

Study on the Design of Child Park based on the Psychological Characteristics of Child Behavior

Chaoyu Zhang, Yijie Liu, Qi Jia, Hongyu Yan

Zhengzhou University of Light Industry, Zhengzhou 450000, Henan, China

Abstract: “Children are the flowers of the motherland, but also the future of the motherland”, with the rapid development of social economy in recent years and the improvement of people’s living standards and thoughts, people gradually pay attention to children’s attention. As an important place for children’s outdoor playground is important and indispensable. By studying the psychological characteristics of Chinese children’s outdoor behavior under the unique social and historical environment of China, this paper found that the design problems of general children’s parks ignore the psychological characteristics of children’s behavior.

Keywords: Children; Behavioral psychology; Children’s park

Fund Project: National Natural Science Foundation of China, 52008380, research on Spatial Evolution Simulation and classification management and control of “San Sheng” in metropolitan areas based on multi-source data and artificial intelligence.

Children in society, are relatively in need of protection, need us to guide, help and care. Their healthy growth cannot be separated from the cultivation and edification of a good environment. Children’s park is an important place for children to grow up and relax. If built well, it will have a subtle inspiration for children^[1].

1. Research background

“Man is the product of the environment”, and the relationship between the environment and people is inseparable. Children’s outdoor playground space environment is the main environment of children’s growth and life activities, to strengthen children’s perception, children’s behavior and psychological training has a very important role, so children’s outdoor playground space environment design should not only meet the general requirements of children’s amusement activities, and should fully consider the characteristics of children of all ages, reflect the society’s comprehensive care for children. However, in reality, many children’s outdoor playground space environment designs do not well consider the behavioral and psychological needs of children comprehensively, and do not maximize their use value. In more cases, only the simple combination of amusement facilities, lack of humanization and emotional design, safety risks and other problems. Based on this reality, the design from the perspective of child psychology is urgently needed^[2].

2. Analysis of children behavioral psychological characteristics

2.1 Division of child groups

China has clearly stated in the Law on the Protection of Minors and other relevant legal provisions that the age division of children is 0 to 18 years old, which is consistent with the content of the United Nations Convention on the Rights of the Child. In the medical community, children from 0 to 14 years old are studied according to the development of human body characteristics. According to the needs and operability of the study, psychological researchers divided their ages according to the following stages, each with differences in new skills and social expectations as an important transition sign^[3].

Fetal stage: from conception to birth. Individuals transform from single-cell organisms to resilient infants; infancy and toddler periods: from birth to 2 years. There are extremely dramatic changes in the infant body and brain that support their perceived, motor, and intellectual abilities, and also during language formation; early childhood: from 2 to 6. Individual motor skills during this period tended to be precise, and children became more self-control and self-care. Thinking and language developed rapidly, and peer relationships began to build. Pretend games begin to prevail with peers; mid-childhood: from 6-11. During this school period, children learned about the wider world outside, improved thinking and movement, began to participate in regular games, master basic literacy, and become more mature in self-understanding, morality and friendship; youth: from 11-18. This phase begins the transition to adulthood. Adolescent development makes teenagers have an adult-size body, making individual thinking more abstract and idealized, forming a sense of autonomy divorced from the family, and starting to determine personal values and goals^[4].

According to the research needs of this paper, the classification criteria in psychological research were selected as the reference for children in the early and middle childhood stages (2-11 years old) to analyze the external factors of this group in the outdoor game environment.

2.2 Study of children’s behavioral psychology through the care relationship between behavior and psychology

To study the characteristics of children’s outdoor behavior, running, jumping, climbing, lying, squatting, kicking, rolling, and the regularity, motivation, time and range of activities are helpful to analyze the relationship between environment and children’s behavior.

2.2.1 Age aggregation

Children of a similar age like to play together, and the content varies depending on their age. In the game environment, young children prefer simple and natural elements, and pay attention to their own participation in the game activities. For example, insects, grass, and wild flowers in nature can attract children's attention. However, older children have a strong curiosity and desire to explore the unknown things in the artificial environment, and like exciting and novel game content and game activities.

2.2.2 Seasonal and temporal nature

Spring, summer, autumn and winter and climate changes, the temperature difference between region and climate and other geographical environment have a great impact on children's outdoor activities. Usually, children have the most outdoor activities in spring and autumn, second in summer and least in winter; the rate of sunny travel in the same season is much higher than that of cloudy and rainy days. Children's play is mostly during holidays, mostly at 9:00 — 11:00, 15:00 — 17:00 to form the peak of play; and the evening children's outdoor activities, usually children play in the residential community or a small park not far from home, to control their safety and time^[5].

2.2.3 Self-centered

Children's behavioral activities always show a certain degree of "self-centered" state. In particular, preschool children's activities, because the contact population is single, the environmental scope of activities is limited, their behavior is always according to their own scale, perceive the external environment.

3. Application of Child Behavior in Design of Child Park

3.1 Characteristics of child behavior patterns in the landscape

Children's activities have a profound significance. They always test the surrounding environment through their own activities, and they are eager to use their own body as a tool to measure and perceive their environment.

(1) Fuzzy of public space and private space: children define the scope of public and private space, which is different from that of adults. They define the private space in the public space in a vague way, without an obvious boundary between the public and the private space. Or a child's private space is far smaller than an adult.

(2) Division of dynamic and static space: children uniformly divide the whole landscape space into static space and dynamic space. The space of children running, climbing, jumping and jumping is defined as dynamic space; and the distribution of walking, watching, listening and aggregate chat is defined as static space.

3.2 Children's understanding of landscape areas

From the perspective of children, analyze the priority behavior mode of children in the park, reorganize their subconscious fuzzy needs into a certain demand hierarchy relationship, and then become a reference for design, and apply it to the corresponding environmental landscape design.

(1) "Performance desire" satisfaction. Children like to attract attention from others. For example, in a team game in a strange environment, boys will first choose the most exciting and the most adventurous game, in order to show their agility and courage to win the admiration and praise of other children and then get respect.

(2) "Exploration and knowledge desire" to meet. Children have a strong curiosity about new things, clever design can further stimulate children's "thirst for knowledge" to achieve a good driving role. However, this "exploration", once damaged by adverse factors, will go to the extreme, including in the future growth process of children will have negative effects.

(3) "Interest degree" satisfaction, with short-term and long-term timeliness. Short-term interest can promote a strong "dynamic flow" of children.

These three relations are not strictly related in order and level, the specific situation should be based on the characteristics of the park game activities and the degree of children want to meet, the specific age and gender of children as a design reference.

4. Conclusion

Design is people-oriented, which is an undoubted code in landscape design. But the reality is not perfect. The designers of children's parks should also be an expert in child behavioral psychology. In the design process, designers should tend to observe and experience from the perspective of children and the surrounding environment to predict the behavior of children in the field. On the other hand, they should stand from the perspective of adults and guide the construction of landscape space for children's behavior. Create a positive environment for children's play and communication, so that children can form a sense of attachment and belonging to the children's paradise, so that children can get an all-round development and growth in this game space.

References:

-
- [1] Cui Bingsheng. Design of children's parks under the psychological influence of child behavior [J]. *Art and Technology*, 2018, 31 (08): 224.
 - [2] Yu Weikai, Yu Kejian, Tang Wei, Xiong Anxin. Characteristic Analysis and Optimization Strategy of Children's Parks in Guangzhou [J]. *Chinese and foreign architecture*, 2021(07):27-33. DOI:10.19940/j.cnki.1008-0422.2021.07.005.
 - [3] Hu Dejuan, Duan Lianru. The New Development Direction of Xi'an Children's Park [J]. *Tomorrow fashion*, 2020 (21): 22-23.
 - [4] Hu Dejuan, Duan Lianru. The New Development Direction of Xi'an Children's Park [J]. *Tomorrow fashion*, 2020 (21): 22-23.
 - [5] Liu Binyi. *Modern Landscape Planning and Design* [M]. Nanjing Southeast University Press, 2017: 11.398.