PUBLIC ENVIRONMENT DESIGN BASED ON EXPERIENCE PSYCHOLOGY

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Abstract

Public environment plays an important role in protecting the mental health of residents. Therefore, a rational design of public environment must first identify the residents' needs for public environment. Based on the theory of experience psychology, this paper attempts to disclose the influence of experience psychology on public environment design in urban areas. Firstly, the author analyzed the differences among individuals in their experience of public environment, and identified the personal and human factors that lead to the differences. Then, a questionnaire survey was carried out among citizens of Beijing, China, on their psychological experience of the public environment. After analyzing the survey data, the author summed up the principles and considerations of the public environment design under the experience psychology. The results show that most respondents are comfortable with the public environment, and mainly concerned with the safety and quality aspects; the most unsatisfactory aspects of public environment design are the lack of space and greenery; the keys to public environment design lay in public participation and the harmony between human and environment. The research results help to promote the design of public environment, offering the best psychological experience to the audience.

Key words: Experience Psychology, Public Environment, Questionnaire Survey, Public Participation.

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INTRODUCTION

During the 40 years of reform and opening-up, with the economic and social development of China, the life style of people has changed greatly. Among all kinds of behaviors in people's daily life, especially the daily behavior of consumption, experiential consumption, has gradually become the mainstream (Davies & Spencer, 2012). The experience of scenery on the road, the experience of clothing in the mall and the experience of movies in the cinema are all based on the experience psychology (Schmitt, Brakus, & Zarantonello, 2015). The public environment refers to outdoor public places, usually multi-person areas, and large and medium-sized square areas (Neely, Ng, Roy et al., 2014). The design research on the public environment can make the urban interior spatial structure more reasonable (Ryan, 2015), meet people's needs for leisure space, and further improve the aesthetic quality of cities and promote the harmony between man and nature (Barman & Gupta, 2010). The public environment design based on experience psychology (Baguma, 2017) focuses people's experience subjects on the public environment, and design and further refine the public environment according to the feedback of different individuals to the public environment experience (Drews, Antal, & van den Bergh, 2018).

While people experience the public environment, the public environment is also imperceptibly affecting people themselves (O’Fairechallaigh, 2010). The process of experience itself is also a process of communication and fusion of subject-object perception (Klinke, 2012), which forms a kind of information transmission. Individuals' body organs are transmitters and receivers that perform such information transfer, such as eyes receiving light and skin receiving temperature (Schrecker & Milne, 2010). Therefore, the design of public environment must consider not only the functions of the public environment, but also the experience of the public environment.
2017). Since the way and extent in which the individuals’ sense organs receive environmental signals are different (Royo, Yetano, & Acerete, 2014), individuals have differences in experiencing the public environment (Linardi & Mcconnell, 2011), which enrich the materials of public environment design, which is also the purpose and significance of public environment design based on experience psychology (Boehm, 2015). This paper will study the influence of experience psychology on public environment design from the point of view of urban public environment experiencers, through field investigation and questionnaire, so as to promote reasonable public environment design, improve the aesthetic degree of the cities and promote people’s psychological experience of the public environment.

ANALYSIS ON THE DIFFERENCES OF PUBLIC ENVIRONMENTAL EXPERIENCE

The experiencers who experience the public environment first accept the external stimulation given by the public environment, and under the influence of this external stimulation, their internal psychology has changed. Different people have different psychological changes, which are produced by the joint action of external factors and internal factors at the same time. Generally speaking, the internal factors plays a leading role. Internal factors are also referred to as individual subjective factors, which are classified in Figure 1.

Figure 1. Diagrammatic sketch of research method

![Diagrammatic sketch of research method]

Analysis of differences in public environmental experience caused by personal factors

As can be seen from Table 1, personal factors include mood, hobby, characteristics, and aesthetic tendency. When one is in a happy state, his or her perception of the spatial environment is richer, and in a state of anxiety or anger, his or her need for the public environment changes, hoping to have a more independent private space, which causes the abnormal psychological state of the individuals in experiencing the public environment, namely the subjective factors interfere the normal public environment experience. The hobby may directly lead to a very different experience of the individuals to the public environment, with completely different spiritual effect. Characteristics are reflected in the differences in the attitudes of individuals towards the public environment, and for the same public environment, the more easygoing he or she is, the more comfortable he or she thinks; and harsh people may be dissatisfied.

Analysis of differences in public environmental experience caused by human factors

In addition to personal factors, human factors also have an important influence on the formation of people's experience psychology. Human factors include regional factors, national factors and time factors, which also constitute the growth environment of the individuals. Under the environment with different human factors, individuals will have different experience psychology to the public environment. Therefore, under the interactive influence of personal factors and human factors, individuals will have different experience of the public environment, which facilitates the promotion of public environment design, which affects people's experience psychology again. As a result, a virtuous circle is formed, as shown in Figure 2.

Figure 2. Public environment design cycle promotion mode

![Public environment design cycle promotion mode]
PSYCHOLOGICAL SITUATION OF EXPERIENCE PSYCHOLOGY PUBLIC ENVIRONMENTAL EXPERIENCE

On the basis of consulting psychologists, management scientists and public environment designers, this study designs a questionnaire on the psychological experience of the public environment, which is mainly aimed at the citizens of Beijing. A total of 500 questionnaires are distributed and 457 questionnaires are collected, of which 405 are valid, with a collection rate of 88.62%. The individual characteristics of respondents are shown in Table 1.

| Characteristics          | Description            | Quantity |
|--------------------------|------------------------|----------|
| Gender                   | Male                   | 278      |
|                          | Female                 | 127      |
| Age                      | 20-35                  | 101      |
|                          | 36-50                  | 149      |
|                          | 51-65                  | 98       |
|                          | 65 or more             | 57       |
| Education level          | Junior high school and below | 72 |
|                          | High school            | 101      |
|                          | Undergraduate          | 135      |
|                          | Master's degree        | 61       |
|                          | Doctor                 | 36       |

Respondents’ satisfaction with their public environment

In this study, the satisfaction of respondents to their public environment is measured by questionnaire, which is provided with a scale of very comfortable, comfortable, general, less comfortable and very uncomfortable based on the comfort degree of respondents to their public environment. The results of the questionnaire are shown in Figure 3.

As can be seen from the survey and Figure 3, 212 respondents feel very comfortable or comfortable in their current public environment, 139 respondents consider it to be general and 54 respondents think it less comfortable or very uncomfortable about their current public environment. This indicates that most of the respondents feel comfortable in their current public environment, but there is still a certain proportion of respondents who are dissatisfied with the public environment, which still needs to be improved.

Respondents’ concerns on the public environment

This study focuses on the aspects most concerned by respondents in the public environment, mainly including safety, excellent environment, complete facilities, perfect service and others, which are provided in the questionnaire, hoping to analyze the public needs preferences in the public environment design as the reference for designers, and the statistical results are shown in Figure 4.

As can be seen from the survey and Figure 4, among 405 respondents, 207 believe that the safety of the public environment is the most important, 117 believe that the excellent environment is the most important, 39 believe that the complete equipment of the public environment is the most important, and 36 people consider that the perfect service provided by the public environment is the most important. Therefore, when designing the public environment, designers should pay attention to the safety and provide a healthy public
environment, which are the important factors that influence the public’s experience psychology in the public environment, and should be paid high attention to.

Respondents' dissatisfaction with their public environment

This study also relates to respondents’ dissatisfaction with the public environment, which are mainly provided in the questionnaire as small space, less green plants, poor hygiene, noisy staff, incomplete service and other, hoping to find a way to improve the public environment, and the statistical results are shown in Figure 5.

**Figure 5. Respondents’ dissatisfaction with their public environment**

As can be seen from the figure, among the 405 respondents, 131 believe that the public environment has small space, 107 believe that the public environment has less green plants, 59 believe that it has poor hygiene, 62 believe that the people there are noisy, 46 feel that their public environment provides incomplete service, and 28 think others. Therefore, the most unsatisfactory aspects of individuals to the public environment design are space and greening. Therefore, the government should increase the area of the public environment, and the designer should prefer to a more spacious space structure when designing the public environment and increase the input of green vegetation.

Participation of respondents in public environment design

Because the public is the main audience of the public environment design, we should actively adopt the public’s will and suggestions when designing the public environment so as to meet the needs of the public and improve their experience of the public environment. To this end, the study investigates the respondents’ participation in public environment design, as shown in Figure 6. As shown in the figure, 21.48% of the 405 respondents received the invitation and participated in public environment design, 25.93% received the invitation but did not participate, 15.56% did not receive the invitation but took the initiative to participated, and 37.04% did not receive the invitation and participate in, which show that when the government plans the public environment, a certain proportion of the public participate in the decision-making process, but most do not participate in such decision-making process, so the participation of the public in the public environment design should be further enhanced so as to improve the experience of the public to the public environment.

**Figure 6. Respondents’ participation in public environment design**

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Principles of public environment design under experience psychology

This study believes that the public environment design under the experience psychology should mainly abide by two principles: the public participation and the harmony between man and the environment. Public participation is a requirement for ensuring that a certain number of people are involved at all stages of public environment design. Because in the each stage of public environment design, it’s necessary to solicit the participant’s opinion; the public is direct
audience of the public environment, so the investigation on their comfort and security in the public environment can help express their own opinions. When the construction of the public environment is completed, it is also necessary for the public to evaluate it and give reasonable suggestions, which is also the right of the public. The harmony between man and the environment means that in the public environment design, it’s essential to enable people to interact with the environment spiritually. The public’s experience of the public environment should meet the needs of the public in detail, so that the public can be well integrated into the public environment.

Considerations in public environment design under experience psychology

In the early stage of public environment design, designers should define the general and special needs of the audience. In the study of the public’s experience of the public environment, it’s critical to pay attention to 4 considerations as shown in Figure 7 in details.

Figure 7. Considerations for public environment design under the experience of experience

- Distinguish between basic needs and personal desires
- Clear user
- The role that designers can play
- Broaden the channels for consultation

Planners or designers are not the real audiences of the public environment, and different public environments are targeted for different people, such as scenic spots for tourists and parks for the elderly and children, so it’s crucial of planners or designers to distinguish the audiences of the public environment and identify their needs. The basic needs of the public environment is the basic experience of the public brought by the public environment, such as the basic space needs, while the personal desire is related to the special needs and personal preference of the individuals, and the public environment design is universal, so it’s essential to mainly meet the basic needs of the public. In the process of public environment design, designers should combine their professional ability with the people’s needs for public environment, and give full play to their professional strength to meet the needs of the public; broaden the channels of soliciting opinions in a bid to increase the participation of the public and get the feedback of the experience of the public in order to improve the public environment design.

CONCLUSIONS

Based on the theory of experience psychology and the data of 405 questionnaires, this paper analyzes the application of experience psychology in public environment design, and obtains the following conclusions:

1. Personal subjective factors are important factors that lead to differences in public environmental experience, among which personal factors include mood, hobby, characteristics and aesthetic tendency, and human factors include regional factors, ethnic factors and time factors. Under the joint action of these factors, the difference of public environmental experience is formed.

2. Most of the respondents feel comfortable in their public environment, but there is also a certain proportion of people dissatisfied with their public environment. Safety and excellent environment are the most important aspects that the public consider of public environment, while the most unsatisfactory aspects of the public to the public environment design are small space and less green plants. When the government plans the public environment, a certain proportion of the people have participated in the decision-making, but the majority of the people have not participated in such decision-making process, so the participation of the people in the public environment design should be further enhanced.

3. The public environment design under the experience psychology should mainly abide by two principles: the public participation and the harmony between man and the environment. In the study of the public’s experience psychology of the public environment, it’s necessary to define users, distinguish between basic needs and personal desires, play the role of designers and broaden the channels of soliciting opinions.
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