	46,6%	32,9%	12,3%	100,0%
		% of Total	1,3%	7,6%	5,3%	2,0%	16,2%
	Law, social and cultural professionals	Count	2	4	1	0	7
		% within Profession	28,6%	57,1%	14,3%	0,0%	100,0%
		% of Total	0,4%	0,9%	0,2%	0,0%	1,6%
	Security guards	Count	1	3	2	0	6
		% within Profession	16,7%	50,0%	33,3%	0,0%	100,0%
		% of Total	0,2%	0,7%	0,4%	0,0%	1,3%

	Educational Job Professionals	Count	10	19	19	1	49
		% within Profession	20,4%	38,8%	38,8%	2,0%	100,0%
		% of Total	2,2%	4,2%	4,2%	0,2%	10,9%
	Professional Members of Information and Communication Technology	Count	0	2	2	1	5
		% within Profession	0,0%	40,0%	40,0%	20,0%	100,0%
		% of Total	0,0%	0,4%	0,4%	0,2%	1,1%
	Student	Count	1	12	20	0	33
		% within Profession	3,0%	36,4%	60,6%	0,0%	100,0%
		% of Total	0,2%	2,7%	4,4%	0,0%	7,3%
	Non qualified jobs	Count	3	6	2	1	12
		% within Profession	25,0%	50,0%	16,7%	8,3%	100,0%
		% of Total	0,7%	1,3%	0,4%	0,2%	2,7%
	Professional Members of Business and Management	Count	0	2	0	0	2
		% within Profession	0,0%	100,0%	0,0%	0,0%	100,0%
		% of Total	0,0%	0,4%	0,0%	0,0%	0,4%
	Qualified Agriculture, Forestry and Fisheries Workers	Count	1	1	0	0	2
		% within Profession	50,0%	50,0%	0,0%	0,0%	100,0%
		% of Total	0,2%	0,2%	0,0%	0,0%	0,4%
	Position or cadre specified instead of profession	Count	15	23	27	0	65
		% within Profession	23,1%	35,4%	41,5%	0,0%	100,0%

		% of Total	3,3%	5,1%	6,0%	0,0%	14,4%
Total		Count	89	196	144	21	450
		% within Profession	19,8%	43,6%	32,0%	4,7%	100,0%
		% of Total	19,8%	43,6%	32,0%	4,7%	100,0%

Before examining the individual occupational groups, it is useful to look at the sample group in general and compare it with Cross Table 17. Approximately 32% of the participants said that they had no idea about the energy efficiency measures applied in the buildings where they worked/studied. This rate is 33% in Cross-Table 17 for energy saving.

Around 20% of respondents said they were fully familiar with the energy-efficiency practices in their buildings. This rate is 25% in the question of energy saving. It is seen that the sample group predominantly (43.6%) answers this question with "I have some knowledge". In the question about energy conservation (Crosstab 17), the option "I have heard something but I don't have much idea" is semantically close to each other. As seen in Crosstab 17, 40% of the sample group answered "I heard something, but I don't have much idea." 4.7% of the participants stated that there is no application related to energy efficiency in their buildings

To briefly touch on answers that were given by professional groups to this question which is related to energy efficiency applications:

- Approximately 26% of professionals working in the field of science and engineering stated that they are fully familiar with the applications related to energy efficiency in the buildings they work in, 43.5% know a little, and about 26% of them do not have information about this subject. Approximately 4% of those in this occupational group stated that there is no application related to energy efficiency in their buildings.
- Approximately 26% of associate professionals working in the field of science and engineering said that they are fully familiar with the energy efficiency practices in the buildings they work in, about 58% said that they know a little, and 10.5% said that they do not have an idea/knowledge of the energy efficiency practices in their buildings. Approximately 5% of the participants in this occupational category stated that there is no application related to energy efficiency in their buildings.
- Approximately one fifth (21.2%) of health professionals stated that they are fully familiar with energy efficiency practices in the buildings they work in, approximately 44% know a little, 12% do not have an idea/knowledge of the energy efficiency practices in their buildings, and 8% do not have any application regarding energy efficiency in their buildings.
- More than one-third (38%) of managers stated that they are fully familiar with energy efficiency practices in the buildings they serve, approximately 42% know a little, approximately 12% do not have an idea/knowledge of the energy efficiency practices in their buildings, and 8% declare that there is no application for energy efficiency in their buildings.
- Approximately 8% members of the office workers stated that they are fully familiar with energy efficiency practices in the buildings they work in, about 47% know a little, and about 33% of them do not have information on this subject. Approximately 12% of those in this occupational group stated that there is no application related to energy efficiency in their buildings
- More than a quarter (about 29%) of legal, social and culturally related professionals said they were fully familiar with energy efficiency practices in the buildings they serve, more than half (about 57%) knew a little, and about 14% said they had no knowledge of the subject.
- 16% of security guards in the sample group stated that they were fully familiar with energy efficiency practices in the buildings they served, half (50%) knew a little, and about 33% did not have information on this subject.
- One-fifth (approximately 20%) of professional professionals related to education stated that they are fully familiar with the energy efficiency practices in buildings they train, about 39% know a little, and about 39% do not have knowledge of this subject. Approximately 2% of those in this occupational group stated that there is no application related to energy efficiency in their buildings.
- None of professionals related to information and communication technology are fully familiar with energy efficiency practices in buildings, and 40% of them declare that they know a little,

40% of them do not have an idea/knowledge of the energy efficiency practices in their buildings and 20% of them declare that there is no application related to energy efficiency in their buildings.

- A quarter (25%) of participants in the non-qualified occupational category stated that they were fully familiar with energy efficiency practices in buildings they served, half (50%) knew a little, and about 17% did not know about this subject. Approximately 8% of those in this occupational group stated that there is no application related to energy efficiency in their buildings.
- All members of professionals related to business and management (2 people) stated that they knew a little about the applications related to energy efficiency in the buildings where they worked.
- Half of qualified agriculture, forestry and aquaculture workers (1 person) are completely unfamiliar with energy efficiency practices in buildings, and half (50%) said they know a little.
- Approximately 23% of participants who stated duty or staff instead of profession think that they fully knew the applications related to energy efficiency in the buildings they worked in, 35% knew a little and about 42% stated that they did not have information about this subject.

Cross Table 22.The Relationship Between Occupation and Level of Knowledge on Energy Efficiency, Renewable Energy Resources and Climate Change

Profession * Level of Knowledge on Energy Efficiency, Renewable Energy Resources and Climate Change Crosstabulation							
			Level of Knowledge on Energy Efficiency, Renewable Energy Resources and Climate Change				Total
			Very knowledgable	Partially informed	No idea	No knowledge	
Profession	Science and Engineering Fields	Count	7	39	0	0	46
		% within Profession	15,2%	84,8%	0,0%	0,0%	100,0%
		% of Total	1,6%	8,7%	0,0%	0,0%	10,2%
	Associate professionals in science and engineering	Count	1	17	0	1	19
		% within Profession	5,3%	89,5%	0,0%	5,3%	100,0%
		% of Total	0,2%	3,8%	0,0%	0,2%	4,2%
	Health Professionals	Count	5	42	5	0	52
		% within Profession	9,6%	80,8%	9,6%	0,0%	100,0%
		% of Total	1,1%	9,3%	1,1%	0,0%	11,6%
	Associate Health Professionals	Count	1	27	1	0	29
		% within Profession	3,4%	93,1%	3,4%	0,0%	100,0%
		% of Total	0,2%	6,0%	0,2%	0,0%	6,4%
	Managers	Count	13	36	1	0	50
		% within Profession	26,0%	72,0%	2,0%	0,0%	100,0%

	% of Total	2,9%	8,0%	0,2%	0,0%	11,1%
Office workers	Count	4	65	3	1	73
	% within Profession	5,5%	89,0%	4,1%	1,4%	100,0%
	% of Total	0,9%	14,4%	0,7%	0,2%	16,2%
Law, social and cultural professionals	Count	1	6	0	0	7
	% within Profession	14,3%	85,7%	0,0%	0,0%	100,0%
	% of Total	0,2%	1,3%	0,0%	0,0%	1,6%
Security guards	Count	0	6	0	0	6
	% within Profession	0,0%	100,0%	0,0%	0,0%	100,0%
	% of Total	0,0%	1,3%	0,0%	0,0%	1,3%
Educational Job Professionals	Count	19	28	2	0	49
	% within Profession	38,8%	57,1%	4,1%	0,0%	100,0%
	% of Total	4,2%	6,2%	0,4%	0,0%	10,9%
Professional Members of Information and Communication Technology	Count	0	5	0	0	5
	% within Profession	0,0%	100,0%	0,0%	0,0%	100,0%
	% of Total	0,0%	1,1%	0,0%	0,0%	1,1%
Student	Count	3	29	1	0	33
	% within Profession	9,1%	87,9%	3,0%	0,0%	100,0%
	% of Total	0,7%	6,4%	0,2%	0,0%	7,3%
Non qualified jobs	Count	2	9	1	0	12

		% within Profession	16,7%	75,0%	8,3%	0,0%	100,0%
		% of Total	0,4%	2,0%	0,2%	0,0%	2,7%
	Professional Members of Business and Management	Count	0	2	0	0	2
		% within Profession	0,0%	100,0%	0,0%	0,0%	100,0%
		% of Total	0,0%	0,4%	0,0%	0,0%	0,4%
	Qualified Agriculture, Forestry and Fisheries Workers	Count	1	1	0	0	2
		% within Profession	50,0%	50,0%	0,0%	0,0%	100,0%
		% of Total	0,2%	0,2%	0,0%	0,0%	0,4%
	Position or cadre specified instead of profession	Count	10	48	5	2	65
		% within Profession	15,4%	73,8%	7,7%	3,1%	100,0%
		% of Total	2,2%	10,7%	1,1%	0,4%	14,4%
	Total	Count	67	360	19	4	450
		% within Profession	14,9%	80,0%	4,2%	0,9%	100,0%
		% of Total	14,9%	80,0%	4,2%	0,9%	100,0%

Before examining the relationship between occupation and level of knowledge on Energy Efficiency, Renewable Energy Sources and Climate Change, it is useful to remember Bar Table 15. of the sample group, 80% said they were partially knowledgeable about energy efficiency, renewables and climate change, about 15% were very knowledgeable, about 1% had no knowledge at all, and about 4% had no idea about it. In other words, more than three-quarters of participants described themselves as partially knowledgeable on this subject.

- Approximately 85% of professionals working in science and engineering consider themselves to be partially knowledgeable about energy efficiency, renewable energy sources and climate change, in parallel with the entire sample group. About 15% of this occupational group said that they were very knowledgeable.
- Of the associate professionals working in the field of science and engineering, 89.5% were partially knowledgeable to this question, 5.3% were very knowledgeable, and 5.3% stated that they had no knowledge at all. When we look at the proportional distribution of occupational categories within themselves, it is seen that the most "I have no idea" answer to this question comes from health professionals.
- 80.8% of health professionals stated that they were partially knowledgeable about energy efficiency, renewable energy sources and climate change, and 9.6% were very knowledgeable. 9.6% of those in this occupational category stated that they did not have an opinion on this issue.
- Almost all of health professional assistants (93.1%) selected "I am partially knowledgeable", 3.4% "very knowledgeable", and again 3.4% "no idea".
- 72% of managers stated that they were partially knowledgeable about energy efficiency, renewable energy sources and climate change, 26% were partially knowledgeable and 2% did not have an opinion on this issue.
- 89% of office workers stated that they were partially knowledgeable about energy efficiency, renewable energy sources and climate change, 5.5% were very knowledgeable, 4.1% had no idea and 1.4% had no knowledge at all.
- When the proportional distribution of legal, social and culturally related professionals is examined, it is seen that approximately 86% are partially knowledgeable about energy efficiency, renewable energy sources and climate change, and approximately 14% are very knowledgeable

- All of the security officials said they were partially knowledgeable about energy efficiency, renewable energy sources and climate change.
- When the proportional distribution of professions among themselves are examined, "I am very knowledgeable" answer was given by professionals related to education. Considering that this group is predominantly academic, this result is not a surprise. Approximately 57% of professionals related to education stated that they have some knowledge of energy efficiency, renewable energy sources and climate change, and about 4% of participants have no opinion on this issue.
- All of professionals related to information and communication technology stated that they were partially knowledgeable about energy efficiency, renewable energy sources and climate change
- Approximately 88% of students selected "I am partially knowledgeable", about 9% of participants selected "very knowledgeable" and 3% of participants selected "I have no idea" in this question.
- Three-quarters (75%) of participants in the non-qualified occupational category said they had some knowledge about energy efficiency, renewable energy sources and climate change, about 17% said they were very knowledgeable and about 8% said they had no opinion on this issue.
- Only 2 participants in the sample group are related to business and management professionals. All of participants in this occupational group stated that they were partially informed about this issue.
- In qualified agriculture, forestry and aquaculture workers, half (50%) of respondents were partly knowledgeable about energy efficiency, renewable energy sources and climate changes, and other half (50%) were very knowledgeable.
- Finally, 80% of participants who stated a task or staff instead of a profession have selected "I am partially knowledgeable", 15.4% of participants selected "I am very knowledgeable", 4.2% of participants selected "I have no idea" and 0.9% of participants selected "I have no information at all" from answers.

Cross Table 23.The Relationship Between Occupation and Occupation and Awareness of Energy Savings in the Building in the Last 10 Years

Energy conservation measures taken for last ten years * Profession Crosstabulation																		
			Profession															Total
			Science and Engineering Fields	Associate professionals in science and engineering	Health Professionals	Associate Health Professionals	Managers	Office workers	Social Fields Professionals	Security guards	Educational Job Professionals	Professional Members of Information and Communication Technology	Student	Non qualified jobs	Professional Members of Business and Management	Qualified Agriculture, Forestry and Fisheries Workers	Position or cadre specified instead of profession	
Energy conservation measures taken for last ten years	No Idea	Count	25	11	31	23	30	54	6	4	35	4	31	7	1	0	43	305
		% within Profession	54,3%	57,9%	59,6%	79,3%	60,0%	74,0%	85,7%	66,7%	71,4%	80,0%	93,9%	58,3%	50,0%	0,0%	66,2%	67,8%
		% of Total	5,6%	2,4%	6,9%	5,1%	6,7%	12,0%	1,3%	0,9%	7,8%	0,9%	6,9%	1,6%	0,2%	0,0%	9,6%	67,8%
	Using Better Building Insulation Materials	Count	0	1	3	0	2	1	0	0	2	0	1	3	0	0	7	20
		% within Profession	0,0%	5,3%	5,8%	0,0%	4,0%	1,4%	0,0%	0,0%	4,1%	0,0%	3,0%	25,0%	0,0%	0,0%	10,8%	4,4%
		% of Total	0,0%	0,2%	0,7%	0,0%	0,4%	0,2%	0,0%	0,0%	0,4%	0,0%	0,2%	0,7%	0,0%	0,0%	1,6%	4,4%
	Doors and Windows Renewed	Count	0	0	0	2	0	3	0	0	0	0	0	0	0	0	0	5
		% within Profession	0,0%	0,0%	0,0%	6,9%	0,0%	4,1%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	1,1%
		% of Total	0,0%	0,0%	0,0%	0,4%	0,0%	0,7%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	1,1%
	Room Temperature Reduced	Count	4	3	2	0	1	3	0	0	1	0	0	0	0	0	2	16
		% within Profession	8,7%	15,8%	3,8%	0,0%	2,0%	4,1%	0,0%	0,0%	2,0%	0,0%	0,0%	0,0%	0,0%	0,0%	3,1%	3,6%
		% of Total	0,9%	0,7%	0,4%	0,0%	0,2%	0,7%	0,0%	0,0%	0,2%	0,0%	0,0%	0,0%	0,0%	0,0%	0,4%	3,6%
	Using Low Cost Fuels	Count	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	3
		% within Profession	0,0%	5,3%	0,0%	0,0%	2,0%	1,4%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,7%
		% of Total	0,0%	0,2%	0,0%	0,0%	0,2%	0,2%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,7%
		Count	0	0	6	0	13	4	1	0	1	1	0	1	0	0	4	31

	Underuse of Some Equipment	% within Profession	0,0%	0,0%	11,5%	0,0%	26,0%	5,5%	14,3%	0,0%	2,0%	20,0%	0,0%	8,3%	0,0%	0,0%	6,2%	6,9%
		% of Total	0,0%	0,0%	1,3%	0,0%	2,9%	0,9%	0,2%	0,0%	0,2%	0,2%	0,0%	0,2%	0,0%	0,0%	0,9%	6,9%
	Restoration of Existing Roof	Count	9	1	4	1	1	4	0	2	4	0	0	1	1	1	4	33
		% within Profession	19,6%	5,3%	7,7%	3,4%	2,0%	5,5%	0,0%	33,3%	8,2%	0,0%	0,0%	8,3%	50,0%	50,0%	6,2%	7,3%
		% of Total	2,0%	0,2%	0,9%	0,2%	0,2%	0,9%	0,0%	0,4%	0,9%	0,0%	0,0%	0,2%	0,2%	0,2%	0,9%	7,3%
	Doors and Windows Renewed, Underuse of Some Equipment	Count	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	3
		% within Profession	0,0%	0,0%	1,9%	0,0%	0,0%	0,0%	0,0%	0,0%	2,0%	0,0%	0,0%	0,0%	0,0%	0,0%	1,5%	0,7%
		% of Total	0,0%	0,0%	0,2%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%	0,7%
	Using Better Building Insulation Materials, Underuse of Some Equipment	Count	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2
		% within Profession	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	2,0%	0,0%	0,0%	0,0%	0,0%	0,0%	1,5%	0,4%
		% of Total	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%	0,4%
	Using Better Building Insulation Materials, Doors and Windows Renewed, Underuse of Some Equipment	Count	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
		% within Profession	2,2%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%
		% of Total	0,2%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%
	Room Temperature Reduced, Underuse of Some Equipment	Count	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	3
		% within Profession	2,2%	5,3%	0,0%	3,4%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,7%
		% of Total	0,2%	0,2%	0,0%	0,2%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,7%
	Using Better Building Insulation Materials, Doors and Windows Renewed	Count	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	3
		% within Profession	0,0%	0,0%	0,0%	6,9%	0,0%	1,4%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,7%
		% of Total	0,0%	0,0%	0,0%	0,4%	0,0%	0,2%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,7%
	Using Better Building Insulation Materials, Room	Count	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	3
		% within Profession	2,2%	5,3%	1,9%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,7%

	Temperature Reduced, Restoration of Existing Roof	% of Total	0,2%	0,2%	0,2%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,7%
	Underuse of Some Equipment, Restoration of Existing Roof	Count	1	0	1	0	1	0	0	0	1	0	0	0	0	0	1	5
		% within Profession	2,2%	0,0%	1,9%	0,0%	2,0%	0,0%	0,0%	0,0%	2,0%	0,0%	0,0%	0,0%	0,0%	0,0%	1,5%	1,1%
		% of Total	0,2%	0,0%	0,2%	0,0%	0,2%	0,0%	0,0%	0,0%	0,2%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%	1,1%
	Doors and Windows Renewed, Restoration of Existing Roof	Count	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
		% within Profession	0,0%	0,0%	0,0%	0,0%	2,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%
		% of Total	0,0%	0,0%	0,0%	0,0%	0,2%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%
	Room Temperature Reduced, Restoration on Existing Roof	Count	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
		% within Profession	2,2%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	2,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,4%
		% of Total	0,2%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,4%
	Room Temperature Reduced, Underuse of Some Equipment, Restoration of Existing Roof	Count	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
		% within Profession	2,2%	0,0%	1,9%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,4%
		% of Total	0,2%	0,0%	0,2%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,4%
	Doors and Windows Renewed, Using Low Cost Fuels, Underuse of Some Equipment	Count	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
		% within Profession	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	2,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%
		% of Total	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%
	Doors and Windows Renewed, Room Temperatrure Reduced	Count	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
		% within Profession	0,0%	0,0%	0,0%	0,0%	0,0%	1,4%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%
		% of Total	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%
	Using Better Building Insulation Materials,	Count	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2
		% within Profession	2,2%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	3,0%	0,0%	0,0%	0,0%	0,0%	0,4%

	Restoration of Existing Roof	% of Total	0,2%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%	0,0%	0,0%	0,0%	0,0%	0,4%
	Exterior Insulation, Doors	Count	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
	Windows Renewed,	% within Profession	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	3,1%	0,4%
	Underuse of Some Equipment, Rstoration of Existing Roof	% of Total	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,4%	0,4%
	Doors and Windows	Count	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
	Renewed, Room	% within Profession	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	50,0%	0,0%	0,2%
	Temperatrure Reduced,Using Low Cost Fuels, Restoration of the Existing Roof	% of Total	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%	0,0%	0,2%
	Exterior Insulation,Doors	Count	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	Windows	% within Profession	0,0%	0,0%	0,0%	0,0%	0,0%	1,4%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%
	Renewed,Underuse Some Equipment	% of Total	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%
	Doors and Windows	Count	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	Renewed, Underuse of	% within Profession	2,2%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%
	Some Equipment, Restoration of the Existing Roof	% of Total	0,2%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%
	Doors and Windows	Count	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
	Renewed, Room	% within Profession	0,0%	0,0%	3,8%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,4%
	Temperatrure Reduced, underuse of some equipment	% of Total	0,0%	0,0%	0,4%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,4%
		Count	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1

	Room Temperature	% within Profession	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	2,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%
	Reduced, using low cost fuels, Underuse of Some Equipment	% of Total	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%
Total		Count	46	19	52	29	50	73	7	6	49	5	33	12	2	2	65	450
		% within Profession	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%
		% of Total	10,2%	4,2%	11,6%	6,4%	11,1%	16,2%	1,6%	1,3%	10,9%	1,1%	7,3%	2,7%	0,4%	0,4%	14,4%	100,0%

When the participants were asked about the energy saving measures taken in their buildings in the last 10 years, it was seen that 68% did not have an idea about the question. In this question, too, there was a need to create many categories because the respondents could select more than one option. 7.3% of the participants stated that the roof was repaired; 7% stated that the frequency of use of some tools was reduced, 4.4% stated that they were replaced with better insulation materials, and approximately 3.6% stated that the room temperature was reduced.

The proportional distribution of the professions within themselves is summarized below.

- More than half (about 54%) of professionals working in the field of science and engineering stated that they had no idea about this issue. 19.6% of the professionals in this group stated that the roof has been repaired, and about 9% of them stated the room temperature have been reduced.
- More than half (about 58%) of associate professionals working in the field of science and engineering stated that they had no idea about this issue. About 16% of them stated that the room temperature have been reduced, 5% of them stated replaced the old ones with better building insulation materials, again 5% stated that the roof has been repaired.
- 60% of health professionals stated that they had no idea about this issue. 11.5% of the professionals in this group stated that the frequency of use of some tools have been reduced, 8% stated that the roof has been repaired, about 6% stated that the old ones were replaced with better building insulation materials.
- The majority of allied health workers (approximately 79%) stated that they had no idea about this issue and 3.4% stated that the roof has been repaired. About 7% of this group said that the doors and windows were replaced.
- 60% of the managers stated that they had no idea about this issue. It can be expected that the managers have more information about the issue. However, as stated before, the administrators may have selected the option "I have no idea" because there was not a option like "there is no such measure". A newly appointed manager may not be able to master this information. For this reason, such a backlog in the "I have no idea" option may have occurred.
- The majority of the office workers (74%) stated that they had no idea about this issue. About 4% of this group said that the room temperature have been reduced, 5.5% stated that the frequency of use of some tools have been reduced, and 5% stated that the roof has been repaired. About 4% of this group said that the doors and windows were replaced.
- The majority of the members of law, social and cultural professions (86%) stated that they had no idea about this issue. 14% of the professionals in this group stated that the frequency of use of some tools have been reduced and 2% stated that the roof has been repaired.
- 67% of security guard stated that they had no idea about this issue. About 33% of this grup said that the roof has been repaired.

- 86% of professional members of information and communication technology stated that they had no idea about this issue and 20% said that the frequency of use of some tools have been reduced.
- The majority of the students (94%) stated that they had no idea about this issue. 3% of this group said that insulation materials were changed with better building insulation materials.
- More than half of non-qualified workers (58%) stated that they had no idea about this issue. A quarter of this group (25%) said that insulation materials were changed with better building insulation materials, 8% stated that the frequency of use of some tools was reduced and again 8% said that the roof has been repaired.
- 50% of the professional members of business and management stated that they had no idea about this issue. 50% of this group said that the roof has been repaired.
- 50% of Qualified Agriculture, Forestry and Fisheries Workers stated that they had no idea about this issue. The other half said that the roof has been repaired, the room temperature was lowered, the doors and windows were replaced and low cost fuels was used.
- 67% of the participants who stated position or cadre instead of professions stated that they had no idea about this issue. 11% of this group said that replaced the old ones with better building insulation materials, 6% of them stated the frequency of use of some tools have been reduced and about 3% said the room temperature have been reduced.

2.2.3. Building Related Cross-Tables

In this section of the report, it is tried to include the opinions of the building users about the building where they work/study. Because it is extremely important to see the existing physical conditions before the renovation of the buildings and to determine the needs.

Hence, cross tables were created by taking variable of building names (Alanya Courthouse, Antalya Training and Research Hospital, İzmir Bakırçay University, İzmir High Tecnology Institute, Karabük Governorate, Karadeniz Ereğli State Hospital, Karaman Environment, Urbanization and Climate Change Province Directorate, Kocaeli University Hospital, Pamukkale University) and the opinions of the participants about the physical patterns/conditions of the buildings shared below:

- Type of heating system
- General indoor temperature comfort
- Evaluation of the heating system İlave ısıtıcı kullanma durumu
- Door and window insulation
- Problems related to warming
- Indoor noise level
- General illumination level
- Indoor light level assessment and reason for this assessment
- General indoor vendilation level
- Level of outside related sound level when the windows are closed and level of related discomfort
- Doğaya ve insana zararlı madde bulunma durumu
- Whether the building is suitable for disabled access
- Binada yapılacak tadilat işlerinin bilinmesi durumu
- Planlanan çalışmaların kurumda vakit geçirenler için koşulları iyileştirilmeye katkı sağlamasına ilişkin görüşler çapraz tablolar ile verilmeye çalışılmıştır.

Cross Table 24.The Relationship Between Bulding and Type of Heating Systems¹⁵

Name of the building * Type of heating system Crosstabulation									
			Type of heating system						Total
			No Idea	Combi Boiler	Split Air Condition System	Room Type Air Condition System	Central Heating System	Air Conditioning	
Name of the building	Alanya Courthouse	Count	6	0	9	2	25	8	50
		% within Name of the building	12,0%	0,0%	18,0%	4,0%	50,0%	16,0%	100,0%
		% of Total	1,3%	0,0%	2,0%	0,4%	5,6%	1,8%	11,1%
	Karabuk Governorate	Count	2	1	1	2	19	25	50
		% within Name of the building	4,0%	2,0%	2,0%	4,0%	38,0%	50,0%	100,0%
		% of Total	0,4%	0,2%	0,2%	0,4%	4,2%	5,6%	11,1%
	Karadeniz Ereğli State Hospital	Count	11	0	3	2	15	19	50
		% within Name of the building	22,0%	0,0%	6,0%	4,0%	30,0%	38,0%	100,0%
		% of Total	2,4%	0,0%	0,7%	0,4%	3,3%	4,2%	11,1%
	Antalya Training and Reserach Hospital	Count	5	1	6	2	12	24	50
		% within Name of the building	10,0%	2,0%	12,0%	4,0%	24,0%	48,0%	100,0%
		% of Total	1,1%	0,2%	1,3%	0,4%	2,7%	5,3%	11,1%
	Karaman Environment, Urbanization and Climate Change Province Directorate	Count	1	6	1	0	41	1	50
		% within Name of the building	2,0%	12,0%	2,0%	0,0%	82,0%	2,0%	100,0%
		% of Total	0,2%	1,3%	0,2%	0,0%	9,1%	0,2%	11,1%
	İzmir Bakırçay University	Count	13	2	11	10	6	8	50
		% within Name of the building	26,0%	4,0%	22,0%	20,0%	12,0%	16,0%	100,0%
		% of Total	2,9%	0,4%	2,4%	2,2%	1,3%	1,8%	11,1%

	Pamukkale University	Count	7	0	7	2	12	22	50
		% within Name of the building	14,0%	0,0%	14,0%	4,0%	24,0%	44,0%	100,0%
		% of Total	1,6%	0,0%	1,6%	0,4%	2,7%	4,9%	11,1%
	İzmir High Technology University	Count	2	0	8	0	35	5	50
		% within Name of the building	4,0%	0,0%	16,0%	0,0%	70,0%	10,0%	100,0%
		% of Total	0,4%	0,0%	1,8%	0,0%	7,8%	1,1%	11,1%
	Kocaeli University Hospital	Count	7	2	2	1	14	24	50
		% within Name of the building	14,0%	4,0%	4,0%	2,0%	28,0%	48,0%	100,0%
		% of Total	1,6%	0,4%	0,4%	0,2%	3,1%	5,3%	11,1%
Total		Count	54	12	48	21	179	136	450
		% within Name of the building	12,0%	2,7%	10,7%	4,7%	39,8%	30,2%	100,0%
		% of Total	12,0%	2,7%	10,7%	4,7%	39,8%	30,2%	100,0%

The relationship between the building name and the type of heating system is given below;

- Half (50%) of the participants working in Alanya Courthouse are of the opinion that the heating system of the building is central heating system, 18% stated that it is split air conditioning system, 16% stated it is air conditioning, and 4% stated that it is room type air condition system. 12% of the participant of this group said that they have no idea about the issue. (The building is heated with central system. Half of the building's users know which heating system the building is heated with.)
 - Half (50%) of the participants working in Karabük Governorate are of the opinion that the heating system of the building is air conditioning, 38% stated it is central heating system, 4% said tahat it is room type air condition system, 2% declared that it is combi boiler, and again 2% stated that it is split air conditioning. Only 4% of the participant of this group said that they have no idea about the issue. (The building is heated with central system. 38% of the building's users know which heating system the building is heated with.)
 - 38% of the participants working in Karadeniz Ereğli State Hospital are of the opinion that the heating system of the building is air conditioning, 30% stated that it is central heating system, 6% said that it is room type air condition system. 22% of the participant of this group said that they have no idea about the issue. (The building is heated with central system. 30% of the building's users know which heating system the building is heated with.)
 - About a half (48%) of the participants working in Antalya Training and Research Hospital are of the opinion that the heating system of the building is air conditioning, nearly a quarter (24%) of them stated it is central heating system, 12% declared that it is split air conditioning, 4% stated that it is split air conditioning, and 2% said that it is combi boiler. 10% of the participant of this group said that they have no idea about the issue. (The building is heated with central system. 24% of the building's users know which heating system the building is heated with.)
 - Most of the participants (82%) working in Karaman Environment, Urbanization and Climate Change Province Directorate are of the opinion that the heating system of the building is central heating system, 12% said that it is combi boiler, 2% declared that it is split air conditioning, and again 2% stated it is air conditioning. Only 2% of the participant of this group said that they have no idea about the issue. When we look at the internal distribution of the buildings themselves, the Karaman Environment, Urbanization and Climate Change Province Directorate has given the least "I don't know/have no idea" answer to this question. (The building is heated with central system. 82% of the building's users know which heating system the building is heated with.)
 - 22% of the participant in İzmir Bakircay University are of the opinion that the heating system of the building is split air conditioning, 20% stated that it is room type air condition system, 16% stated it is air conditioning, 12% said that it is central heating system, and 4% declared that it is combi boiler. More than a quarter of the participant (26%) of this group said that they have no idea about the issue. When the internal distribution of the buildings is examined, the participants at Bakırçay University gave the most "I don't know/have no idea" answer to this question. (The building is heated with a VRF air conditioning system. Since the VRF air conditioning system is a centrally managed system, it is taken under the title of central system. 12% of the building's users know which heating system the building is heated with.)
 - 44% of the participant in Pamukkale University are of the opinion that the heating system of the building is air conditioning, nearly a quarter (24%) of them stated it is central heating system, 14% said that it is split air conditioning, and 4% declared that it is room type air condition system. 14% of the participant of this group said that they have no idea about the issue. (The building is heated with central system. 24% of the building's users know which heating system the building is heated with.)
 - Most of the participants (70%) of İzmir High Technology Institute are of the opinion that the heating system of the building is central heating system, 16% % said that it is split air conditioning, and 10% declared that it is air conditioning. 4% of the participant of this group said that they have no idea about the issue. (The building is heated with central system. 70% of the building's users know which heating system the building is heated with.)
 - About a half (48%) of the participants working in Kocaeli Universty Hospital are of the opinion that the heating system of the building is air conditioning, more than a quarter (28%) of them stated it is central heating system, 4% said that it is split air conditioning, again 4% stated it is combi boiler, and %2 declared it is room type air condition system. 14% of the participant of this group said that they have no idea about the issue. (The building is heated with central system. 28% of the building's users know which heating system the building is heated with.)

Cross Table 25.The Relationship Between The Buildings and General Indoor Thermal Comfort

Name of the building * General thermal comfort Crosstabulation										
			General thermal comfort							Total
			Hot	Warm	Slightly Warm	Neutral	Slightly Cool	Cool	Cold	
Name of the building	Alanya Courthouse	Count	16	2	3	10	13	5	1	50
		% within Name of the building	32,0%	4,0%	6,0%	20,0%	26,0%	10,0%	2,0%	100,0%
		% of Total	3,6%	0,4%	0,7%	2,2%	2,9%	1,1%	0,2%	11,1%
	Karabuk Governorate	Count	4	10	5	18	7	2	4	50
		% within Name of the building	8,0%	20,0%	10,0%	36,0%	14,0%	4,0%	8,0%	100,0%
		% of Total	0,9%	2,2%	1,1%	4,0%	1,6%	0,4%	0,9%	11,1%
	Karadeniz Ereğli State Hospital	Count	4	10	5	21	5	4	1	50
		% within Name of the building	8,0%	20,0%	10,0%	42,0%	10,0%	8,0%	2,0%	100,0%
		% of Total	0,9%	2,2%	1,1%	4,7%	1,1%	0,9%	0,2%	11,1%
	Antalya Training and Reserach Hospital	Count	4	1	1	19	11	12	2	50
		% within Name of the building	8,0%	2,0%	2,0%	38,0%	22,0%	24,0%	4,0%	100,0%
		% of Total	0,9%	0,2%	0,2%	4,2%	2,4%	2,7%	0,4%	11,1%
	Karaman Environment, Urbanization and Climate Change Province Directorate	Count	7	12	3	18	4	3	3	50
		% within Name of the building	14,0%	24,0%	6,0%	36,0%	8,0%	6,0%	6,0%	100,0%
		% of Total	1,6%	2,7%	0,7%	4,0%	0,9%	0,7%	0,7%	11,1%
	İzmir Bakırçay University	Count	9	8	3	19	5	4	2	50
		% within Name of the building	18,0%	16,0%	6,0%	38,0%	10,0%	8,0%	4,0%	100,0%
		% of Total	2,0%	1,8%	0,7%	4,2%	1,1%	0,9%	0,4%	11,1%
	Pamukkale University	Count	9	12	3	9	10	2	5	50

		% within Name of the building	18,0%	24,0%	6,0%	18,0%	20,0%	4,0%	10,0%	100,0%	
		% of Total	2,0%	2,7%	0,7%	2,0%	2,2%	0,4%	1,1%	11,1%	
	İzmir High Technology University	Count	1	11	3	18	11	6	0	50	
		% within Name of the building	2,0%	22,0%	6,0%	36,0%	22,0%	12,0%	0,0%	100,0%	
		% of Total	0,2%	2,4%	0,7%	4,0%	2,4%	1,3%	0,0%	11,1%	
	Kocaeli University Hospital	Count	3	6	9	24	2	4	2	50	
		% within Name of the building	6,0%	12,0%	18,0%	48,0%	4,0%	8,0%	4,0%	100,0%	
		% of Total	0,7%	1,3%	2,0%	5,3%	0,4%	0,9%	0,4%	11,1%	
	Total		Count	57	72	35	156	68	42	20	450
			% within Name of the building	12,7%	16,0%	7,8%	34,7%	15,1%	9,3%	4,4%	100,0%
% of Total			12,7%	16,0%	7,8%	34,7%	15,1%	9,3%	4,4%	100,0%	

Within the scope of the study, building users were asked to evaluate the indoor temperature comfort. Before examining the buildings regarding the interior temperature comfort of the buildings, it is useful to remember the opinions of the general sample group on this issue. General indoor temperature comfort could be affected by many factors like the insulation of the building, the heating system and factors of people. For this reason, the participants were asked about the indoor temperature comfort of the buildings. Approximately 35% of the participants rated the indoor temperature comfort as normal, 16% as warm, 15% as slightly cool, 13% as hot, 9% as cool, 8% as slightly warm and 4% as cold.

The categories in which the relevant indoor temperature comfort is evaluated on a building basis are briefly mentioned below:

- One out of every 3 participant (33.3%) working at Alanya Courthouse rated the indoor temperature comfort as “hot”, 26% as “slightly cool”, 20% as “normal”, 10% as “cool”, 6% as “slightly warm”, 4% as “warm” and 2% (1 participant) as “cold”.
- 36% of the participants working at Karabük Governorate interpreted the indoor temperature comfort of the building as “normal”, 20% as “warm”, 14% “slightly cool”, 10% as “slightly warm”, 8% as cold, again 8% as “hot”, and 4% as “cool”.
- About a half (42%) of the participants working at Karadeniz Ereğli State Hospital evaluated the indoor temperature comfort of the building as “normal”, 10% as “slightly cool”, again 10% as “slightly warm”, 8% as “hot”, and 2% as “cold”.
- 38% of the participants working at Antalya Training and Research Hospital evaluated the indoor temperature comfort of the building as “hot”, nearly a quarter (24%) as “cool”, 22% as “slightly cool”, 8% as “hot”, 4% as “cold”, 2% as “warm”, and again 2% as “slightly warm”.
- Approximately a quarter (24%) of the participants working at Karaman Environment, Urbanization and Climate Change Province Directorate rated the indoor temperature comfort as “warm”, 36% as “normal”, 14% as “hot”, 8% as “slightly cool”, 6% as “slightly warm”, and again 6% as “cold”.
- 38% of the participants working at İzmir Bakırçay University evaluated the indoor temperature comfort of the building as “normal”, 18% as “hot”, 16% as “warm”, 10% as “slightly cool”, 8% as “cool”, 6% as “slightly warm”, and 4% as “cold”.
- Approximately a quarter (24%) of the participants of the participants working at Pamukkale University rated the indoor temperature comfort as “warm”, 20% as “slightly cool”, 18% as “normal”, again 18% as “hot”, 10% as “cold”, 6% as “slightly warm”, and 4% as “cool”. When the internal distributions of all buildings are examined, Pamukkale University has given the most "normal" response to indoor temperature comfort.
- More than one-third (36%) of the participants working at İzmir High Technology Enstitute rated the indoor temperature comfort as “normal”, 22% as “warm”, again 22% “slightly cool”, 12% as “cool”, 8% as “cool”, 6% as “hot”, 4% “slightly cool”, and again 4% as “cold”.

- Nearly half (48%) of the participants from Kocaeli University Hospital rated the indoor temperature comfort as “normal”, 18% as “slightly warm”, 12% as “warm”, 8% as “cool”, 6% as “hot”, 4% as “slightly cool”, and again 4% as “cold”.

Cross Table 26.The Relationship Between Buildings and Rate the Heating System¹⁵

Name of the Building * Rate The Heating System Crosstabulation							
			Rate the heating system				Total
			Heating is Excellent	Heating is Good but the Room is Stuffy	Heating is Good but it Colud be Warmer	Heating is Poor, Its Very Cold	
Name of the building	Alanya Courthouse	Count	12	14	6	18	50
		% within Name of the building	24,0%	28,0%	12,0%	36,0%	100,0%
		% of Total	2,7%	3,1%	1,3%	4,0%	11,1%
	Karabuk Governorate	Count	14	11	10	15	50
		% within Name of the building	28,0%	22,0%	20,0%	30,0%	100,0%
		% of Total	3,1%	2,4%	2,2%	3,3%	11,1%
	Karadeniz Ereğli State Hospital	Count	19	15	8	8	50
		% within Name of the building	38,0%	30,0%	16,0%	16,0%	100,0%
		% of Total	4,2%	3,3%	1,8%	1,8%	11,1%
	Antalya Training and Reserach Hospital	Count	29	12	6	3	50
		% within Name of the building	58,0%	24,0%	12,0%	6,0%	100,0%
		% of Total	6,4%	2,7%	1,3%	0,7%	11,1%
	Karaman Environment, Urbanization and Climate Change Province Directorate	Count	28	7	14	1	50
		% within Name of the building	56,0%	14,0%	28,0%	2,0%	100,0%
		% of Total	6,2%	1,6%	3,1%	0,2%	11,1%
	İzmir Bakırçay University	Count	28	16	1	5	50
		% within Name of the building	56,0%	32,0%	2,0%	10,0%	100,0%
		% of Total	6,2%	3,6%	0,2%	1,1%	11,1%
	Pamukkale University	Count	18	6	9	17	50
		% within Name of the building	36,0%	12,0%	18,0%	34,0%	100,0%
		% of Total	4,0%	1,3%	2,0%	3,8%	11,1%
	İzmir High Technology Institute	Count	25	4	8	13	50
		% within Name of the building	50,0%	8,0%	16,0%	26,0%	100,0%
		% of Total	5,6%	0,9%	1,8%	2,9%	11,1%
	Kocaeli University Hospital	Count	14	19	6	11	50
		% within Name of the building	28,0%	38,0%	12,0%	22,0%	100,0%
		% of Total	3,1%	4,2%	1,3%	2,4%	11,1%
Total		Count	187	104	68	91	450
		% within Name of the building	41,6%	23,1%	15,1%	20,2%	100,0%
		% of Total	41,6%	23,1%	15,1%	20,2%	100,0%

As a result of the analyzes, it was revealed that the relationship between the buildings and the evaluation of the heating system was as follows:

- Approximately one third (36%) of the participants in Alanya Courthouse stated that the heating system is inefficient, and the rooms were very cold, 28% of the declared that the system is good, but the room is stuffy, about a quarter (24%) stated that system is excellent, and %12 said that they have a good system, but the interior may be warmer.
- About one-third (30%) of the participants in Karabuk Governorate stated that the heating system is inefficient, and the rooms were very cold, 22% of them declared that the system is good, but the room is stuffy, and 20% of the participants said that they have a good system, but the interior may be warmer.
- 38% of the participants working at Karadeniz Ereğli State Hospital stated that the system was good, about one-third (30%) of the participants said the system was good but the interior was stuffy, 16% of them declared that the system is good but rooms could be warmer, and again 16% of them stated that the heating system is inefficient, and the rooms were very cold.
- More than half (58%) of the participants working at Antalya Training and Research Hospital declared that they have an excellent system, about a quarter (24%) said that the system was good, but the room is stuffy, 12% of them stated that the system is good, but it the rooms could be warmer, and 6% of the participants stated that the system was insufficient, and the rooms were very cold.
- More than half (56%) of the participants in Karaman Environment, Urbanization and Climate Change Province Directorate said that the system was good, more than a quarter (28%) declared that they have a good system, but the interior may be warmer, 14% of them stated that the system is good, but the room is stuffy, and 2% said that the system was insufficient, and the rooms were very cold.
- More than half (56%) of the participants in İzmir Bakırçay University said that the system worked good, %32 of them stated that the system is good, but the room is stuffy, 10% stated that the system was insufficient, and the rooms were very cold, and 2% think that the system is "good, but the room could be warmer".
- More than one-third (36%) of the participants in Pamukkale University are of the opinion that the heating system is excellent, 34% of them think that "heating is poor, its very cold", 18% of them think "heating is good but it colud be warmer", and 12% of them of the opinion that the "heating is good but the room is stuffy".
- 36% of the participants working at Pamukkale University declared that they have an excellent system, 34% said that the system was insufficient, and the rooms were very cold, 18% stated the system is good, but it the rooms could be warmer, 12% said that the system is good, but the room is stuffy.
- Half of the participants (50%) working at the İzmir High Technology Institute are of the opinion that the heating system is excellent, more than a quarter (26%) said that the system is insufficient, and the rooms are very cold, 16% think the system is good, but the room could be warmer, and 8% said the system is good, but the room is stuffy.

- 36% of the participants working at Kocaeli University Hospital declared that the system is good, but the room is stuffy, more than a quarter (28%) said that the heating system is excellent, 22% system is insufficient, and the rooms are very cold, and 12% stated that the system is good, but it the rooms could be warmer.

Cross Table 27.The Relationship Between Buldings and Additional Heating Tools Using

Name of the Building * Additional Heating Tools Using Crosstabulation											
			Additional Heating Tools Using								Total
			No	Yes, Electric Heater	Yes, Wall Mounted Electric Heater	Yes, Infrared Heater	Yes, Gas Powered Heater	Yes, Stove	Yes, Oily Heater	Yes, Radiator	
Name of the Building	Alanya Courthouse	Count	32	15	2	0	0	0	1	0	50
		% within Name of the building	64,0%	30,0%	4,0%	0,0%	0,0%	0,0%	2,0%	0,0%	100,0%
		% of Total	7,1%	3,3%	0,4%	0,0%	0,0%	0,0%	0,2%	0,0%	11,1%
	Karabuk Governorate	Count	38	10	1	0	0	0	1	0	50
		% within Name of the building	76,0%	20,0%	2,0%	0,0%	0,0%	0,0%	2,0%	0,0%	100,0%
		% of Total	8,4%	2,2%	0,2%	0,0%	0,0%	0,0%	0,2%	0,0%	11,1%
	Karadeniz Ereğli State Hospital	Count	38	12	0	0	0	0	0	0	50
		% within Name of the building	76,0%	24,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	100,0%
		% of Total	8,4%	2,7%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	11,1%
	Antalya Training and Reserach Hospital	Count	31	16	1	0	0	0	1	1	50
		% within Name of the building	62,0%	32,0%	2,0%	0,0%	0,0%	0,0%	2,0%	2,0%	100,0%
		% of Total	6,9%	3,6%	0,2%	0,0%	0,0%	0,0%	0,2%	0,2%	11,1%
	Karaman Environment, Urbanization and Climate Change Province Directorate	Count	43	6	0	0	1	0	0	0	50
		% within Name of the building	86,0%	12,0%	0,0%	0,0%	2,0%	0,0%	0,0%	0,0%	100,0%
		% of Total	9,6%	1,3%	0,0%	0,0%	0,2%	0,0%	0,0%	0,0%	11,1%
	İzmir Bakırçay University	Count	40	4	0	0	4	2	0	0	50
		% within Name of the building	80,0%	8,0%	0,0%	0,0%	8,0%	4,0%	0,0%	0,0%	100,0%
		% of Total	8,9%	0,9%	0,0%	0,0%	0,9%	0,4%	0,0%	0,0%	11,1%
	Pamukkale University	Count	28	18	1	1	0	0	1	1	50

		% within Name of the building	56,0%	36,0%	2,0%	2,0%	0,0%	0,0%	2,0%	2,0%	100,0%
		% of Total	6,2%	4,0%	0,2%	0,2%	0,0%	0,0%	0,2%	0,2%	11,1%
	İzmir High Technology University	Count	34	14	1	0	0	0	1	0	50
		% within Name of the building	68,0%	28,0%	2,0%	0,0%	0,0%	0,0%	2,0%	0,0%	100,0%
		% of Total	7,6%	3,1%	0,2%	0,0%	0,0%	0,0%	0,2%	0,0%	11,1%
	Kocaeli University Hospital	Count	24	17	2	1	1	0	3	2	50
		% within Name of the building	48,0%	34,0%	4,0%	2,0%	2,0%	0,0%	6,0%	4,0%	100,0%
		% of Total	5,3%	3,8%	0,4%	0,2%	0,2%	0,0%	0,7%	0,4%	11,1%
	Total	Count	308	112	8	2	6	2	8	4	450
		% within Name of the building	68,4%	24,9%	1,8%	0,4%	1,3%	0,4%	1,8%	0,9%	100,0%
		% of Total	68,4%	24,9%	1,8%	0,4%	1,3%	0,4%	1,8%	0,9%	100,0%

The use of extra heating equipment of the participants who work and studying in the buildings that will be renovated within the scope of the project is also important in terms of energy consumption. A large part of the participants, approximately 68%, stated that they did not use an additional warm-up tool. Approximately 25% of the sample group declared that they use an electric heater. When the survey outputs are seized upon, the use of extra heating equipment by the participants is summarized below on a sub-project basis.

- More than half (64%) of the participants working in Alanya Courthouse stated that they did not use an additional heater, 30% said that they used an electric heater, 4% of them declared that they used a wall mounted electric heater, and 2% said that they used an oily heater.
- 64% of the participants working at Alanya Courthouse do not use an extra heater. 30% of the participants in this group stated that they use an electric heater, 4% said that they used a wall mounted electric heater, and 2% declared that they used an oily heater
- A great majority (76%) of the participants in Karabuk Governorate stated that they do not use an extra heater, 20% stated that they used an electric heater, and only 2% said that they used a wall mounted electric heater.
- A very large part of the participants (76%) working at the Karadeniz Ereğli State Hospital have answered “no” to this question, and the remaining 24% have answered electric heater.
- 62% of the participants working at Antalya Trainings and Research Hospital answered "no" to this question. 32% of the participants in this building stated that they use the electric heater, 2% said that they used a wall mounted electric heater, and 2% declared that they used an oily heater, and again 2% declared that they used Radiator as an additional heating tool.
- A great majority 86% of the participants at Karaman Environment, Urbanization and Climate Change Province Directorate stated that they did not use an additional heater, and 12% stated that they used an electric heater.
- More than three-quarters (80%) of the participants working at İzmir Bakircay University stated that they did not use an additional heater, 8% stated that they used an electric heater, and 8% said that they used a natural gas heater.
- More than half (56%) of the participants in Pamukkale University stated that they did not use an additional heater, about one-third (36%) stated that they use the electric heater, 2% said that they used a wall mounted electric heater, 2% declared that they used radiator, and again 2% declared that they used an oily heater as an additional heating tool.
- It is seen more than half all of the participants (68%) in Izmir High Technology Institute do not use an additional heater, 28% of them warm up by using an electric heater, 2% of them warm up by using a wall mounted electric heater, and again 2% of them warm up by using an oily heater.

- About half of the participant (48%) in Kocaeli University Hospital stated that they do not use an extra heater, 34% stated that they used an electric heater, 6% stated that they used an oily heater, 2% said that they used a wall mounted electric heater, and again 2% stated that they used a stove as an additional heating tool.

Cross Table 28.The Relationship Between Buildings and Insulation Level of Door and Windows

Name of the building * Insulation Level of Door and Windows Crosstabulation								
			Insulation level of door and windows					Total
			No Idea	Seal Well	There is a Bit of Draft, Poor Insulation	There is Draft, Windows and Doors are Poor	There is Very Strong Draft, Windows and Doors are Extremley Poor	
Name of the building	Alanya Courthouse	Count	16	11	9	10	4	50
		% within Name of the building	32,0%	22,0%	18,0%	20,0%	8,0%	100,0%
		% of Total	3,6%	2,4%	2,0%	2,2%	0,9%	11,1%
	Karabuk Governorate	Count	13	5	23	2	7	50
		% within Name of the building	26,0%	10,0%	46,0%	4,0%	14,0%	100,0%
		% of Total	2,9%	1,1%	5,1%	0,4%	1,6%	11,1%
	Karadeniz Ereğli State Hospital	Count	12	18	14	4	2	50
		% within Name of the building	24,0%	36,0%	28,0%	8,0%	4,0%	100,0%
		% of Total	2,7%	4,0%	3,1%	0,9%	0,4%	11,1%
	Antalya Training and Reserach Hospital	Count	7	20	13	9	1	50
		% within Name of the building	14,0%	40,0%	26,0%	18,0%	2,0%	100,0%
		% of Total	1,6%	4,4%	2,9%	2,0%	0,2%	11,1%
	Karaman Environment, Urbanization and Climate Change Province Directorate	Count	11	4	24	7	4	50
		% within Name of the building	22,0%	8,0%	48,0%	14,0%	8,0%	100,0%
		% of Total	2,4%	0,9%	5,3%	1,6%	0,9%	11,1%
	İzmir Bakırçay University	Count	18	10	14	7	1	50
		% within Name of the building	36,0%	20,0%	28,0%	14,0%	2,0%	100,0%

		% of Total	4,0%	2,2%	3,1%	1,6%	0,2%	11,1%
	Pamukkale University	Count	5	8	20	9	8	50
		% within Name of the building	10,0%	16,0%	40,0%	18,0%	16,0%	100,0%
		% of Total	1,1%	1,8%	4,4%	2,0%	1,8%	11,1%
	İzmir High Technology University	Count	11	13	17	6	3	50
		% within Name of the building	22,0%	26,0%	34,0%	12,0%	6,0%	100,0%
		% of Total	2,4%	2,9%	3,8%	1,3%	0,7%	11,1%
	Kocaeli University Hospital	Count	17	7	14	9	3	50
		% within Name of the building	34,0%	14,0%	28,0%	18,0%	6,0%	100,0%
		% of Total	3,8%	1,6%	3,1%	2,0%	0,7%	11,1%
Total		Count	110	96	148	63	33	450
		% within Name of the building	24,4%	21,3%	32,9%	14,0%	7,3%	100,0%
		% of Total	24,4%	21,3%	32,9%	14,0%	7,3%	100,0%

When the participant group was asked their opinions on the insulation of the doors and windows in the building where they work/study, one third of the sample (approximately 33%) stated that there is some breeze from the doors and windows. One in 5 participants (21%) said that they found the insulation excellent, 14% said that the environment was breezy and the insulation quality was poor, and approximately 7% said that the environment was very breezy and the insulation quality was quite poor. Approximately one out of every four respondents (24%) stated that they had no idea about the insulation of doors and windows. Those expressing the insulation problem caused by doors and windows constitute approximately 54% of the participant group. The summary of the answers given on a building basis is as follows.

- Approximately one out of every 3 participants (32%) in Alanya Courthouse declared that they have no idea about this issue. 22% stated that the insulation was excellent, 20% stated that is a draft, and the quality of the insulation was poor; 8% stated that there was some draft generated from the doors and windows, and 8% stated that the working environment was very drafty, and the insulation quality was quite bad.
- At the Karabuk Governorate, about one out of every four participants (26%) working here is in the opinion they had no idea about this issue. Nearly half of the participants in this group (46%) stated that they found the working environment was a bit of drafty due to doors and windows, 10% said that the insulation on the doors and windows was excellent and 4% found the working environment was drafty and the insulation was weak.
- 36% of the participants working at Karadeniz Ereğli State Hospital stated that the insulation on the doors and windows was excellent, approximately one out of every 4 participants (28%) in this building stated that there is some draft generated from the doors and windows, 24% said that they had no idea about the issue, 8% found the indoor environment is drafty and the insulation quality is poor, and 4% stated that working environment is quite drafty and the insulation quality is extremely poor.
- At the Antalya Training and Research Hospital, about the half of the participants (40%) working here is of the opinion that the insulation on the doors and windows is excellent. More than a quarter (26%) stated that they found the working environment is a bit of drafty due to doors and windows, 18% found the indoor environment is drafty and the insulation quality is poor, 14% said that they had no idea about the issue, and 2% stated that working environment is quite drafty and the insulation quality is extremely poor.
- About the half of the participants (48%) working at Karaman Environment, Urbanization and Climate Change Province Directorate stated that they found the working environment is a bit of drafty due to doors and windows, about a quarter (22%) thought that they had no idea about the issue, 14% stated that the indoor environment is drafty and the insulation quality is poor, 8% stated that working environment was quite drafty and the insulation quality was extremely poor.

- 36% of the participant in Izmir Bakircay University is in the opinion that they had no idea about this issue. More than a quarter (28%) of this group declared that they found the working environment is a bit of drafty due to doors and windows, 20% stated that rated the door and window insulation as excellent, 14% stated that the indoor environment is drafty and the insulation quality is poor, and 2% stated that working environment is quite drafty and the insulation quality is extremely poor.
- 40% of Beneficiaries and users in Pamukkale University declared that they found the working environment is a bit of drafty due to doors and windows, 18% stated that the indoor environment is drafty and the insulation quality is poor. 16% participant of this group said that the insulation on the doors and windows are excellent, again 16% stated that working environment is quite drafty and the insulation quality is extremely poor, and 10% thought they had no idea about the issue.
- Approximately one out of every 3 participants (34%) in İzmir High Technology Institute is in the opinion that they found the working environment is a bit of drafty due to doors and windows. More than quarter (26%) of this group stated that the insulation on the doors and windows are excellent, 22% thought that they have no idea about the issue, 12% declared that the indoor environment is drafty and the insulation quality is poor, and 6% stated that working environment is quite drafty and the insulation quality is extremely poor.
- 34% of the participants in Kocaeli University Hospital is in the opinion that they had no idea about this issue. More than a quarter (28%) of this group declared that they found the working environment is a bit of drafty due to doors and windows, 18% stated that the indoor environment is drafty and the insulation quality is poor, 14% said that the insulation on the doors and windows is excellent, and 6% declared that working environment is quite drafty and the insulation quality is extremely poor.

Cross Table 29.The Relationship Between Buildings and Causes of Poor Quality Heating

Causes of poor quality heating * Name of the Building Crosstabulation												
			Name of the building									Total
			Alanya Courthouse	Karabuk Governorate	Karadeniz Ereğli State Hospital	Antalya Training and Reserach Hospital	Karaman Environment, Urbanization and Climate Change Province Directorate	İzmir Bakırçay University	Pamukkale University	İzmir High Technology University	Kocaeli University Hospital	
Causes of poor quality heating	Not Answered	Count	0	3	2	2	1	3	1	2	5	19
		% within Name of the building	0,0%	6,0%	4,0%	4,0%	2,0%	6,0%	2,0%	4,0%	10,0%	4,2%
		% of Total	0,0%	0,7%	0,4%	0,4%	0,2%	0,7%	0,2%	0,4%	1,1%	4,2%
	Heating is Excellent	Count	14	14	24	23	18	18	10	18	17	156
		% within Name of the building	28,0%	28,0%	48,0%	46,0%	36,0%	36,0%	20,0%	36,0%	34,0%	34,7%
		% of Total	3,1%	3,1%	5,3%	5,1%	4,0%	4,0%	2,2%	4,0%	3,8%	34,7%
	Dissatisfied	Count	2	2	3	0	3	2	0	1	3	16
		% within Name of the building	4,0%	4,0%	6,0%	0,0%	6,0%	4,0%	0,0%	2,0%	6,0%	3,6%
		% of Total	0,4%	0,4%	0,7%	0,0%	0,7%	0,4%	0,0%	0,2%	0,7%	3,6%
	Heating is not Efficient Because of Inappropriate Structure	Count	5	13	8	5	19	11	14	5	6	86
		% within Name of the building	10,0%	26,0%	16,0%	10,0%	38,0%	22,0%	28,0%	10,0%	12,0%	19,1%
		% of Total	1,1%	2,9%	1,8%	1,1%	4,2%	2,4%	3,1%	1,1%	1,3%	19,1%
	Heating is not Efficient Because of Inefficent Heating System	Count	21	10	10	9	1	7	11	12	11	92
		% within Name of the building	42,0%	20,0%	20,0%	18,0%	2,0%	14,0%	22,0%	24,0%	22,0%	20,4%
		% of Total	4,7%	2,2%	2,2%	2,0%	0,2%	1,6%	2,4%	2,7%	2,4%	20,4%
	Heating is not Efficient Because of Personel Perceptions	Count	4	4	0	6	4	4	4	5	5	36
		% within Name of the building	8,0%	8,0%	0,0%	12,0%	8,0%	8,0%	8,0%	10,0%	10,0%	8,0%

		% of Total	0,9%	0,9%	0,0%	1,3%	0,9%	0,9%	0,9%	1,1%	1,1%	8,0%
	Heating is not Efficient Because of Inappropriate Structurel and Inefficent Heating System	Count	1	3	2	2	2	2	6	3	1	22
		% within Name of the building	2,0%	6,0%	4,0%	4,0%	4,0%	4,0%	12,0%	6,0%	2,0%	4,9%
		% of Total	0,2%	0,7%	0,4%	0,4%	0,4%	0,4%	1,3%	0,7%	0,2%	4,9%
	Heating is not Efficient Because of Inappropriate Structure and Personel Perceptions	Count	0	0	0	0	0	0	1	2	0	3
		% within Name of the building	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	2,0%	4,0%	0,0%	0,7%
		% of Total	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%	0,4%	0,0%	0,7%
	Heating is not Efficient Because ofInappropriate Structure, Inefficent Heating System and Personel Perceptions	Count	0	0	0	1	1	0	1	0	0	3
		% within Name of the building	0,0%	0,0%	0,0%	2,0%	2,0%	0,0%	2,0%	0,0%	0,0%	0,7%
		% of Total	0,0%	0,0%	0,0%	0,2%	0,2%	0,0%	0,2%	0,0%	0,0%	0,7%
	No Idea	Count	3	1	1	2	1	3	2	2	2	17
		% within Name of the building	6,0%	2,0%	2,0%	4,0%	2,0%	6,0%	4,0%	4,0%	4,0%	3,8%
		% of Total	0,7%	0,2%	0,2%	0,4%	0,2%	0,7%	0,4%	0,4%	0,4%	3,8%
Total		Count	50	50	50	50	50	50	50	50	450	
		% within Name of the building	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	
		% of Total	11,1%	11,1%	11,1%	11,1%	11,1%	11,1%	11,1%	11,1%	100,0%	

Approximately 35% of the participants said that warming up was sufficient. Approximately 20% of the sample stated that there were heating problems caused by the heating system and 19% due to the structural features of the building. 8% of the sample group pointed out the problems caused by the human factor, and about 5% of the problems including the structural features of the building and the heating system as the cause of poor quality heating. About 4% of the participants did not answer the question and again about 4% declared that they had no idea. Those who find warming sufficient, those who do not answer the question and those who declare that they do not have an opinion constitute 43% of the sample. In other words, more than half of the participants (approximately 57%) find the indoor temperature comfort insufficient. The evaluations of the survey participants are summarized below.

- %28 of the participants working in Alanya Courthouse stated that the indoor temperature is good. 6% said that they have no idea about the issue. Almost the half of the tis grup declared he heating was not sufficient due to system-related reasons (insufficient heater, leaks in the pipes, insufficient central system, etc.), 10% stated that the indoor temperature was uncomfortable due to the structural reasons (air penetration through doors and windows, large size of classrooms, etc.), 8% stated that they found the temperature of the working environment is insufficient due to human factors (overheated heating, windows are left open quite often, etc.), and 2% said them stated that the indoor temperature was insufficient due to structural and systemic reasons (bad insulation, insufficient heating system, etc.).
- 2% of the participant in Karabuk Governorate stated that they have no idea about the issue. 26% of this group stated that they found the indoor temperature is satisfied. 26% stated that the working environment is not well heated due to structural problems (poor insulation), 20% are not satisfied indoor temperature due to system problems (the hot air blowing feature of the ventilation is problematic, central system not working properly, etc.), 8% stated that they found the temperature of the working environment is insufficient due to human factors, 6% said them stated that the indoor temperature was insufficient due to structural and systemic reasons, and 4% stated that they were not satisfied with the temperature in the working environment due to systemic reasons (6% of this group did not answer the question).
- Nearly a half of the participant (48%) in Karadeniz Ereğli State Hospital said that they were satisfied with the indoor temperature. One out of every 5 participants (20%) of them stated that they were not satisfied with the temperature in the working environment due to systemic reasons, 16% of them stated that due to the structural reasons, 6% declared that the working environment was "cold" without giving any reason, 4% stated that the indoor temperature was insufficient due to structural and systemic reasons (4% of this group did not answer the question).
- Nearly a half of the participant (46%) in Antalya Training and Research Hospital said that they were satisfied with the indoor temperature. 20% of this group are not satisfied indoor temperature due to system problems, 12% stated that they found the temperature of the working environment is

insufficient due to human factors, 10% stated that the indoor temperature is not satisfied due to structural reasons, 4% them stated that the indoor temperature was uncomfortable due to structural and systemic reasons, and 4% thought that they had no idea about the issue.

- One out of every 3 participants (36%) Karaman Environment, Urbanization and Climate Change Province Directorate evaluated the indoor temperature as sufficient, 38% stated that the working environment is not well heated due to structural problems, 8% stated that they found the temperature of the working environment is insufficient due to human factors, 4% said that the indoor temperature was uncomfortable due to structural and systemic reasons, and 6% declared that the working environment was "cold" without giving any reason (2% of this group did not answer the question).
- 36% of participants, consisting of academist and students at İzmir Bakircay University found that indoor temperature sufficiently. 22% of this group stated that the working environment is not well heated due to structural problems, 14% stated that they were not satisfied with the temperature in the working environment due to systemic reasons, 8% stated that they found the temperature of the working environment is insufficient due to human factors, 4% stated that the working environment is not well heated due to structural problems, 6% said that they had no idea about this issue, and again 6% declared that the working environment was "cold" without giving any reason (6% of this group did not answer the question).
- 20% participant of Pamukkale University evaluated the indoor temperature as sufficient, more than a quarter (28%) stated that the working environment is not well heated due to structural problems, 22% said that they were not satisfied with the temperature in the working environment due to systemic reasons, 12% stated that the indoor temperature was uncomfortable due to structural and systemic reasons, 8% stated that they found the temperature of the working environment is insufficient due to human factors, and 4% said that they had no idea about this issue (4% of this group did not answer the question).
- 36% of the participant in Izmir High Technology Insitiute evaluated the indoor temperature as sufficient, about a quarter (24%) said that they were not satisfied with the temperature in the working environment due to systemic reasons, 8% stated that they found the temperature of the working environment is insufficient due to human factors, 28% stated that the working environment is not well heated due to structural problems, 6% stated that the indoor temperature was uncomfortable due to structural and systemic reasons, 2% declared that the working environment was "cold" without giving any reason, and 4% said that they had no idea (4% of this group did not answer the question).
- One out of every 3 participants (34%) Kocaeli University Hospital evaluated the indoor temperature as sufficient, 22% said that they were not satisfied with the temperature in the working environment due to systemic reasons, stated that the working environment is not well heated due to structural problems, 10% stated that they found the temperature of the working environment is

insufficient due to human factors, and 4% said that they had no idea, 6% declared that the working environment was "cold" without giving any reason (10% of this group did not answer the question).

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Cross Table 30.The Relationship Between Buildings and Indoor Noise Disturbance Level

Name of the building * Noise disturbance level Crosstabulation								
			Noise disturbance level					Total
			Not Annoyed	Slightly Annoyed	Indecisive	Rather Annoyed	Very Annoyed	
Name of the building	Alanya Courthouse	Count	14	17	2	10	7	50
		% within Name of the building	28,0%	34,0%	4,0%	20,0%	14,0%	100,0%
		% of Total	3,1%	3,8%	0,4%	2,2%	1,6%	11,1%
	Karabuk Governorate	Count	27	13	3	5	2	50
		% within Name of the building	54,0%	26,0%	6,0%	10,0%	4,0%	100,0%
		% of Total	6,0%	2,9%	0,7%	1,1%	0,4%	11,1%
	Karadeniz Ereğli State Hospital	Count	12	28	3	4	3	50
		% within Name of the building	24,0%	56,0%	6,0%	8,0%	6,0%	100,0%
		% of Total	2,7%	6,2%	0,7%	0,9%	0,7%	11,1%
	Antalya Training and Reserach Hospital	Count	15	22	4	7	2	50
		% within Name of the building	30,0%	44,0%	8,0%	14,0%	4,0%	100,0%
		% of Total	3,3%	4,9%	0,9%	1,6%	0,4%	11,1%
	Karaman Environment, Urbanization and Climate Change Province Directorate	Count	19	16	4	6	5	50
		% within Name of the building	38,0%	32,0%	8,0%	12,0%	10,0%	100,0%
		% of Total	4,2%	3,6%	0,9%	1,3%	1,1%	11,1%
	İzmir Bakırçay University	Count	27	13	3	5	2	50
		% within Name of the building	54,0%	26,0%	6,0%	10,0%	4,0%	100,0%
		% of Total	6,0%	2,9%	0,7%	1,1%	0,4%	11,1%
	Pamukkale University	Count	25	19	5	1	0	50
		% within Name of the building	50,0%	38,0%	10,0%	2,0%	0,0%	100,0%
		% of Total	5,6%	4,2%	1,1%	0,2%	0,0%	11,1%
	İzmir High Technology University	Count	39	7	2	2	0	50
		% within Name of the building	78,0%	14,0%	4,0%	4,0%	0,0%	100,0%
		% of Total	8,7%	1,6%	0,4%	0,4%	0,0%	11,1%
	Kocaeli University Hospital	Count	25	20	1	3	1	50
		% within Name of the building	50,0%	40,0%	2,0%	6,0%	2,0%	100,0%
		% of Total	5,6%	4,4%	0,2%	0,7%	0,2%	11,1%
Total		Count	203	155	27	43	22	450
		% within Name of the building	45,1%	34,4%	6,0%	9,6%	4,9%	100,0%
		% of Total	45,1%	34,4%	6,0%	9,6%	4,9%	100,0%

It is useful to remember the data on general sampling before examining the noise level of the indoor environment in buildings. About 45% of the respondents stated that the indoor noise is not annoying, about 34% is slightly annoyed, about 10% is rather annoyed, 6% is indecisive, and about 5% does find it very annoying. The opinions of the participants regarding the indoor lighting level of the buildings are summarized below:

- 34% of the respondents in the Alanya Courthouse stated that evaluated the indoor noise level of the building as "slightly annoyed", more than a quarter (28%) as "not annoyed", 20% as "disturbing", 14% as "very disturbing", and 4% as "indecisive".
- More than half (54%) of the participants working at Karabuk Governorate evaluated the indoor noise level of the building as "not annoyed", 26% as "slightly annoyed", 10% as "annoyed", 4% as "very annoyed", and 6% as "indecisive".
- More than half (54%) of the participants working Karadeniz Ereğli State Hospital evaluated the indoor noise level of the building as "slightly annoyed", about a quarter (24%) as "not annoyed", 8% as "annoyed", 6% as "very annoyed", and again 6% as "indecisive".
- Nearly half of the participants (44%) of Antalya Training and Research Hospital interpreted the indoor noise level as "partially disturbing", 30% as "not disturbing", 14% as "disturbing", 4% as "very disturbing". 8% of this group stated that they had no idea about the issue.
- 38% of the participants in Karaman Environment, Urbanization and Climate Change Province Directorate stated the indoor noise level of the building as "not annoyed", 32% as "partially disturbing", 12% as "disturbing", 10% as "very disturbing", and 8% as "indecisive".
- More than half (54%) of the participants in İzmir Bakircay University evaluated the indoor noise level of the building as "not annoyed", more than a quarter (26%) as "partially disturbing", 10% as "disturbing", 6% as "indecisive", and 6% as "very disturbing".
- Half (50%) of the participants from Pamukkale University interpreted the indoor noise level as "not disturbing", 38% as "partly disturbing", 10% as "indecisive", and 2% "disturbing".
- More than three-quarters (78%) of the participants in Izmir High Technology Institute stated the indoor noise level of the building as "not annoyed", 14% as "partly disturbing", 4% as "indecisive", and again 4% as "disturbing".
- Half (50%) of the participants from Kocaeli University Hospital interpreted the indoor noise level as "not disturbing", 6% as "partly disturbing", 2% as "very disturbing", and 2% as "indecisive".

Cross Table 31.The Relationship Between Buildings and General Lighting Level

Name of the building * General lighting level Crosstabulation								
			General lighting level					Total
			Not Annoyed	Slightly Annoyed	Indecisive	Rather Annoyed	Very Annoyed	
Name of the building	Alanya Courthouse	Count	31	12	4	3	0	50
		% within Name of the building	62,0%	24,0%	8,0%	6,0%	0,0%	100,0%
		% of Total	6,9%	2,7%	0,9%	0,7%	0,0%	11,1%
	Karabuk Governorate	Count	34	10	4	0	2	50
		% within Name of the building	68,0%	20,0%	8,0%	0,0%	4,0%	100,0%
		% of Total	7,6%	2,2%	0,9%	0,0%	0,4%	11,1%
	Karadeniz Ereğli State Hospital	Count	30	9	4	6	1	50
		% within Name of the building	60,0%	18,0%	8,0%	12,0%	2,0%	100,0%
		% of Total	6,7%	2,0%	0,9%	1,3%	0,2%	11,1%
	Antalya Training and Reserach Hospital	Count	30	12	3	4	1	50
		% within Name of the building	60,0%	24,0%	6,0%	8,0%	2,0%	100,0%
		% of Total	6,7%	2,7%	0,7%	0,9%	0,2%	11,1%

	Karaman Environment, Urbanization and Climate Change Province Directorate	Count	33	12	3	1	1	50
		% within Name of the building	66,0%	24,0%	6,0%	2,0%	2,0%	100,0%
		% of Total	7,3%	2,7%	0,7%	0,2%	0,2%	11,1%
	İzmir Bakırçay University	Count	33	10	3	3	1	50
		% within Name of the building	66,0%	20,0%	6,0%	6,0%	2,0%	100,0%
		% of Total	7,3%	2,2%	0,7%	0,7%	0,2%	11,1%
	Pamukkale University	Count	32	12	4	1	1	50
		% within Name of the building	64,0%	24,0%	8,0%	2,0%	2,0%	100,0%
		% of Total	7,1%	2,7%	0,9%	0,2%	0,2%	11,1%
	İzmir High Technology University	Count	40	5	1	4	0	50
		% within Name of the building	80,0%	10,0%	2,0%	8,0%	0,0%	100,0%
		% of Total	8,9%	1,1%	0,2%	0,9%	0,0%	11,1%
	Kocaeli University Hospital	Count	33	11	3	2	1	50
		% within Name of the building	66,0%	22,0%	6,0%	4,0%	2,0%	100,0%
		% of Total	7,3%	2,4%	0,7%	0,4%	0,2%	11,1%
Total		Count	296	93	29	24	8	450

	% within Name of the building	65,8%	20,7%	6,4%	5,3%	1,8%	100,0%
	% of Total	65,8%	20,7%	6,4%	5,3%	1,8%	100,0%

The overall level of lighting in the interior was another issue that was researched within the study. More than half of the sample (66%) stated that they did not find the indoor lighting annoying, one in 5 participants found it slightly annoying, 6% of the participants are indecisive, about 10% found it annoying, and about 2% found it very annoying. The opinions of the participants regarding the indoor lighting level of the buildings are summarized below:

- The general level of lighting in the interior space was not disturbed by the participants working in the Alanya Courthouse (62%). About a quarter of the participant (24%) in this group stated that the level of interior lighting is "slightly dissatisfied", 8% stated they were "indecisive", and 6% said that the level of interior lighting is "dissatisfied".
- Most of the participants (68%) working at Karabuk Governorate evaluated the indoor lighting level as "satisfied", one-fifth (20%) as "slightly dissatisfied", 8% as "indecisive", and 4% as "very dissatisfied".
- Again, a large part (60%) of the participants working in Karadeniz Ereğli State Hospital evaluated the indoor lighting level as "satisfied", 18% as "slightly dissatisfied", 12% as "dissatisfied", 8% as "indecisive", and 2% as "very dissatisfied".
- The general level of lighting in the interior space was not disturbed by the participants working in the Antalya Training and Research Hospital (60%). About a quarter of the participant (24%) in this group stated that the level of interior lighting is "slightly dissatisfied", 6% stated they were "indecisive", and 2% said that the level of interior lighting is "very dissatisfied".
- Karaman Environment, Urbanization and Climate Change Province Directorate participants mostly (66%) stated that they found the indoor lighting level "satisfied", 24% did find it "slightly dissatisfied", 6% were "indecisive", 2% did find it "very dissatisfied".
- 64% of the participant in İzmir Bakircay University answered this question as "satisfied", 20% answered as "slightly dissatisfied", 6% as "dissatisfied", again 6% as "indecisive", and 2% as "very dissatisfied".
- A large part (64%) of the participants working and studying in Pamukkale University stated that the level of interior lighting is "Satisfied", about a quarter (24%) stated that it is "slightly dissatisfied", 8% is "indecisive" about the issue, 2% stated that it is "dissatisfied", and again %2 found it "very dissatisfied".
- Almost all the participants (80%) at İzmir High Technology Institute said that the indoor lighting level is "satisfied". 10% answered as "slightly dissatisfied", 8% as "dissatisfied", and 2% said that they are indecisive
- 66% of the participant in Kocaeli University Hospital answered this question as "satisfied", 22% answered as "slightly dissatisfied", 4% as "dissatisfied", 6% as "indecisive", and 2% as "very dissatisfied".

Cross Table 32.The Relationship Between Buildings and Adequacy of The Light Level in Rooms for Dailiy Activities

Name of the building * Adequacy of the light level in rooms for daily activities Crosstabulation								
			Adequacy of the light level in rooms for daily activities					Total
			Highly Insufficient	Slightly Insufficient	Indecisive	Sufficient	Excellent	
Name of the building	Alanya Courthouse	Count	4	11	4	26	5	50
		% within Name of the building	8,0%	22,0%	8,0%	52,0%	10,0%	100,0%
		% of Total	0,9%	2,4%	0,9%	5,8%	1,1%	11,1%
	Karabuk Governorate	Count	1	4	4	39	2	50
		% within Name of the building	2,0%	8,0%	8,0%	78,0%	4,0%	100,0%
		% of Total	0,2%	0,9%	0,9%	8,7%	0,4%	11,1%
	Karadeniz Ereğli State Hospital	Count	1	11	4	33	1	50
		% within Name of the building	2,0%	22,0%	8,0%	66,0%	2,0%	100,0%
		% of Total	0,2%	2,4%	0,9%	7,3%	0,2%	11,1%
	Antalya Training and Reserach Hospital	Count	1	2	10	30	7	50
		% within Name of the building	2,0%	4,0%	20,0%	60,0%	14,0%	100,0%
		% of Total	0,2%	0,4%	2,2%	6,7%	1,6%	11,1%
	Karaman Environment, Urbanization and Climate Change Province Directorate	Count	1	2	7	37	3	50
		% within Name of the building	2,0%	4,0%	14,0%	74,0%	6,0%	100,0%
		% of Total	0,2%	0,4%	1,6%	8,2%	0,7%	11,1%
	İzmir Bakırçay University	Count	0	7	8	31	4	50
		% within Name of the building	0,0%	14,0%	16,0%	62,0%	8,0%	100,0%
		% of Total	0,0%	1,6%	1,8%	6,9%	0,9%	11,1%
	Pamukkale University	Count	1	9	7	26	7	50
		% within Name of the building	2,0%	18,0%	14,0%	52,0%	14,0%	100,0%
		% of Total	0,2%	2,0%	1,6%	5,8%	1,6%	11,1%
	İzmir High Technology University	Count	1	5	3	34	7	50
		% within Name of the building	2,0%	10,0%	6,0%	68,0%	14,0%	100,0%
		% of Total	0,2%	1,1%	0,7%	7,6%	1,6%	11,1%
	Kocaeli University Hospital	Count	2	10	4	31	3	50
		% within Name of the building	4,0%	20,0%	8,0%	62,0%	6,0%	100,0%
		% of Total	0,4%	2,2%	0,9%	6,9%	0,7%	11,1%
Total		Count	12	61	51	287	39	450
		% within Name of the building	2,7%	13,6%	11,3%	63,8%	8,7%	100,0%
		% of Total	2,7%	13,6%	11,3%	63,8%	8,7%	100,0%

Whether the level of lighting in the interior is sufficient for daily life practices is another issue investigated within the scope of this study. Before proceeding to the proportional distribution of individual buildings within themselves, it is useful to look at how the general sample answers this question. 64% of the participants said that the light level in the room where they work/study is quite sufficient. 13.6% of the sample group stated that they found the light level in the rooms insufficient, 11% were undecided on this issue, approximately 9% found it excellent, and approximately 3% found it very insufficient.

The level of illumination in the interior; it may be inefficient due to structural reasons such as the number of windows, window size and window orientation. At the same time, indoor lighting may be inefficient due to system-related glitches such as the number, power, direction of lighting elements. The reasons for this issue are examined in the Cross Table 33. The building users' evaluations are summarized below:

- More than of the participant (52%) in Alanya Courthouse University found the indoor lighting sufficient, 22% found it insufficient, 10% found it excellent, 8% found it highly insufficient, and again 8% said that they are undecided.
- A large part of the participant in Karabuk Governorate evaluated the level of indoor illumination as sufficient, 8% as insufficient, again 8% as undecided, and 4% as excellent.
- Most of the participants (66%) working at Karadeniz Ereğli State Hospital stated that they found the indoor lighting sufficient, 22% as insufficient, 8% undecided, 2% highly insufficient, and again 2% excellent.
- 60% of the participants in Antalya Training and Research Hospital said that the lighting in the rooms and classrooms was sufficient for the activities of daily living. One fifth of the participant (20%) said that they have no idea about this issue. 14% of the participants found the level of indoor illumination as excellent, 4% as insufficient, and 2% as highly insufficient.
- Nearly three-quarters (74%) of the participant in Karaman Environment, Urbanization and Climate Change Province Directorate answered this question as "satisfied", 14% as undecided, 6% as excellent, 4% as insufficient, and 2% as highly insufficient.
- None of the building users and beneficiaries at Izmir Bakircay University answered "very insufficient". 62% of the participants in this group answered this question as sufficient, 16% as undecided, 14% as insufficient, and 8% as highly insufficient.
- More than the half of the participant (52%) in Pamukkale University said that the lighting in the rooms and classrooms was sufficient for the activities of daily living. 18% stated that the level of interior lighting is insufficient, again 14% stated that it is excellent, and 2% that it is highly insufficient.

- 68% of the participants in İzmir High Technology Institute answered this question as "satisfied", 14% as excellent, 6% as indecided, and 2% as highly insufficient.
- 68% of the participants in Kocaeli University Hospital answered this question as "satisfied", 20% as insufficient, 8% as indecided, 6% as excellent, and 4% as highly insufficient.

Cross Table 33.The Relationship Between The Buildings and Causes of Poor Quality Lightining Level in Rooms

Causes of poor quality lightining level in rooms * Name of the building Crosstabulation												
			Name of the building									Total
			Alanya Courthouse	Karabuk Governorate	Karadeniz Ereğli State Hospital	Antalya Training and Reserach Hospital	Karaman Environment, Urbanization and Climate Change Province Directorate	İzmir Bakırçay University	Pamukkale University	İzmir High Technology University	Kocaeli University Hospital	
Causes of poor quality lightining level in rooms	Not Answered	Count	3	0	0	0	1	2	2	0	0	8
		% within Name of the building	6,0%	0,0%	0,0%	0,0%	2,0%	4,0%	4,0%	0,0%	0,0%	1,8%
		% of Total	0,7%	0,0%	0,0%	0,0%	0,2%	0,4%	0,4%	0,0%	0,0%	1,8%
	The Light in the Room is Enough	Count	31	41	34	37	40	35	33	41	34	326
		% within Name of the building	62,0%	82,0%	68,0%	74,0%	80,0%	70,0%	66,0%	82,0%	68,0%	72,4%
		% of Total	6,9%	9,1%	7,6%	8,2%	8,9%	7,8%	7,3%	9,1%	7,6%	72,4%
	Insufficient Number of Luminaries	Count	6	2	1	2	0	2	0	1	1	15
		% within Name of the building	12,0%	4,0%	2,0%	4,0%	0,0%	4,0%	0,0%	2,0%	2,0%	3,3%
		% of Total	1,3%	0,4%	0,2%	0,4%	0,0%	0,4%	0,0%	0,2%	0,2%	3,3%
	Weak Luminaries	Count	4	3	4	1	3	2	5	2	5	29
		% within Name of the building	8,0%	6,0%	8,0%	2,0%	6,0%	4,0%	10,0%	4,0%	10,0%	6,4%
		% of Total	0,9%	0,7%	0,9%	0,2%	0,7%	0,4%	1,1%	0,4%	1,1%	6,4%
	Luminaires are Positioned in the Wrong Places	Count	1	0	0	4	2	2	0	0	2	11
		% within Name of the building	2,0%	0,0%	0,0%	8,0%	4,0%	4,0%	0,0%	0,0%	4,0%	2,4%
		% of Total	0,2%	0,0%	0,0%	0,9%	0,4%	0,4%	0,0%	0,0%	0,4%	2,4%
	Insufficient Numbers of Windows	Count	2	3	2	0	1	1	2	0	5	16
		% within Name of the building	4,0%	6,0%	4,0%	0,0%	2,0%	2,0%	4,0%	0,0%	10,0%	3,6%

		% of Total	0,4%	0,7%	0,4%	0,0%	0,2%	0,2%	0,4%	0,0%	1,1%	3,6%
	Undersize Windows	Count	0	0	1	0	0	1	1	1	1	5
		% within Name of the building	0,0%	0,0%	2,0%	0,0%	0,0%	2,0%	2,0%	2,0%	2,0%	1,1%
		% of Total	0,0%	0,0%	0,2%	0,0%	0,0%	0,2%	0,2%	0,2%	0,2%	1,1%
	Windows are Wrongly Positioned	Count	1	1	3	3	2	1	4	1	0	16
		% within Name of the building	2,0%	2,0%	6,0%	6,0%	4,0%	2,0%	8,0%	2,0%	0,0%	3,6%
		% of Total	0,2%	0,2%	0,7%	0,7%	0,4%	0,2%	0,9%	0,2%	0,0%	3,6%
	Insufficient Number of Luminaries, Weak Luminaries, Luminaires are Positioned in the Wrong Places	Count	1	0	1	1	0	0	0	1	0	4
		% within Name of the building	2,0%	0,0%	2,0%	2,0%	0,0%	0,0%	0,0%	2,0%	0,0%	0,9%
		% of Total	0,2%	0,0%	0,2%	0,2%	0,0%	0,0%	0,0%	0,2%	0,0%	0,9%
	Insufficient Numbers of Luminaries, Insufficient Numbers of Windows	Count	0	0	0	0	0	0	0	0	1	1
		% within Name of the building	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	2,0%	0,2%
		% of Total	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%	0,2%
	Insufficient Number of Luminaries, Weak Luminaries	Count	0	0	0	0	0	1	2	0	0	3
		% within Name of the building	0,0%	0,0%	0,0%	0,0%	0,0%	2,0%	4,0%	0,0%	0,0%	0,7%
		% of Total	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%	0,4%	0,0%	0,0%	0,7%
	Insufficient Numbers of Windows, Window are Wrongly Positioned	Count	1	0	0	1	0	0	1	0	0	3
		% within Name of the building	2,0%	0,0%	0,0%	2,0%	0,0%	0,0%	2,0%	0,0%	0,0%	0,7%
		% of Total	0,2%	0,0%	0,0%	0,2%	0,0%	0,0%	0,2%	0,0%	0,0%	0,7%
	Insufficient Number of Luminaires and Windows, Luminaires and Windows's Directions are Wrong	Count	0	0	0	0	0	1	0	0	0	1
		% within Name of the building	0,0%	0,0%	0,0%	0,0%	0,0%	2,0%	0,0%	0,0%	0,0%	0,2%
		% of Total	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%	0,0%	0,0%	0,0%	0,2%
		Count	0	0	2	0	0	0	0	0	0	2

	Insufficient Numbers of Windows, Undersize Windows	% within Name of the building	0,0%	0,0%	4,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,4%
		% of Total	0,0%	0,0%	0,4%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,4%
	Weak Luminaries, Insufficient Numbers of Windows	Count	0	0	1	0	1	0	0	0	0	2
		% within Name of the building	0,0%	0,0%	2,0%	0,0%	2,0%	0,0%	0,0%	0,0%	0,0%	0,4%
		% of Total	0,0%	0,0%	0,2%	0,0%	0,2%	0,0%	0,0%	0,0%	0,0%	0,4%
	Number and power of Luminaires are insufficient, at wrong places; small windows, few windows and wrong location	Count	0	0	0	0	0	1	0	0	1	2
		% within Name of the building	0,0%	0,0%	0,0%	0,0%	0,0%	2,0%	0,0%	0,0%	2,0%	0,4%
		% of Total	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%	0,0%	0,0%	0,2%	0,4%
	Insufficient Numbers of Windows, Weak Luminaries, Undersize Windows	Count	0	0	0	0	0	0	0	1	0	1
		% within Name of the building	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	2,0%	0,0%	0,2%
		% of Total	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%	0,0%	0,2%
	Weak Luminaries, Luminaries are Positioned in the Wrong Places	Count	0	0	0	0	0	0	0	1	0	1
		% within Name of the building	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	2,0%	0,0%	0,2%
		% of Total	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%	0,0%	0,2%
	Weak Luminaries, Windows are Wrongly Positioned,	Count	0	0	1	0	0	0	0	0	0	1
		% within Name of the building	0,0%	0,0%	2,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%
		% of Total	0,0%	0,0%	0,2%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%
	Weak Luminaries, Insufficient Numbers of Windows	Count	0	0	0	0	0	0	0	1	0	1
		% within Name of the building	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	2,0%	0,0%	0,2%
		% of Total	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%	0,0%	0,2%
	Weak Luminaries, Luminaires are Positioned in the Wrong Places,	Count	0	0	0	1	0	0	0	0	0	1
		% within Name of the building	0,0%	0,0%	0,0%	2,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%

	insufficient numbers of windows	% of Total	0,0%	0,0%	0,0%	0,2%	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%
	Weak Luminaries, Luminaires are Positioned in the Wrong Places	Count	0	0	0	0	0	1	0	0	0	1
		% within Name of the building	0,0%	0,0%	0,0%	0,0%	0,0%	2,0%	0,0%	0,0%	0,0%	0,2%
		% of Total	0,0%	0,0%	0,0%	0,0%	0,0%	0,2%	0,0%	0,0%	0,0%	0,2%
Total		Count	50	50	50	50	50	50	50	50	50	450
		% within Name of the building	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%
		% of Total	11,1%	11,1%	11,1%	11,1%	11,1%	11,1%	11,1%	11,1%	11,1%	100,0%

The opinions of the participants about the lighting inadequacies in the rooms where they work/study are another issue investigated within the scope of this study. Before proceeding to the proportional distribution of individual buildings within themselves, it is useful to look at how the general sample answers this question. Participants had the chance to mark more than one choice on this question. For this reason, the answers given by the sample group were categorized. The number of categories has also been many, as there have been quite a number of different responses. Those categories with less than 1% share have not been mentioned. Those participants who confirmed the lighting in the rooms as considerably sufficient were tallied under "lighting in the room is sufficient" category and approximately 73% of the participants fall into this category. 6% of the sample group have indicated the cause of the insufficient lighting to be lighting elements with low power output, 4% have indicated the cause to be insufficient number of windows and also another 4% indicated the cause to be the wrong positioning of the windows and 3% indicated the reason to be insufficient number of lighting elements (1.8% of the sample group did not answer the question). The building users' evaluations are summarized below:

- 62% of the participants working at Alanya Courthouse stated that they found the indoor lighting sufficient, and 6% did not answer the question. 8% of the group stated that they found the power of the lighting elements insufficient, and 12% stated that there were insufficient lighting elements. 2% of the group stated that the that window directions are wrong, and 4% of the group stated that the indoor lighting is sufficient because inadequate number of windows. 2% of this group said that the locations of the lighting elements are wrong.
 - 82% of the participants working at Karabuk Governorate stated that they found the indoor lighting sufficient. 6% of the participants find the lighting insufficient due to the insufficient power of the lighting elements, 6% of the group stated that the number of windows is inadequate, 4% of the participants in this group stated that “the number and power of the lighting elements are insufficient and 2% of them said that the direction of the windows are wrong.
- More than half (68%) of the participants in Karadeniz Ereğli State Hospital think that indoor lighting is sufficient. 8% of the group stated that they found the power of the lighting elements insufficient, and 6% , and about stated that the positioning of the windows are wrong, 4% stated that the number of windows is insufficient, 2% declared that the window sizes are small, and again 2% stated that the indoor lighting is insufficient due to the small size of the windows, and again 2% stated that the number, power of the lighting elements are insufficient and the locations of the lighting elements are wrong.
- Most of the participants (74%) working at Antalya Training and Research Hospital think that indoor lighting is sufficient. 8% of this group said that the locations of the lighting elements are wrong, 6% stated that the direction of the windows are wrong, 4% declared that the number of the lighting elements are insufficient, 2% stated that they found the power of the lighting elements insufficient, and again 2% stated that the number, power of the lighting elements are insufficient and the locations of the lighting elements are wrong.
 - 80% of the participants working at Karaman Environment, Urbanization and Climate Change Province Directorate stated that they found the indoor lighting sufficient and 2% did not answer the question. 6% of the participants find the lighting insufficient due to the insufficient power of the lighting elements, 4% declared that the the direction of the windows are wrong, again 4% said that the locations of the lighting elements are wrong, and 2% stated that the number of windows is insufficient.

- 70% of the participants of İzmir Bakircay University stated that they found the indoor lighting sufficient and 4% did not answer the question. 4% of the group stated that they found the power of the lighting elements insufficient, again 4% declared that the number of the lighting elements are insufficient, 2% stated that the window sizes are small, 2% stated that the number of windows is insufficient, again 2% said that the the direction of the windows are wrong.
- 66% of the participants of Pamukkale University stated that they found the indoor lighting sufficient and 4% did not answer the question. 10% of the participants find the lighting insufficient due to the insufficient power of the lighting elements, 8% stated that the stated window sizes are small, 4% think that the number of windows is insufficient, and 2% said that the direction of the windows are wrong.
- 82% of the participants of Izmir High Technology Institute think that indoor lighting is sufficient. 4% of the of this group stated that the number of lighting elements are insufficient, 2% stated that the window sizes are small, and again 2% said that the the direction of the windows are wrong (This building is most satisfied with the light level in the rooms).
- 66% of the participants of Kocaeli University Hospital stated that they found the indoor lighting sufficient. 10% of the group stated that they found the power of the lighting elements insufficient, 4% said the locations of the lighting elements are wrong, 2% stated that the window sizes are small, and again 2% declared stated that the number of lighting elements are insufficient.

Cross Table 34.The Relationship Between The Buildings and Indoor General Ventilation Level

Name of the building * General ventilation level Crosstabulation										
			General ventilation level							Total
			Normal	Stuffy Air	Draft	Slightly Stuffy	Airless	Slightly Airy	Airy	
Name of the building	Alanya Courthouse	Count	18	10	1	11	4	4	2	50
		% within Name of the building	36,0%	20,0%	2,0%	22,0%	8,0%	8,0%	4,0%	100,0%
		% of Total	4,0%	2,2%	0,2%	2,4%	0,9%	0,9%	0,4%	11,1%
	Karabuk Governorate	Count	25	3	0	11	4	2	5	50
		% within Name of the building	50,0%	6,0%	0,0%	22,0%	8,0%	4,0%	10,0%	100,0%
		% of Total	5,6%	0,7%	0,0%	2,4%	0,9%	0,4%	1,1%	11,1%
	Karadeniz Ereğli State Hospital	Count	20	6	7	5	5	5	2	50
		% within Name of the building	40,0%	12,0%	14,0%	10,0%	10,0%	10,0%	4,0%	100,0%
		% of Total	4,4%	1,3%	1,6%	1,1%	1,1%	1,1%	0,4%	11,1%
	Antalya Training and Reserach Hospital	Count	21	2	4	7	2	7	7	50
		% within Name of the building	42,0%	4,0%	8,0%	14,0%	4,0%	14,0%	14,0%	100,0%
		% of Total	4,7%	0,4%	0,9%	1,6%	0,4%	1,6%	1,6%	11,1%
	Karaman Environment, Urbanization and Climate Change Province Directorate	Count	29	5	4	8	1	0	3	50
		% within Name of the building	58,0%	10,0%	8,0%	16,0%	2,0%	0,0%	6,0%	100,0%
		% of Total	6,4%	1,1%	0,9%	1,8%	0,2%	0,0%	0,7%	11,1%
	İzmir Bakırçay University	Count	13	9	2	11	0	5	10	50
		% within Name of the building	26,0%	18,0%	4,0%	22,0%	0,0%	10,0%	20,0%	100,0%
		% of Total	2,9%	2,0%	0,4%	2,4%	0,0%	1,1%	2,2%	11,1%
	Pamukkale University	Count	24	4	1	11	4	3	3	50

		% within Name of the building	48,0%	8,0%	2,0%	22,0%	8,0%	6,0%	6,0%	100,0%
		% of Total	5,3%	0,9%	0,2%	2,4%	0,9%	0,7%	0,7%	11,1%
	İzmir High Technology University	Count	30	3	2	3	0	8	4	50
		% within Name of the building	60,0%	6,0%	4,0%	6,0%	0,0%	16,0%	8,0%	100,0%
		% of Total	6,7%	0,7%	0,4%	0,7%	0,0%	1,8%	0,9%	11,1%
	Kocaeli University Hospital	Count	13	6	2	12	8	5	4	50
		% within Name of the building	26,0%	12,0%	4,0%	24,0%	16,0%	10,0%	8,0%	100,0%
		% of Total	2,9%	1,3%	0,4%	2,7%	1,8%	1,1%	0,9%	11,1%
	Total	Count	193	48	23	79	28	39	40	450
		% within Name of the building	42,9%	10,7%	5,1%	17,6%	6,2%	8,7%	8,9%	100,0%
		% of Total	42,9%	10,7%	5,1%	17,6%	6,2%	8,7%	8,9%	100,0%

Within the scope of the study, the relationship between the general ventilation level and the buildings was examined. Thanks to this, it has been possible to see the internal ventilation status of the buildings. Before proceeding to the proportional distribution of individual buildings within themselves, it is useful to look at how the general sample answers this question (Bar Table 20). Approximately 43% of the participants stated that the general ventilation quality was normal, approximately 18% slightly stuffy, approximately 11% stuffy air, 9% slightly airy, 9% fresh/airy, 6% airless and 5% as breezy/under draft. The building users' evaluations are summarized below:

- 36% of the participants working in the Alanya Courthouse stated that general ventilation quality inside the building as normal, more than one fifth (22%) as partially airless, one fifth (20%) as suffocating/flattened, 8% as flattened, 8% as partially airy, 4% as spacious airy and 22% as under breeze/drafts.
- Half (50%) of building users in Karabük Governorship stated that general ventilation quality inside the building was normal, 22% was partially airless, 10% was spacious / airy, 8% was stuffy, 6% was suffocating / flattened and 4% was partially airy.
- 40% of the participants working at Karadeniz Ereğli State Hospital are stated that general ventilation quality inside the building is normal, 14% is under breeze / draft, 12% is suffocating / flattened, 10% is partially airless, 10% is partially airless, 10% is partially airy and 4% is spacious / airy.
- 42% of the participants in Antalya Training and Research Hospital stated that general ventilation quality inside the building as normal, 14% as partially airless, 14% as partially airy, 14% as spacious/airy, 8% under the breeze/draft, 4% as suffocating/flattened and 4% as airless.
- More than half (58%) of building users working in the Karaman Provincial Directorate of Environment, Urbanization and Climate Change said that general ventilation quality inside the building is normal, 16% is partially airless, 10% is suffocating/flattened, 8% is under breeze/draft, 6% is fresh/airy and 2% is stuffy.
- More than a quarter (26%) of building users and beneficiaries at Izmir Bakırçay University stated that overall ventilation quality inside the building is normal, 22% is partially airless, 20% is spacious/airy, 18% is suffocating/flattened, 10% is partially airy and 4% is under breeze/draft.
- 48% of building users and beneficiaries at Pamukkale University are stated that general ventilation quality inside the building is normal, 22% is partially airless, 8% is suffocating/flattened, 8% is airless, 6% is partially airy, 6% is spacious/airy and 2% is under breeze/draft.
- 60% of the participants of Izmir Institute of Technology interpreted that general ventilation quality inside the building as normal, 16% as partially airy, 8% as spacious/airy, 6% as suffocating/flattened, 6% as partially airless and 4% as under breeze/draft.
- More than a quarter (26%) of the participants at Kocaeli University Hospital said that general ventilation quality inside the building was normal, 24% was partially airless, 16% was stuffy, 12% was suffocating/flattened, 10% was partially airy, 8% was refreshed/airy and 4% was under breeze/draft.

Cross Table 35.The Relationship Between The Buildings and Hearing Outside Noise When The Windows Closed

Name of the building * Hearing outside noise when the windows closed Crosstabulation						
			Hearing outside noise when the windows closed			Total
			No	There is Some Noise but not It does not bothered me	There is Some noise and It bothers me	
	Alanya Courthouse	Count	15	19	16	50

Name of the building		% within Name of the building	30,0%	38,0%	32,0%	100,0%
		% of Total	3,3%	4,2%	3,6%	11,1%
Karabuk Governorate	Count		7	36	7	50
	% within Name of the building		14,0%	72,0%	14,0%	100,0%
	% of Total		1,6%	8,0%	1,6%	11,1%
Karadeniz Ereğli State Hospital	Count		12	33	5	50
	% within Name of the building		24,0%	66,0%	10,0%	100,0%
	% of Total		2,7%	7,3%	1,1%	11,1%
Antalya Training and Reserach Hospital	Count		25	23	2	50
	% within Name of the building		50,0%	46,0%	4,0%	100,0%
	% of Total		5,6%	5,1%	0,4%	11,1%
Karaman Environment, Urbanization and Climate Change Province Directorate	Count		11	28	11	50
	% within Name of the building		22,0%	56,0%	22,0%	100,0%
	% of Total		2,4%	6,2%	2,4%	11,1%
İzmir Bakırçay University	Count		9	29	12	50
	% within Name of the building		18,0%	58,0%	24,0%	100,0%
	% of Total		2,0%	6,4%	2,7%	11,1%
Pamukkale University	Count		8	37	5	50
	% within Name of the building		16,0%	74,0%	10,0%	100,0%
	% of Total		1,8%	8,2%	1,1%	11,1%
İzmir High Technology University	Count		10	36	4	50
	% within Name of the building		20,0%	72,0%	8,0%	100,0%
	% of Total		2,2%	8,0%	0,9%	11,1%

	Kocaeli University Hospital	Count	16	29	5	50
		% within Name of the building	32,0%	58,0%	10,0%	100,0%
		% of Total	3,6%	6,4%	1,1%	11,1%
Total		Count	113	270	67	450
		% within Name of the building	25,1%	60,0%	14,9%	100,0%
		% of Total	25,1%	60,0%	14,9%	100,0%

In order to determine the condition of window insulation before renovation of the buildings, the situation of sound coming from outside was asked even though windows were closed. When the datas from all buildings are examined, it will not be wrong to say that there is a problem in window insulation of almost all buildings. Accordingly:

- More than a third (38%) of participants working at the Alanya Courthouse stated that although the windows were closed, there was a sound from outside but they were not disturbed, and 32% stated that they were very disturbed. Around a third (30%) of users in this building said they did not hear outside sound when the windows were closed.
- Approximately three-quarters (72%) of building users in Karabük Governorship think that although windows are closed, there is still sound from outside but it is not disturbed, and 14% of them think that there is sound from outside and is very uncomfortable. 14% of users in this group said that they do not hear outside sound when windows are closed.
- 66% of participants working at Karadeniz Ereğli State Hospital stated that although the windows were closed, there was a sound from outside but they were not disturbed, and 10% stated that there was a sound from outside and that they were very uncomfortable. Approximately 22% of users in this building said that they did not hear outside sound when the windows were closed.
- 46% of participants in Antalya Training and Research Hospital think that although the windows are closed, there is sound from outside but it is not disturbed, and 4% of them think that there is sound from outside and they are very uncomfortable. Half of the users in this group (50%) said that they do not hear outside sound when windows are closed.
- More than half (56%) of building users working in the Karaman Provincial Directorate of Environment, Urbanization and Climate Change stated that although the windows were closed, there was a sound from outside but they were not disturbed, and 22% of them stated that they were very disturbed and heard from outside. Approximately 22% of users in this building said that they did not hear outside sound when the windows were closed.
- 58% of building users and beneficiaries at Izmir Bakırçay University think that although the windows are closed, there is sound from outside but they are not disturbed, and 24% of partare of the opinion that there is sound from outside and they are very uncomfortable. 18% of users in this group said they don't hear outside sound when windows are closed.
- Approximately three-quarters (74%) of building users and beneficiaries at Pamukkale University think that although the windows are closed, there is sound from outside but they are not disturbed, and 10% of participants think that there is sound from outside and they are very uncomfortable. 16% of users in this group said they don't hear outside sound when windows are closed.
- Approximately three-quarters (72%) of participants of Izmir Institute of Technology stated that although the windows were closed, there was sound from outside but not disturbed, and 8% of participants stated that there was sound from outside and that they were very uncomfortable. 20% of users in this group said that they do not hear outside sound when windows are closed.
- 58% of participants in Kocaeli University Hospital think that although the windows are closed, there is sound from outside but they are not disturbed, and 10% of them think that there is sound from outside and they are very uncomfortable. 32% of users in this group said that they do not hear outside sound when windows are closed.

Cross Table 36.The Relationship Between The Buildings and Awareness on Enviroinmentaly Dangerous Material Used in and Around The Building

Name of the building * Awareness on enviroinmentaly dangerous material used in and around the building Crosstabulation										
			Awareness on enviroinmentaly dangerous material used in and around the building							Total
			No, I didn't face with any dangerous goods	No, dangerous goods are stored regularly	Yes, construction wastes (glass pieces, rubble, glass wool, iron-wood pieces)	Yes, dangerous goods (paintings, oils)	Yes, dangerous wastes (fluorescent pieces, empty/half used chemical material packing, chemically contaminated cloth)	Yes, construction wastes and chemical wastes	Yes, construction wastes, dangerous materials, dangerous wastes	
Name of the building	Alanya Courthouse	Count	43	4	1	1	1	0	0	50
		% within Name of the building	86,0%	8,0%	2,0%	2,0%	2,0%	0,0%	0,0%	100,0%
		% of Total	9,6%	0,9%	0,2%	0,2%	0,2%	0,0%	0,0%	11,1%
	Karabuk Governorate	Count	48	2	0	0	0	0	0	50
		% within Name of the building	96,0%	4,0%	0,0%	0,0%	0,0%	0,0%	0,0%	100,0%
		% of Total	10,7%	0,4%	0,0%	0,0%	0,0%	0,0%	0,0%	11,1%
	Karadeniz Ereğli State Hospital	Count	40	8	2	0	0	0	0	50
		% within Name of the building	80,0%	16,0%	4,0%	0,0%	0,0%	0,0%	0,0%	100,0%
		% of Total	8,9%	1,8%	0,4%	0,0%	0,0%	0,0%	0,0%	11,1%
	Antalya Training and Reserach Hospital	Count	29	17	1	1	2	0	0	50
		% within Name of the building	58,0%	34,0%	2,0%	2,0%	4,0%	0,0%	0,0%	100,0%
		% of Total	6,4%	3,8%	0,2%	0,2%	0,4%	0,0%	0,0%	11,1%
	Karaman Environment, Urbanization and Climate Change Province Directorate	Count	42	6	2	0	0	0	0	50
		% within Name of the building	84,0%	12,0%	4,0%	0,0%	0,0%	0,0%	0,0%	100,0%
		% of Total	9,3%	1,3%	0,4%	0,0%	0,0%	0,0%	0,0%	11,1%
	İzmir Bakırçay University	Count	38	4	5	1	0	1	1	50

		% within Name of the building	76,0%	8,0%	10,0%	2,0%	0,0%	2,0%	2,0%	100,0%
		% of Total	8,4%	0,9%	1,1%	0,2%	0,0%	0,2%	0,2%	11,1%
	Pamukkale University	Count	38	4	8	0	0	0	0	50
		% within Name of the building	76,0%	8,0%	16,0%	0,0%	0,0%	0,0%	0,0%	100,0%
		% of Total	8,4%	0,9%	1,8%	0,0%	0,0%	0,0%	0,0%	11,1%
	İzmir High Technology University	Count	43	2	3	1	0	1	0	50
		% within Name of the building	86,0%	4,0%	6,0%	2,0%	0,0%	2,0%	0,0%	100,0%
		% of Total	9,6%	0,4%	0,7%	0,2%	0,0%	0,2%	0,0%	11,1%
	Kocaeli University Hospital	Count	26	9	11	0	3	1	0	50
		% within Name of the building	52,0%	18,0%	22,0%	0,0%	6,0%	2,0%	0,0%	100,0%
		% of Total	5,8%	2,0%	2,4%	0,0%	0,7%	0,2%	0,0%	11,1%
	Total	Count	347	56	33	4	6	3	1	450
		% within Name of the building	77,1%	12,4%	7,3%	0,9%	1,3%	0,7%	0,2%	100,0%
		% of Total	77,1%	12,4%	7,3%	0,9%	1,3%	0,7%	0,2%	100,0%

The situation of finding materials which are harmful to nature/people in or around the building was asked in order to see the current situation. 77% of the sample group stated that they did not see materials harmful to nature/people in or around the building. When this situation is examined in terms of individual buildings;

- A very large part (86%) of tparticipants working in Alanya Courthouse stated that they did not encounter materials harmful to nature/people in or around the building, 8% of hazardous materials were regularly stored, 2% of them encountered construction wastes, 2% of them encountered hazardous materials and 2% of them encountered dangerous wastes.
- Almost all (96%) of building users in Karabük Governorship said that they did not encounter materials harmful to nature/people in or around the building and 4% said that dangerous substances were stored regularly. In other words, none of the participants in this group encountered harmful materials or wastes in the environment.
- 80% of participants working at Karadeniz Ereğli State Hospital stated that they did not encounter materials harmful to nature/people in or around the building, 16% stated that hazardous materials were stored regularly and 4% saw construction waste.
- More than half (58%) of participants in Antalya Training and Research Hospital stated that they did not encounter materials harmful to nature/people in or around the building, 34% said that hazardous materials were stored regularly, 4% were hazardous waste, 2% were construction wastes and 2% were encountered with hazardous materials.

- A very large part (84%) of building users working in the Karaman Provincial Directorate of Environment, Urbanization and Climate Change found that they did not encounter materials harmful to nature / people in or around the building, 12% of the hazardous materials were regularly stored and 4% encountered construction waste.
- Approximately three-quarters (76%) of building users and beneficiaries at Izmir Bakırçay University stated that they did not encounter materials harmful to nature/people in or around the building, 8% of hazardous materials were regularly stored, 10% of construction waste, 2% of hazardous materials, 2% of construction wastes and hazardous wastes, and 2% of construction wastes, hazards of waste and materials.
- Approximately three-quarters (76%) of building users and beneficiaries at Pamukkale University stated that they did not encounter materials harmful to nature/people in or around the building, 8% of the hazardous materials were regularly stored and 16% saw construction waste.
- A very large part of participants of Izmir Institute of Technology (86%) stated that they did not encounter materials harmful to nature / people in or around the building, 4% of hazardous materials were stored regularly, 6% of them saw construction wastes, 2% of them saw dangerous materials and 2% of them saw construction wastes and hazardous wastes
- More than half (52%) at Kocaeli University Hospital stated that they did not encounter materials harmful to nature/people in or around the building, 18% said that hazardous materials were stored regularly, 4% were hazardous waste, 22% were construction wastes, 6% were hazardous wastes and 2% were encountered.

Cross Table 37.The Relationship Between The Buildings and Suitability of the Building for Disabled Access¹⁵

Suitability of the building for disabled access * Name of the building Crosstabulation												
			Name of the building									Total
			Alanya Courthouse	Karabuk Governorate	Karadeniz Ereğli State Hospital	Antalya Training and Reserach Hospital	Karaman Environment, Urbanization and Climate Change Province Directorate	İzmir Bakırçay University	Pamukkale University	İzmir High Technology University	Kocaeli University Hospital	
Suitability of the building for disabled access	Available disabled lift (hearing, visual and orthopedic disability))	Count	7	10	8	9	6	11	7	6	7	71
		% within Name of the building	14,0%	20,0%	16,0%	18,0%	12,0%	22,0%	14,0%	12,0%	14,0%	15,8%
		% of Total	1,6%	2,2%	1,8%	2,0%	1,3%	2,4%	1,6%	1,3%	1,6%	15,8%
	Available disabled toilets	Count	1	1	4	7	4	1	2	1	3	24
		% within Name of the building	2,0%	2,0%	8,0%	14,0%	8,0%	2,0%	4,0%	2,0%	6,0%	5,3%
		% of Total	0,2%	0,2%	0,9%	1,6%	0,9%	0,2%	0,4%	0,2%	0,7%	5,3%
	Wheelchair ramp in Usable Condition	Count	3	3	0	0	6	1	2	1	3	19
		% within Name of the building	6,0%	6,0%	0,0%	0,0%	12,0%	2,0%	4,0%	2,0%	6,0%	4,2%
		% of Total	0,7%	0,7%	0,0%	0,0%	1,3%	0,2%	0,4%	0,2%	0,7%	4,2%
	Available tactile floor	Count	5	0	0	0	2	2	4	1	1	15
		% within Name of the building	10,0%	0,0%	0,0%	0,0%	4,0%	4,0%	8,0%	2,0%	2,0%	3,3%
		% of Total	1,1%	0,0%	0,0%	0,0%	0,4%	0,4%	0,9%	0,2%	0,2%	3,3%
	Available disabled lift, wheelcahir ramp	Count	1	0	0	1	3	1	0	0	2	8
		% within Name of the building	2,0%	0,0%	0,0%	2,0%	6,0%	2,0%	0,0%	0,0%	4,0%	1,8%
		% of Total	0,2%	0,0%	0,0%	0,2%	0,7%	0,2%	0,0%	0,0%	0,4%	1,8%
	Available disabled lift, disabled toilets	Count	0	0	1	1	1	1	2	2	0	8
		% within Name of the building	0,0%	0,0%	2,0%	2,0%	2,0%	2,0%	4,0%	4,0%	0,0%	1,8%

		% of Total	0,0%	0,0%	0,2%	0,2%	0,2%	0,2%	0,4%	0,4%	0,0%	1,8%
	Available disabled lift, wheelchair ramp, tactile floor	Count	3	1	1	1	2	2	1	0	0	11
		% within Name of the building	6,0%	2,0%	2,0%	2,0%	4,0%	4,0%	2,0%	0,0%	0,0%	2,4%
		% of Total	0,7%	0,2%	0,2%	0,2%	0,4%	0,4%	0,2%	0,0%	0,0%	2,4%
	Available disabled lift, disabled toilet, wheelchair ramp	Count	1	4	1	3	2	1	4	3	2	21
		% within Name of the building	2,0%	8,0%	2,0%	6,0%	4,0%	2,0%	8,0%	6,0%	4,0%	4,7%
		% of Total	0,2%	0,9%	0,2%	0,7%	0,4%	0,2%	0,9%	0,7%	0,4%	4,7%
	Available disabled lift, tactile floor	Count	2	0	0	0	1	1	2	3	0	9
		% within Name of the building	4,0%	0,0%	0,0%	0,0%	2,0%	2,0%	4,0%	6,0%	0,0%	2,0%
		% of Total	0,4%	0,0%	0,0%	0,0%	0,2%	0,2%	0,4%	0,7%	0,0%	2,0%
	Available disabled lift, disabled toilet, tactile floor	Count	0	0	1	0	1	2	3	3	1	11
		% within Name of the building	0,0%	0,0%	2,0%	0,0%	2,0%	4,0%	6,0%	6,0%	2,0%	2,4%
		% of Total	0,0%	0,0%	0,2%	0,0%	0,2%	0,4%	0,7%	0,7%	0,2%	2,4%
	Available disabled toilet, wheelchair ramp, tactile floor	Count	1	1	2	0	3	1	4	2	0	14
		% within Name of the building	2,0%	2,0%	4,0%	0,0%	6,0%	2,0%	8,0%	4,0%	0,0%	3,1%
		% of Total	0,2%	0,2%	0,4%	0,0%	0,7%	0,2%	0,9%	0,4%	0,0%	3,1%
	Available disabled lift, wheelchair ramp	Count	1	2	0	0	0	1	0	0	0	4
		% within Name of the building	2,0%	4,0%	0,0%	0,0%	0,0%	2,0%	0,0%	0,0%	0,0%	0,9%
		% of Total	0,2%	0,4%	0,0%	0,0%	0,0%	0,2%	0,0%	0,0%	0,0%	0,9%
	Available disabled toielts, tactile floor	Count	1	0	1	1	1	0	0	1	1	6
		% within Name of the building	2,0%	0,0%	2,0%	2,0%	2,0%	0,0%	0,0%	2,0%	2,0%	1,3%
		% of Total	0,2%	0,0%	0,2%	0,2%	0,2%	0,0%	0,0%	0,2%	0,2%	1,3%
		Count	0	3	0	1	0	0	0	2	0	6

	Available disabled toilets, wheelchair ramp	% within Name of the building	0,0%	6,0%	0,0%	2,0%	0,0%	0,0%	0,0%	4,0%	0,0%	1,3%
		% of Total	0,0%	0,7%	0,0%	0,2%	0,0%	0,0%	0,0%	0,4%	0,0%	1,3%
	Usable wheelchair ramp, tactile floor	Count	1	2	1	0	2	0	0	2	1	9
		% within Name of the building	2,0%	4,0%	2,0%	0,0%	4,0%	0,0%	0,0%	4,0%	2,0%	2,0%
		% of Total	0,2%	0,4%	0,2%	0,0%	0,4%	0,0%	0,0%	0,4%	0,2%	2,0%
	All of them are available	Count	17	20	27	26	15	22	16	21	19	183
		% within Name of the building	34,0%	40,0%	54,0%	52,0%	30,0%	44,0%	32,0%	42,0%	38,0%	40,7%
		% of Total	3,8%	4,4%	6,0%	5,8%	3,3%	4,9%	3,6%	4,7%	4,2%	40,7%
	None of them available	Count	6	3	3	0	1	3	3	2	10	31
		% within Name of the building	12,0%	6,0%	6,0%	0,0%	2,0%	6,0%	6,0%	4,0%	20,0%	6,9%
		% of Total	1,3%	0,7%	0,7%	0,0%	0,2%	0,7%	0,7%	0,4%	2,2%	6,9%
	Total		Count	50	50	50	50	50	50	50	50	450
			% within Name of the building	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%
			% of Total	11,1%	11,1%	11,1%	11,1%	11,1%	11,1%	11,1%	11,1%	100,0%

The suitability of the buildings which will be renovated within the scope of the EEPB Project for disabled access was also asked and the participants were asked about the availability of the most basic access structures within the scope of the survey.

- More than a third (34%) of the participants working at the Alanya Courthouse stated that all the access structures included in the options are available, and 12% stated that none of these structures exist. In this group, 14% of the participants said that there is only a disabled elevator, 2% only a disabled toilet, 6% only a wheelchair ramp, 10% a perceptible floor, 2% a disabled elevator, disabled toilet and wheelchair ramp structures, and 2% disabled toilet, wheelchair ramp and perceptible floor structures in the building.
- 40% of the building users in Karabük Governorship stated that all access structures within the options are available, and 6% of them stated that none of these structures exist. One fifth (20%) of the participants in this group think that there are only disabled elevators, 2% only disabled toilets, 6% only wheelchair ramps, 8% disabled lifts, disabled toilets and wheelchair ramp structures and 2% disabled toilets, wheelchair ramps and perceptible floor structures in the building.
- More than half (54%) of the participants working at Karadeniz Ereğli State Hospital stated that all the access structures in the options are available, and 6% stated that none of these structures exist. 16% of the participants in this group stated that there are only disabled elevators, 8% only disabled toilets, 2% disabled elevators, disabled toilets and wheelchair ramp structures in the building, and 4% disabled toilets, wheelchair ramps and perceptible floor structures.
- More than half (52%) of the participants in Antalya Training and Research Hospital said that all access structures within the options are available, 18% said that there is only disabled elevator, 14% only disabled toilet, 6% disabled elevator, disabled toilet and wheelchair ramp structures in the building. None of the participants in this group selected the "no structure exists" option. This shows us that all participants are aware of the existence of at least one disabled access structure, or that there is at least one disabled access structure in the building. (In other buildings, at least 1 participant selected the "no buildings exist" option).
- Approximately one third (30%) of the building users working in the Karaman Provincial Directorate of Environment, Urbanization and Climate Change stated that all access structures within the options were available, while 2% stated that none of these structures existed. In this group, 12% of the participants think that there is only disabled elevator, 8% only disabled toilet, 12% only wheelchair ramp, 4% disability floor, 4% disabled elevator, disabled toilet and wheelchair ramp structures, and 6% disabled toilet, wheelchair ramp and sensible floor structures.

- 44% of the building users and beneficiaries at Izmir Bakırçay University stated that all access structures within the options are available, and 6% stated that none of these structures exist. 22% of the participants in this group stated that there is only disabled elevator, 2% only disabled toilet, 2% only wheelchair ramp, 4% felt floor, 2% disabled elevator, disabled toilet and wheelchair ramp structures, and 2% disabled toilet, wheelchair ramp and perceptible floor structures
- Approximately one third (32%) of the building users and beneficiaries at Pamukkale University stated that all access structures within the options are available, while 6% stated that none of these structures exist. In this group, 14% of the participants said that there is only disabled elevator, 4% only disabled toilet, 4% only wheelchair ramp, 8% disability floor, 8% disabled elevator, disabled toilet and wheelchair ramp structures, and 8% disabled toilet, wheelchair ramp and perceptible floor structures.
- 42% of the participants in Izmir Institute of Technology stated that all the access structures included in the options are available, and 4% stated that none of these structures exist. In this group, 12% of the participants think that there is only disabled elevator, 2% only disabled toilet, 2% only wheelchair ramp, 2% only wheelchair ramp, 2% disabled floor, 6% disabled elevator, disabled toilet and wheelchair ramp structures, and 4% disabled toilet, wheelchair ramp and perceptible floor structures.
- 38% of the participants working at Kocaeli University Hospital stated that all the access structures in the options are available, and 20% stated that none of these structures exist. In this group, 14% of the participants said that there is only a disabled elevator, 6% only a disabled toilet, 6% only a wheelchair ramp, 2% a perceptible floor and 4% a disabled elevator, disabled toilet and wheelchair ramp structures in the building.

Cross Table 38.The Relationship Between The Buildings and Knowledge About Insulation Works

Name of the building * Knowledge about insulation works Crosstabulation						
			Knowledge about insulation works			Total
			No	Yes, I Have some Information	Yes, I am Aware of It	
Name of the building	Alanya Courthouse	Count	38	12	0	50
		% within Name of the building	76,0%	24,0%	0,0%	100,0%
		% of Total	8,4%	2,7%	0,0%	11,1%
	Karabuk Governorate	Count	27	11	12	50

		% within Name of the building	54,0%	22,0%	24,0%	100,0%
		% of Total	6,0%	2,4%	2,7%	11,1%
	Karadeniz Ereğli State Hospital	Count	29	15	6	50
		% within Name of the building	58,0%	30,0%	12,0%	100,0%
		% of Total	6,4%	3,3%	1,3%	11,1%
	Antalya Training and Reserach Hospital	Count	28	17	5	50
		% within Name of the building	56,0%	34,0%	10,0%	100,0%
		% of Total	6,2%	3,8%	1,1%	11,1%
	Karaman Environment, Urbanization and Climate Change Province Directorate	Count	32	14	4	50
		% within Name of the building	64,0%	28,0%	8,0%	100,0%
		% of Total	7,1%	3,1%	0,9%	11,1%
	İzmir Bakırçay University	Count	30	18	2	50
		% within Name of the building	60,0%	36,0%	4,0%	100,0%
		% of Total	6,7%	4,0%	0,4%	11,1%
	Pamukkale University	Count	30	13	7	50
		% within Name of the building	60,0%	26,0%	14,0%	100,0%
		% of Total	6,7%	2,9%	1,6%	11,1%
	İzmir High Technology University	Count	31	15	4	50
		% within Name of the building	62,0%	30,0%	8,0%	100,0%
		% of Total	6,9%	3,3%	0,9%	11,1%
Kocaeli University Hospital	Count	29	17	4	50	
	% within Name of the building	58,0%	34,0%	8,0%	100,0%	
	% of Total	6,4%	3,8%	0,9%	11,1%	
Total		Count	274	132	44	450

	% within Name of the building	60,9%	29,3%	9,8%	100,0%
	% of Total	60,9%	29,3%	9,8%	100,0%

Before examining the relationship between building names and knowing some renovation activities such as doors, windows, roof changes, insulation works, it is useful to remember Bar Table 41. Approximately 61% of the participants do not know about some renovation activities, about 29% of them have heard about this but do not know much about it, and about 10% are fully aware of. However, stakeholder engagement meetings were not held in any of these buildings during the survey. Therefore, it is not a very surprising finding.

- More than three-quarters (76%) of the participants working in the Alanya Courthouse stated that they were not aware of some renovation activities such as door, window, roof changes, insulation works to be done in their buildings, while 24% stated that they heard something but have no idea about the subject.
- More than half (54%) of the building users in Karabuk Governorate are not aware of some renovation activities such as door, window, roof changes, insulation works to be done in their buildings, 24% are fully aware and 22% have heard something but have no idea about the subject.
- 58% of the participants working at Karadeniz Ereğli State Hospital were not aware of some renovation activities such as door, window, roof changes, insulation works. 12% were fully aware and 30% heard something about the subject but have no much of an idea.
- 54% of the participants in Antalya Training and Research Hospital stated that they were not aware of some renovation activities such as door, window, roof changes, insulation works to be done in their buildings, 10% were fully aware and 34% stated that they had heard something about the subject but did not know much.
- 64% of the building users working in Karaman Provincial Directorate of Environment, Urbanization and Climate Change are not aware of some renovation activities such as door, window, roof change, insulation works to be done in their buildings, 8% are fully aware and 28% heard something about the subject but have no much of an idea.
- According to the building users and beneficiaries of İzmir Bakırçay University, 60% are not aware of some renovation activities such as door, window, roof changes, insulation works to be done in their buildings, 4% are fully aware and 36% have heard something about the subject, but they have no idea.
- 60% of the building users and beneficiaries at Pamukkale University are not aware of some renovation activities such as door, window, roof changes, insulation works to be done in their buildings, 14% are fully aware and 26% have heard about the subject but they have no idea

- 62% of İzmir Institute of Technology participants are not aware of some renovation activities such as door, window, roof changes, insulation works to be done in their buildings, 8% are fully aware and 30% have heard about the subject but do not have much knowledge. .
- 58% of the participants in Kocaeli University Hospital stated that they were not aware of some renovation activities such as door, window, roof changes, insulation works to be done in their buildings, 8% were fully aware and 34% stated that they have heard about the subject but do not have much knowledge.

Cross Table 39.The Relationship Between The Buildings and Opinion on Renovations For Improving Working Conditions (For Workers)

Name of the building * Opinion on renovations for improving working conditions (for workers) Crosstabulation							
			Opinion on renovations for improving working conditions (for workers)				Total
			I Don't Think So	Partially	Yes, Absolutely	No Idea	
Name of the building	Alanya Courthouse	Count	4	14	25	7	50
		% within Name of the building	8,0%	28,0%	50,0%	14,0%	100,0%
		% of Total	0,9%	3,1%	5,6%	1,6%	11,1%
	Karabuk Governorate	Count	5	17	23	5	50
		% within Name of the building	10,0%	34,0%	46,0%	10,0%	100,0%
		% of Total	1,1%	3,8%	5,1%	1,1%	11,1%
	Karadeniz Ereğli State Hospital	Count	5	14	23	8	50
		% within Name of the building	10,0%	28,0%	46,0%	16,0%	100,0%
		% of Total	1,1%	3,1%	5,1%	1,8%	11,1%
	Antalya Training and Reserach Hospital	Count	9	15	18	8	50
		% within Name of the building	18,0%	30,0%	36,0%	16,0%	100,0%
		% of Total	2,0%	3,3%	4,0%	1,8%	11,1%
	Karaman Environment, Urbanization and Climate Change Province Directorate	Count	4	16	20	10	50
		% within Name of the building	8,0%	32,0%	40,0%	20,0%	100,0%
		% of Total	0,9%	3,6%	4,4%	2,2%	11,1%
	İzmir Bakırçay University	Count	2	14	26	8	50
		% within Name of the building	4,0%	28,0%	52,0%	16,0%	100,0%
		% of Total	0,4%	3,1%	5,8%	1,8%	11,1%
	Pamukkale University	Count	7	13	25	5	50

		% within Name of the building	14,0%	26,0%	50,0%	10,0%	100,0%
		% of Total	1,6%	2,9%	5,6%	1,1%	11,1%
	İzmir High Technology University	Count	2	11	29	8	50
		% within Name of the building	4,0%	22,0%	58,0%	16,0%	100,0%
		% of Total	0,4%	2,4%	6,4%	1,8%	11,1%
	Kocaeli University Hospital	Count	9	15	19	7	50
		% within Name of the building	18,0%	30,0%	38,0%	14,0%	100,0%
		% of Total	2,0%	3,3%	4,2%	1,6%	11,1%
	Total		Count	47	129	208	66
% within Name of the building			10,4%	28,7%	46,2%	14,7%	100,0%
% of Total			10,4%	28,7%	46,2%	14,7%	100,0%

The contribution of the participants to the conditions of those who spent time in the renovations was another matter of curiosity. The answers given by the buildings to this question are as follows

- Half of the participants (50%) working in the Alanya Courthouse chose "yes, definitely", 28% "partially", 14% "I have no idea/I don't know" and 8% "I don't think".
- 46% of the building users in Karabük Governorate stated that renovations to be made in the building will improve the conditions of those who spend time in the institution, 34% will partially improve, 10% do not think they will make any improvements, and 10% have no idea.
- 40% of the participants working at Karadeniz Ereğli State Hospital chose "yes, definitely", 28% "partially", 16% "I don't know/I don't know" and 10% "I don't think"
- 36% of the participants in Antalya Training and Research Hospital stated that renovations to be made in the building will improve the conditions of those who spend time in the institution, 30% will partially improve, 18% do not think they will make any improvements, and 16% have no idea.
- 40% of building users working in Karaman Provincial Directorate of Environment, Urbanization and Climate Change answered "yes, definitely", 32% "partially", 20% "I don't know/I don't know" and 8% "I don't know". "I don't think so" was ticked.
- More than half (52%) of the building users and beneficiaries of İzmir Bakırçay University think that renovations to be made in the building will improve conditions of those who spend time in the institution, 28% will partially improve, 4% do not think they will make any improvements, and 16% have no idea.
- Half of Pamukkale University building users and beneficiaries (50%) chose "yes, definitely", 26% "partially", 10% "I don't know/I don't know" and 14% "I don't think".
- 58% of İzmir High Technology participants stated that renovations to be made in the building will improve the conditions of those who spend time in the institution, more than one fifth (22%) will partially improve, 4% do not think they will make any improvements, and 16% have no idea.
- 38% of the participants in Kocaeli University Hospital stated that renovations to be made in the building will improve the conditions of those who spend time in the institution, 30% will partially improve, 18% do not think they will make any improvements, and 14% have no idea.

CONCLUSIONS AND SUGGESTIONS

Regarding the Project for Energy Efficiency in Public Buildings, during the analysis of the questionnaire that 307 participants from 9 buildings that are in the 1st package replied, the frequency tables for all questions have been prepared by using SPSS Statistics 25 software. While preparing the tables, the relationship between selected questions and dependent variables of firstly sex, then occupation and building name were examined. As also indicated in the report, data loss of this report is significantly lower than “Questionnaire Report on the 1st Package Prior to Renovations”. Therefore, a general picture of the buildings that are included in the sample could be drawn.

The lack of information and awareness towards energy efficiency in the questionnaire on the EEPB project - 1st package prior to renovations, has been tried to be resolved in this questionnaire work. Especially the relationship between the data gathered from these questions and the dependent variables of sex and occupation has been established.

As is well known, the notion of gender inequality is causing inequality between the sexes in even basic human rights such as access to education, health and justice. In this study, no considerable difference has been noted between sexes on dependent variable of education due to the attribute of the buildings (university, hospital, management building). Furthermore, for education levels above graduate (masters, PhD), it is seen that the ratio of women is greater. However, on the variables of sex and occupation, some findings have been noted. It is noted that the representation of men and women are equal in the category of science and engineering occupation (economist, biologist, engineer, statistician, etc). However, it must be kept in perspective that this study has only been undertaken in public buildings and that had it been undertaken in the private sector where working hours are more flexible, the results would probably have indicated some difference. Especially, the rates of male concentration in the fields of auxiliary science and engineering that includes construction, electrical and mechanical technicians are seen as 89.5% and, in the managers, as 78% are completely in line with the expected gender roles. According to the report issued by Turkish Statistical institute in 2021 titled “Gender Statistics 2020”¹⁵, in Turkey the number of male managers are 4 times more than the number of female managers. Also, in the study we have conducted, this ratio is close to 4 times as well. Therefore, they are in line with the reality of Türkiye in this respect. In this sample group, the occupation category that requires no qualifications are comprised of cleaning personnel. As is well known, the prestige and pay grade of those jobs that require no qualifications are low. When the occupation in question is cleaning, these types of jobs are deemed fit more for women due to ossified gender roles. In this study the results also indicate a similar finding. In this category, approximately 67.2% of public workers are women.

¹⁵ https://www.tuik.gov.tr/media/announcements/toplumsal_cinsiyet_istatistikleri_2021.pdf

It is also found out that there are serious differences between the results of this study and the EEPB project – 1st package prior to renovations study in terms of the question of interior ideal temperature. As can be seen in the report of the 1st package, women have stated that the ideal interior temperature should be higher than what was stated by men. On the other hand, in this report, there was no significant difference between the ratios of men and women about ideal internal temperature.

During this research, the distribution of different sexes in areas of knowledge and awareness towards energy efficiency was also studied. As was indicated earlier, there is a wide belief that men have more information than women on issues of science and technical matters within the context of gender roles. As can be seen in cross table 3 and cross table 4, women have given a higher rate of correct answers to the questions regarding the meaning of energy efficiency and applications of energy efficiency. However, the data for the knowledge of building users and beneficiaries regarding energy efficiency measures of the buildings do not overlap with knowledge and awareness (cross table 5). Despite being more knowledgeable about the subject, women have indicated that they know less about the energy efficiency applications in their own buildings than the men. The reason for this finding could be that the women participating in the study are less interested in the measures for energy efficiency in their own buildings. It will be useful to pose further questions in this area that will increase the diversity and richness of the data, as to draw conclusions about this subject with the data in hand could be speculative.

A similar situation can also be seen in cross table 12 where knowledge and awareness of energy savings measures are evaluated. More than one third of the sample group replied they had no opinion when asked about energy efficiency measures taken in the building. 32% of the sample group gave the same answer when asked about applications of energy saving measures in the buildings. This shows that the level of knowledge to be very close to each other for efficiency and savings. This also means that the participants have taken the study seriously and gave consistent answers. Despite the group being knowledgeable about energy efficiency and savings, most of the sample group (approximately 75%) knew either very little or nothing about the energy saving measures in their buildings. In the dependent variable of occupation, an interesting finding has been unearthed: A majority (78%) of participants working in the professional occupation groups of science and engineering had no or very little knowledge about the energy saving measures in their buildings¹⁶.

Another important finding regarding energy savings is that approximately 68% of the sample group do not know anything about the energy saving measures taken in the buildings that they work/study at in the last 10 years. As an introspection, it is thought that in this question the lack of a choice of “there is no energy savings measure in the building” might have led the participants to the choice of “I do not

¹⁶ As an introspection; in this question, it is possible that the results were affected by the lack of a choice such as “there is no energy saving measures in our building”. However in the last question of the questionnaire, “Do you have anything to add?” was asked of the participants, and the participants have not given any feedback regarding the lack of this choice.

have an opinion”. Another reason for the “I have no information /Opinion” choice to be marked at this frequency could be that the building management have not informed the building users about the energy saving measures taken in the building. In cross table 17, the relationship between the energy saving measures used in their building and occupation is examined. The table shows that 35% of the participants have no idea about the energy saving precautions applied in the buildings they work at/ study in. It is possible to reach the following conclusion: The more detailed questions are posed to the participants about the energy saving measures in the buildings, the more the participants mark the choice “I do not have an idea”.

As is known, the notion of energy efficiency has been holding a significant place in Türkiye’s agenda in the last 10 years. For this reason, in the questionnaire for the 2nd Package Prior to Renovation, it is believed that collection of the participants views on trainings to be held in this subject will be of importance. As indicated in bar table 14, a majority of the sample group has noted the importance of energy efficiency. Furthermore, the occupational group who possesses the least ratio of information about energy efficiency (the category of workers that require no qualifications) has indicated that trainings on this subject were very important which clearly reinforces the need for these types of training (cross table 15). Regarding energy efficiency, it can be said that a training cycle that will encompass all public workers will not only improve the sustainability of the project but also will be beneficial and efficient in raising awareness of the subject.

An interesting finding of the study is that despite the women having a higher level of education and the men to women ratio in the science and engineering professionals’ group being equal, in the subjects of energy efficiency, renewable energy resources and climate change, the men have indicated they know at least twice as much as the women about these subjects (Cross table 7). At this point, it is worthy to note that the concepts of “knowing too much or too little” are relative concepts.

Another finding of significance is that the sample group’s replies to the questions regarding saving measures and energy efficiency applications in their buildings are very close to each other in ratio. This finding shows that the level of knowledge about efficiency and savings are very close to each other. Which further means that the participants have taken the survey study seriously and gave consistent replies.

In cross table 5, there is a considerable rate of difference between men and women in the subject of “being fully aware” regarding applications of energy efficiency. When compared with female participants, more than half of the male participants have indicated that they fall within the “being fully aware” category. Despite the rate of having information and awareness regarding energy efficiency being higher in women than men, it is of interest to note that the energy saving measures in buildings were known less by women in comparison to men.

Participants find the actions towards raising information and awareness in the field of energy efficiency to be of great importance. Based on this finding, it can be said that a training project that will include all public institutions regarding energy efficiency will not only be beneficial for the sustainability of the project but will also aid in raising awareness about the issue.

The rate of being completely knowledgeable of renovation procedures that will be undertaken is very similar between the sexes (Cross table 14). When examined on building-by-building basis, it can be said that the participants that have the least knowledge about renovation procedures that will be undertaken is the Alanya courthouse.

As part of the study, another issue that is researched is the views of building users regarding the internal temperature comfort and heating systems. Main factors that effect the buildings' internal temperature comfort have been undertaken in 3 categories as was indicated earlier (the structural status of the building, heating system and the human factor). More than half of the participants have indicated that the internal temperature of the building was insufficient and have cited reasons for this to be structural problems such as the inefficiency of the building's heating system and insulation problems of the building. It can be said that participants from the Kocaeli University Hospital were the group that was the most satisfied by the internal temperature of the building. On the other hand, the participants from the Pamukkale University were the group that was the least satisfied by the internal temperature comfort.

As is generally known one of the most important factors in internal temperature is the efficiency of the heating system. Judging by the replies given by the participants, it can be said that the heating systems at Antalya Education and Research Hospital and Izmir Bakırçay University are working efficiently. The building with the lowest heating efficiency is the Alanya Courthouse. Judging by the fact that the most and least efficient heating systems are from the same city (Antalya), it can be said that the subject is independent of area or climate issues.

The necessity to use additional heaters provides clues as to the heating system and the insulation of the buildings. In the findings of the EEPB Project 1st Package, it was found out that 55% of the buildings did not need to use additional heaters. Regarding this issue, the replies given by the participants coincide with each other between the 1st and the 2nd package. In cross table 26, it can be seen that approximately 35% of the participants have indicated "the system is good but temperature can be warmer", and "the system is insufficient and the temperature is cold", thus pointing out the need for a warmer internal temperature. In cross table 27, it can be seen that nearly 32% of the participants confirmed they feel the need for additional heaters. Therefore replies given to these two questions overlap with each other. As a ratio, it can be noted that the building that uses the most additional heaters is Kocaeli University Hospital.

One important measure regarding energy savings is the insulation of the doors and windows. More than half of the participants have indicated that there is some or many problems regarding this aspect of their

buildings. It has been found thru this study that the buildings that are indicated to be with the least efficient insulation and the coolest internal temperature to be Pamukkale University (16%) and the governorship of Karabük (14%).

To determine the level of insulation of the windows, it was also asked of the participants about the level of outside noise they can hear while the windows are closed. It will not be wrong to report that when all buildings are examined, almost all of the buildings were found to have problems with their windows insulations. The participants from the Antalya Education and Research Hospital are the group that reported the lowest level of audible outside noise when windows are closed.

As a result of the discussions undertaken by the related consultant companies that are responsible from the renovations on EEPB Project DES&SUP 4-5-6, it has been decided that the following works will be undertaken.

- Maintenance and repairs on windows of Karaman Environment, Urbanization and Climate Change City Directorate building,
- Maintenance and repairs on windows of Antalya Education and Research Hospital building
- Replacement of window frames and window glasses at Bakırçay University building
- Replacement of all windows at Pamukkale University Education Faculty and replacement of window glasses and frames at Block A of Engineering faculty.

As the courthouse of Alanya has been chosen as the ESCON building, the consultant is only able to make suggestions. Among the obligatory suggestions, window glass replacement is present. At the Governorship of Karabük, Karadeniz Ereğli State Hospital, Kocaeli University Hospital¹⁷ and İzmir High Technology Institute, there will be no work done on the windows. Regarding the windows insulations, especially the building users of Pamukkale University and the Governorship of Karabük have stated concerns however there will be no work done at the Governorship of Karabük.

As is known, precautions regarding lighting are also evaluated under energy savings. In cross table 31 the data regarding general interior level of lighting has been studied and it has been found out that most of the (66%) sample group found the general interior level of lighting to be not disturbing. When asked about the offices and classrooms where most of the daily time is spent, it is seen that the sum of answers describing it as sufficient and perfect is 73% of the sample group. However, there are still participants who describe the level of interior lighting as insufficient. Participants have mostly stated that the power of the lighting elements as insufficient. Upon the meetings held with the consultant companies, it has been found out that in all of the buildings that are included in the sample of this questionnaire work, the measurements for lighting sufficiency were undertaken and the results indicated that lighting elements

¹⁷ Kocaeli University Hospital, using their own resources, 310 units of windows which are mostly patient rooms have been furnished with magnetic contacts, thus enabling the use of local FCU control. It is aimed that an additional 400 windows undergo the same operation during the year 2022.

of sufficient power are chosen for the environments such as room/classroom. In all of the said buildings, all fixtures will be changed to LED in line with interior lighting standards. Hence the problems that the participants have voiced will be eliminated.

Another issue that was of interest was the opinions of the participants as to whether the renovations to be done on the buildings would enhance the working conditions of the personnel spending time there. It is of benefit to shortly go over the findings of the study regarding this issue. 46% of the participants have indicated that they expect the enhancements works to be beneficial for the working conditions of the personnel spending time in these buildings. 29% of the sample group indicated there will be a partial change, 10% of the sample group indicated that there will be no benefit from these enhancements and 15% indicated they have no information and thus no opinion about the subject.

In cross table 39, it can be seen that 61% of the participants have no knowledge about the renovation works that will be done in their building. Despite being unaware of the renovations to be made, it is still believed that any such work will benefit the comfort levels of the people that spend time in the building. As can be seen in cross table 25 and cross table 35, there are problems with door and window insulations of the buildings. Cross table 39 shows us that the participants are hopeful that these problems will be eliminated when the renovations within the scope of this project are undertaken.