

A STUDY ON THE SATISFACTION FACTORS IN DESIGNING THE STUDENTS HOUSE: A CASE STUDY OF BOYS DORMITORY CAMPUS OF THE UNIVERSITY OF GUILAN

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ABSTRACT

The current study, relying on humanistic and ecological psychology, aimed at evaluation of environmental satisfaction factors between undergraduate boy students residing in the dormitories of Guilan University and the predictive power these factors for using in architectural designing of further developments of the dormitories in this environment. The research method is correlation and the main data collection instrument is questionnaire. The statistical society of the study is all the boy undergraduate students of Guilan University (940 students) from which 290 students were chosen using simple random sampling. The data were analyzed through the inferential statistical procedures such as correlation coefficient and stepwise regression, using SPSS. The results indicated that the variables self-esteem and respect had the highest effect on environmental satisfaction of the students. Other factors affecting this satisfaction, in order of priority are physiological needs, belonging and love, Psychological safety, and growth needs. Cognitive and aesthetic needs do not play any roles in creation of residential satisfaction in the campus dormitories of Guilan University.

Published on: 25th– Sept-2016

KEY WORDS

dormitory; students; satisfaction; need; environment.

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INTRODUCTION

The students dormitories are one of the man-made environments which are usually made for accommodation of the students entering university from other cities, facilitated for their welfare and development. However, many of these buildings do not have the environmental quality and the majority of students residing in them are dissatisfied with their living environment. Increase in stress and behavioral problems, despair, anxiety, and depression are among the negative effects dissatisfaction with life with consequences such as reduced spirit of social partnership, cooperation and social trust. Therefore, paying attention to satisfaction of students living in dormitories is an important step in designing students' dormitories. Since there are no proper studies in this regard in the country and Iranian society, the research on this issue is so vital.

Theoretical Frameworks of the Study (Concepts and the related Theories)

The two humanistic and ecological approaches were chosen since, besides distancing from fail algebraic and possibility-oriented approaches, pay special attention to the human needs in achieving their satisfaction. Humanistic Psychology relies on principles such as respect for individual values, lack of prejudice to the other accepted methods, and interest for discovering new aspects of human behavior. It is also willing to coexist with other schools of psychology and tries to, through dialogue with them, take step for completing the psychology [1]. In short, humanistic psychology is about discovery of the human potential and contribute to its growth [2]. Concepts "need" and "satisfaction" are among the fundamental concepts of Humanistic Psychology. Ecological psychology was introduced by Roger Barker and Herbert Wrigh was in Kansas [3]. In this regard, reviewing the impacts of the environment on people's social behavior was of interest to researchers. Also this fact grabbed the attention that not only does man affect the environment for solving his problems, but also he affects others who share this environment with him [4].

Satisfaction:

One of the indicators of mental health is life satisfaction level [5, 6, 7]. Experience of happiness and life satisfaction is the overriding goal of life and feelings of sadness and unhappiness is often an obstacle to individual tasks [8]. In other words, the higher the levels of life satisfaction, the higher the general and mental health [9]. Dissatisfaction with life is correlated with poorer health conditions, depression, personality problems, inappropriate behavior and poor social health [10]. The scholars and researchers have provided some theories for determination of the factor affecting satisfaction. "needs satisfaction theory" is among the most important theories in this regard [11, 12].

Needs:

The theory derives from the idea that the behavior's energy, direction, and stability is a result of needs [13]. Needs create motivation and motivation gives direction and purpose to the behavior [14, 15]. Thus, the behaviors also come to action for satisfying the needs [4]. Need is a mode of tension associated with "dissatisfaction", related to a requirement (biological, psychological or social) directed to a category of satisfying objects that leads the person to finding a satisfactory balance, through the acquisition of objects belonging to a given category [16]. Satisfying the human needs is the claim of numerous architects, environmental designers, and urban designers. Maslow (1987), the humanistic psychologist, offers a model of human needs and motivations that is considerable. The studies and research in the field of environmental psychology and architectural theory approves his model to be used in architectural and urban designs [17].

Maslow's Hierarchy of Needs:

Maslow is perhaps the most famous theorists in the field of need. He believed that the basic biological needs are associated with shortages and higher needs with growth [13]. Maslow proposed a hierarchy of needs from the strongest to the weakest with the priority of stronger needs over the weaker ones. He proposed his hierarchy is as follows: Physiological needs, like hunger and thirst; safety requirements, such as security and protection against physical damage; belonging and love, such as membership in social groups and emotional needs; need for respect (self-esteem), i.e. the person is prized by himself and others; the need for self-actualization, which expresses the desire to satisfy individual capacity; and cognitive and aesthetic needs, such as the desire to know and feel the beauty for Beauty [18]. Maslow's believed these needs are instinctive and he meant that they have a perceptible hereditary factors. However, these needs are easily delayed by learning, cultural expectations, fears and opposition. According to Maslow, higher needs are less essential for survival and satisfying them could be delayed [19].

Maslow's hierarchy of needs is one of the most viable theories in Behavioral Sciences, it has a high face validity. In addition, a lot of research have tested Maslow's hierarchy of needs and have supported this model [for example: 20, 21, 22]. Reiss and Havercamp retested Maslow's hierarchy of needs in 2005 using the precise research methods and provided evidence to approve it [23].

Environment:

In psychology, the idea that only acts emanate from the needs is no longer accepted. The current stance is that the needs lead to preparation [13]. Whether these preparations lead to action or not, depends on the environmental conditions. So we cannot assume satisfying the individual's needs inseparable from the environment and the social context in which one person is living. Theories of organisms do not accept one-sided descriptions (environment→human) and emphasize on the human dialectics instead [24]. In dialectics mode, the human affects the environment and accordingly environment affects human [2]. The result of human-environment dialectic is an ever-changing composition by which the environment supplies the human needs and create new motivations for him [2]. so, on one hand human is affected by the environment and on the other hand, he organizes the environment and change its conditions according to his needs and objectives [15]. Maslow defines the bad social and environmental conditions as follows:

"The bad social or environmental conditions are those in which the personal satisfaction (the needs derived from shortcoming) is low to the extent that not everybody can satisfy his needs but in the cost of losing other needs" [25].

Barker, the founder of ecological psychology also argues that a "behavior setting" enables the individual to achieve the "satisfaction" [26]. These behavior settings have two basic elements namely a typical pattern of behavior and a physical environment [27]. Human states and behaviors, in turn, are formed from interaction between the motivation and capabilities of the environment. So, in this case also it is the interaction between the environment and human needs which can lead to satisfaction.

Student Dormitories:

In the dormitories, the students may share a room with total strangers. In addition, the dormitories should facilitate both studying and socializing - activities that are often at odds [3]. Both individual and group activities should be considered in the dormitories. In many cases, these requirements interfere with each other and cause a confusing and undesirable spaces. The existence of many functions in the bedrooms/study room may lead to some confusion and limit controlling the personal spaces and areas which lead to devastating effects on satisfying the students needs. This can be exacerbated by the increasing of the number of students in a room. During Jefferson's era when the Dormitory was designed, quality was based on human proportions and scales, however today these traits are not of a great importance. The condition of the room where the student lives is fundamental related to a sense of safety, privacy, and social identity of student [28]. Outside area of the dormitory campus also performs several functions at the same time. The most important task of the outside area is providing commuting routes as well as mechanisms for proper building and path tracking. In addition, the natural environment as well as individual and group spaces must be especially considered.

INTRODUCTION OF THE CRITERIA, MATERIALS AND METHODS

Physical Comfort:

Human dissatisfaction is partly related to the lack of comfort [29]. Biological motivations is largely rooted in physiological states of the body. Such motives are many, such as hunger, thirst, sexual desire, thermoregulation, sleep, avoiding pain, and the need for oxygen [19]. The built environment is expected to provide an accepted level of physical welfare. The built environment must consider the sufficient light, temperature, and humidity. In addition, the access routes and attention to infrastructure, facilities, health and medical facilities as well as provision of services deal with satisfying these needs [30]. It seems there are needs that should be considered by most of building types. At the same time, some buildings are expected to pay special attention to physical needs. In dormitory environments, the need for sleep and rest and also food needs as well as the hunger, are among the most important needs. Among the effects of sleeplessness, inconsistencies in performance and increase in task performance time can be noted [31]. Failure in satisfying this important physiological need can cause serious damage to the student's school performance and dropout. Student residences usually satisfy the food and hunger needs in many different ways. One of these ways is the use of dining halls that accept the students at certain hours, however on the other hand, students often do not follow a strict time schedule or on different situations, may be awake all night and involve in their favorite social interaction. That's why there is a constant need for a place for small eating and gathering spaces as well as a mini fridge and small kitchen.

Way-finding

The mental and social aspects of way-finding are important factors for a sense of personal security [18]. Way-finding in a completely different environment is easier than an environment in which all the things are similar. The visual clarity refers to the extent to which the various parts of the environment can be seen more distinguished from the rest of it. The high visual clarity can ease the way-finding. The spatial designs complexity indicates the volume and difficulty in the information that should be processed for moving inside an environment [3]. Fear and uncertainty that is resulted from poor way-finding and security and pleasure which is obtained through its opposite, relates the environment shape to deep psychological level [32]. Urban and architectural maps and symbols are good iconic factors for enhancing people's way-finding ability [18].

Privacy, Personal Space, Territorial Behavior:

Rapoport (1982) defines privacy as "the ability to control social interaction, right to choose, and the ability of individual's desirable social interaction" [33]. One of the main reasons for dissatisfaction with the built environment, is failing to meet the desired level of privacy. The need for privacy, personal space and territorial behavior is common in the humans and is related to satisfying other needs such as safety, self-actualization, and self-esteem [34, 35, 36]. If someone else enters Personal Space people feel perturbed and show their dissatisfaction [34]. Even if external signs of dissatisfaction remain hidden, such reactions to the disturbances, skin redness may occur. In work situations, this perturbation disrupts the tasks [37].

Noise and Crowd:

Disturbing noise is called "crowd", and if the sound is loud and persistent it imposes damage to human hearing system [38]. The noises can lead to physiological and psychological stress [39]. In the students' dormitories, the noisy spaces such as hallways and dining rooms must be separated from the bedrooms/study rooms in which the silence is very important. Abundant sources of noise in the dormitory are created by the sounds and steps of students, especially in corridors, stairways, bathrooms. Outside noise and sounds caused by equipment like plumbing repairs, ventilation and cleaning of the devices may also disturb the students [28].

Personalization and the Personalized Space:

Personalization is said to be the marking, or the integrity and consistency of objects in a location that gives us the feeling of ownership of that place [refer to 40]. Personalization of places provide a lot of purposes, such as Psychological safety, the symbolic aesthetic, and matching the environment with the needs. Most important of all, the spatial domain is distinguished by personalization [41]. Students often do not feel responsible for the dormitories environment, however when freedom of choice goes higher, the responsibility level increases and they show more participation. Hansen and Altman in a study (1976) showed that the amount and type of decoration used in rooms is related to the possibility of the student staying in the university [42]. Eigenbrod's study also found similar results [cited in 40].

Territorial Behavior and Human Territories Typology

Altman describes three types of territories as primary, secondary and public. Primary territories are under the ownership and exclusive use of the individual and special groups and others know them as the owner of this territory. In fact, no such territories, or the inability to regulate the access of others to it, in the long term can cause loss of self-esteem or self-identity [36]. Oscar Newman believes the human territories include personal space, private space, a semi private / semi-public and public space and introduces the lack of clear spatial territories as the cause of many abnormal behaviors and unsafe spaces [43].

Student dormitories are a kind of residential buildings in which the residents' satisfaction is heavily influenced by controlling the spatial territory. Creating distinct territories for two roommates is difficult, since room furnishings will be established in such a way that makes access to areas of room uncontrollable and often it is not clear that each spatial territory belongs to which resident [41]. Vander Ryn and Silverstein, in a study on the dormitories of University of Berkley noted a similar problem. In this study, 94% of the population demanded more freedom of dormitory space to create their own territory [44].

Social Needs:

Satisfying the need to connect has a lot of positive consequences and leads to life satisfaction and happiness [19]. Several researchers believe that need to attachment and tend to interpersonal belonging is Component of basic human motivation. It is said that this need is defined with a frequent interaction within communication range [13].

One of the most important roles of dormitories is deciding on the size and composition of the group in which the student finds himself. Impact of these groups on shaping the minds is more than impact of the professors and even family. A study shows that students' sense of belonging is correlated with their participation in university activities ($r=0.65$). This indicates that daily interactions is important [45]. If the group is too large or heterogeneous, the student will be lost in a mass and will be looking for smaller, more intimate groups (Some people do not find such a group and lose most effective educational experiences that the university can offer) [28].

Natural Environment and a Sense of Belonging to the Place:

The natural environment is a biological necessity [46] has a strong impact on the relationship between people and the built environment which is determined as a choice setting [47]. The natural environment is important in creating a sense of belonging and identity, which in turn has positive effects on mental health [48]. The amount of greenery and wildlife, tree size and their density are positively associated with satisfaction in the environment [49]. A natural environment can increase the amount of

contact by people in the external environment and strengthen the sense of community [50]. The research confirms that a person experiences of nature should not certainly be visible. Even the most ordinary aspects of nature as a tree or a small open space can also be enjoyable [51, 52].

Need for Growth and Competence:

The basic assumption of the theory of growth is that human is not born with fully grown abilities. For adapting and success, they must develop their abilities [13]. Maslow, in the high level of human talents and abilities growth, notes to the value of "being". There are approximately fourteen values of being, including truth, beauty, goodness, Forgiveness, perfection, simplicity, comprehensiveness, and several other values [25]. While the built environment can provide potential features for growth of low level talents and competence needs, it seems development of values of being in this way is difficult. However, in cases where the built environment can provide symbols and signs for the spiritual tasks and values, it can have a reminders role [53].

In student dormitories, considering the proper educational facilities as well as passionate and animated spaces can be effective on creating multiple capabilities according to the characteristics and merits of dormitory students.

Dormitory plays an important role in the education process of students. Some universities hold the formal classes in their dormitories and benefit from e-learning tools in order to improve the education. Stokes (1960) determined that 55 to 78 percent of students study in dorm rooms and 85% of students prefer to study alone [3]. As a result, having a private space is a high priority among students [44]. Since dormitories, in addition to being workplace (learning), is students' home, these spaces are usually equipped with entertainment and amazement places. These facilities can have an important role in the development of students' physical and social talents.

Aesthetic Needs:

The aesthetic information address a specific part of our spirit and lead to a sense of satisfaction in us [54]. Traditional designing of environment deal with the symbolic and formal aesthetic [18]. The subject of formal aesthetics is values of the environment shapes and structures. The symbolic aesthetics deals with the pleasure created by people's mental history and attitude made of configurations and features of the built environment [18]. Detection of these meaning, consciously or unconsciously, affects people's feelings about themselves and the environment. In addition, the identity of the symbolic meanings of the built environment increase the people's sense of belonging to a social group or a location [33].

Review of Related Literature:

While there are research in the field of environmental needs of the students, but it seems such studies have no place in Iran so far. Eigenbrod's study evaluates the effect of territory control personalization on the satisfaction and behavior of the students. More freedom was significantly related to the satisfaction of the people with their roommates. Also, in those places, less demolition, more decorations in halls, less disciplinary problems and better maintenance of the dormitory building was seen. Becker concludes that having a territory is correlated with a large number of positive outcomes for students, such as more satisfaction, less crowd, less environmental damage, and less disciplinary problems [cited in 40]. In another study Baum, Gatchel, Aiello, and Thompson (1981), investigated the pressure of congestion in student dormitories. In short, they found the trace the role of environmental, social and cognitive factors in the development of congestion pressure, isolation and helplessness [55]. In Baum, Aiello and Calesnick (1978) study, long corridor and short corridor dormitory residents who live in large groups and temperate, were evaluated by survey at weeks 1, 3, 7. The results showed that after one and three weeks of stay in long corridor dormitories, the residents of this dormitories were more competitive, more passive, and more involved in the reinstatement of their control compared to short-corridor dormitories residents. At the end of the seventh week, they withdrew more and were less involved in their interaction, and showed signs of failure [56]. Valins & Baum (1973) [57] and Baum & Valins (1973) [58] are important in that they considered the long-term effects of living in crowded areas on the upcoming social behavior. The results show that living in crowded environments is associated with avoiding social interaction.

Data Gathering by Questionnaire

In this study, firstly the pretest questionnaire was distributed among the students in Guilan University boys' dormitories. Cronbach's alpha coefficient for all inferential statements were within acceptable limits. However, some of the questions that respondents were unclear about were modified or omitted.

Sample Size and Sampling Method:

In the current study, the probable accuracy was taken as $d=0.05$ along which the Z value is 1.69. Considering the symmetric mode for the main variable measured which is the satisfaction of the dormitory, we accept 50 to 50 gap in determining the sample size. So, the $p=q=0.5$. By putting the mentioned values in the following equation, the sample size is obtained:

$$n = \frac{N \cdot pq \cdot z^2}{Nd^2 + z^2 \cdot pq}$$

Since The statistical population of the study is all the boy undergraduate students of Guilan University (N= 940 students), The sample size obtained. (n= 273)

Given that some of questionnaires might be partially filled, 290 questionnaires were copies and randomly distributed among the students in Guilan University1 boys' dormitories.

RESULTS

Data Description:

In this section, the main independent and dependent variables are described by sub-variables (measures) that constitute the questionnaire's items. The following variables define the operational structure of the research determined by library study, observation, and interview. It is worth mentioning either of the environmental needs is associated with numerous environmental issues factors. On the other hand the number of items in the questionnaire should be in manner that respondents carefully and properly respond to them. For this reason, those sub-variables that are most important in description of variable has been selected.

Table: 1. Description of the responds to the items of physiological needs

Items		Very low	low	Moderate	High	Very high	Mean
Proper temperature	Frequency	34	73	129	41	5	2.7
	Percentage	12.1	25.9	45.7	14.5	1.8	
Proper natural light	Frequency	19	50	125	76	10	3.0
	Percentage	6.8	17.9	44.6	27.1	3.6	
Rest and sleeping	Frequency	57	82	98	30	14	2.5
	Percentage	20.3	29.2	34.9	10.7	5.0	
Proper and sufficient paths inside the dorm	Frequency	18	53	120	82	8	3/0
	Percentage	6.4	18.9	42.7	29.2	2.8	
Proper and sufficient paths outside the dorm	Frequency	9	34	97	118	24	3.1
	Percentage	3.2	12.1	34.4	41.8	8.5	

Table: 2. Responds to the safety (psychological) needs items

Items		Very low	low	Moderate	High	Very high	Mean
annoying noise from the surrounding environment	Frequency	1	24	40	117	99	4.0
	Percentage	0.4	8.5	14.2	41.6	35.2	
Disturbing noise from inside the room	Frequency	35	80	78	56	33	2.9
	Percentage	12.4	28.4	27.7	19.9	11.7	
Specifying the personal spaces and communal spaces	Frequency	77	95	85	23	1	2.2
	Percentage	27.4	33.8	30.2	8.2	0.4	
specifying routes and corridors in the	Frequency	7	36	120	103	15	3.3

design of interior spaces	Percentage	2.5	12.8	42.7	36.7	5.3	
specifying routes and corridors in the external design	Frequency	3	36	104	122	17	3.4
	Percentage	1.1	12.8	36.9	43.3	6.0	

Table:3. Description of the responds to the sense of belonging and being loved needs

Items		Very low	low	Moderate	High	Very high	Mean
Trees and green space outside	Frequency	6	25	80	130	40	3.6
	Percentage	2.1	8.9	28.5	46.3	14.2	
plants and flowers indoors	Frequency	70	43	78	71	20	2.7
	Percentage	24.8	15.2	27.7	25.2	7.1	
Providing relations of friendship and intimacy in dormitory spaces	Frequency	33	80	103	51	14	2.8
	Percentage	11.7	28.5	36.7	18.1	5.0	
attention to the symbolic and memorable spaces and elements in the design of the external enclosure	Frequency	104	106	51	15	5	2.4
	Percentage	37.0	37.7	18.1	5.3	1.8	
attention to the symbolic and memorable spaces and elements in the design of the internal enclosure	Frequency	156	83	24	14	5	2.4
	Percentage	55.3	29.4	8.5	5.0	1.8	

Table: 5. Description of the responds to the self-esteem and respect needs

Items		Very low	low	Moderate	High	Very high	Mean
The ability to control disturbing noise from surrounding	Frequency	102	109	51	15	4	2.0
	Percentage	36.3	38.8	18.1	5.3	1.4	
The ability to control disturbing noise from inside	Frequency	29	56	96	73	28	3.1
	Percentage	10.3	19.9	34.0	25.9	9.9	
The power of choice and decision-making in laying out the furniture	Frequency	88	67	66	50	11	2.4
	Percentage	31.2	23.8	23.4	17.7	3.9	
The power of choice and decision-making in decorating the room	Frequency	40	83	81	62	16	2.8
	Percentage	14.2	29.4	28.7	22.0	5.7	

Table: 5. Description of the responds to the self-actualization needs

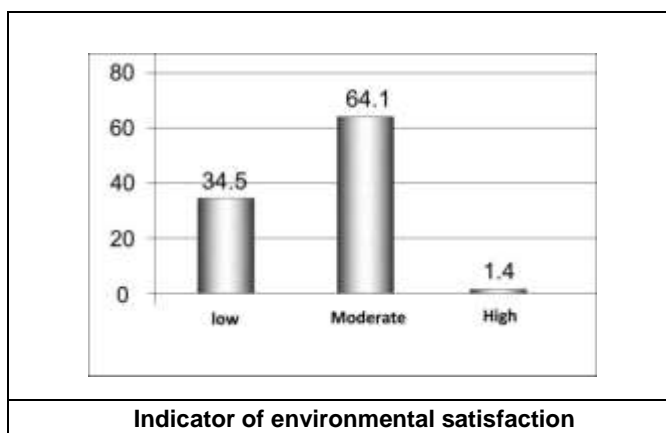
Items		Very low	low	Moderate	High	Very high	Mean
Freedom and choice about reading and studying	Frequency	71	86	76	44	5	2.4
	Percentage	25.2	30.5	27.0	15.6	1.8	
Spaces for recreation or sport	Frequency	47	65	120	41	8	2.6
	Percentage	16.7	23.1	42.7	14.6	2.8	

Table: 6. Description of the responds to the cognitive and aesthetic (formal) needs

Items		Very low	low	Moderate	High	Very high	Mean
aesthetically pleasing forms	Frequency	156	86	31	8	1	1.6
	Percentage	55.3	30.5	11.0	2.8	0.4	
Spaces for privacy and pondering	Frequency	81	79	65	46	5	2.6
	Percentage	28.7	28.0	23.0	16.3	3.9	

Table 7. Description of the responds to the satisfaction elements

Items		Very low	low	Moderate	High	Very high	Mean
Outside area	Frequency	33	75	130	35	9	2.7
	Percentage	11.7	26.6	46.1	12.4	3.2	
Inside area	Frequency	80	127	63	9	3	2.0
	Percentage	28.4	45.0	22.3	3.2	1.1	
Room	Frequency	72	94	83	21	12	2.3
	Percentage	25.5	33.3	29.4	7.4	4.3	
Your dormitory corridors and paths	Frequency	52	92	115	21	1	2.4
	Percentage	18.5	32.7	40.9	7.5	0.4	
Feeling secure in the dormitory complex	Frequency	44	57	103	62	16	2.8
	Percentage	15.6	20.2	36.5	22.0	5.7	
Intimate communal spaces	Frequency	12	33	103	104	30	3.4
	Percentage	4.3	11.7	36.5	36.9	10.6	
General services spaces	Frequency	60	93	103	22	4	2.4
	Percentage	21.3	33.0	36.5	7.8	1.4	
Satisfying your needs	Frequency	54	105	106	13	4	2.3
	Percentage	19.1	37.2	37.6	4.6	1.4	



Group frequency	Frequency	Percentage
Low	97	34.5
Moderate	180	64.1
High	4	1.4
Total	281	100.0

Inferential Findings:

for analysis and interpretation of the research hypotheses, firstly the relationship between the secondary variables as well as main variables is evaluated, i.e. what is the relationship between each of the six groups of the

mentioned needs and satisfaction (Hypotheses one to six). Pearson Correlation Test was used for this purpose. Next, through the comparative analysis, the ability of each independent variable in predicting the satisfaction rate was evaluated. For this purpose multivariable regression method in stepwise mode has been used.

Table: 6. The results of the relationship between variables Pearson correlation test

Independent variable	R coefficient	p_value	N	Result of hypothesis testing
Physiological needs	0.456	0.000	278	Approved
Need for security	0.371	0.000	278	Approved
Need for a sense of belonging	0.371	0.000	278	Approved
Need for self-esteem and respect	0.458	0.000	280	Approved
Need for self-actualization	0.429	0.000	280	Approved
Aesthetic needs	0.357	0.000	281	Approved

Table: 7. Evaluation of the ability of independent variables in predicting the satisfaction level

Regression levels	Independent variable	β coefficient	t-value	Sig.t	R	R ²
First step	Self-esteem	0.460	8.49	0.000	0.460	0.209
second step	Self-esteem	0.371	7.19	0.000	0.578	0.329
	physiologic	0.361	7.01	0.000		
Third step	Self-esteem	0.344	6.76	0.000	0.606	0.360
	physiologic	0.304	5.77	0.000		
	A sense of belonging	0.194	3.72	0.000		
Fourth step	Self-esteem	0.307	5.96	0.000	0.623	0.379
	physiologic	0.274	5.92	0.000		
	A sense of belonging	0.168	3.21	0.001		
	safty	0.161	3.04	0.003		
Fifth step	Self-esteem	0.273	5.12	0.000	0.633	0.390
	physiologic	0.255	4.81	0.000		
	A sense of belonging	0.130	2.40	0.017		
	safty	0.143	2.71	0.007		
	Self-actualization	0.134	2.33	0.020		

Stepwise regression test results are summarized in the table. The findings suggest that regression has gone up to 5 steps. In the fifth step, the variables self-esteem, psychological, sense of belonging, security and self-actualization are entered into the equation which are mentioned in order of the highest ability in predicting satisfaction.

DISCUSSION AND CONCLUSION

In this study, the strength of independent variables (6 factors of Maslow) in predicting the environmental satisfaction of students residing in Guilan University dormitories was evaluated through stepwise regression. The results showed that the variables self-esteem and respect had the highest effect on environmental satisfaction of the students ($\beta=0.273$). since this variable was evaluated with the sub-variables (measures) controlling the disturbing noises of surrounding environment as well as the noises from inside the room and also territory controlling by personalization and power of selection in rooms decoration, it can be concluded that the current study supports the studies of Eigenbrod's (1977) [40] and Hansen and Altman (1976) [42]. The physiological needs satisfaction had the second role in environmental satisfaction of the students of Guilan University ($\beta=0.255$). So, the dormitories, in this environment, must pay enough attention to the students' physical comfort

through the existence of natural light and proper temperature, facilities for enough rest and enough sleep, adequate roads and access routes, etc.

The third need with a significant effect on environmental satisfaction of the students is the sense of belonging and loved ($\beta=0.130$). It seems the social interactions is the most important factor in satisfying this need. In addition, other variables such as the relationship with the natural environment and the presence of symbolic and memorable elements are among other important factors in satisfying this vital need. The ranking of other needs for reaching the environmental satisfaction are safety (psychological) ($\beta=0.143$) and self-actualization ($\beta=0.134$). The cognitive and aesthetic (formal) needs did not affect the creation of satisfaction in students residing in the dormitories of Guilan University.

It is suggested, the prediction power of each sub-variables of dormitory environment needs be evaluated in further studies in order to obtain more precise results for designing. Also, in the environments with both corridor and suite style dormitories, a comparative study between the two can reveal the advantages and disadvantages of each, more precisely.

CONFLICT OF INTEREST

Authors declare no conflict of interest

ACKNOWLEDGEMENTS

None

FINANCIAL DISCLOSURE

None

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