

# The influence of social factors and Psychological factors in landscape design for children's Playground (CPG)

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## ABSTRACT

This paper examines the influence of social and psychological factors in the design of children's playgrounds in open space. The methodology used is the first method of observation and in-depth interviews of children (respondents) by taking into account the factors of the child's age, education and socioeconomic status. Second, conduct a comparative study of general principles of education and child development. Three guidelines for choosing the literature used are: relevance, current, and adequacy (Hadi, 1991). To maintain relevance with the discussions conducted, journals, research reports, theses, dissertations, encyclopedias, and other special articles were selected which included research on social, psychological and behavioral aspects of children in the playroom in public spaces. Landscape architecture can answer the children's need for freedom or flexibility in nature, both in geometry and perception. Social and psychological factors in children's playground design give an idea of how the relationship between characteristics, needs and motivation of children with a design. The results of this paper provide a children's playground landscape design application, which is expected to answer the space requirements for children who will become users. The environment can be seen as a source to motivate and shape children's behavior.

*Key words* : Social factors, Psychological factors, Child behavior

## Introduction

Elizabeth Kassler (Michael Laurie, 1975) said that good landscape planning and design is the result of a process of fulfilling a harmonious relationship between children and nature and nature itself. In designing buildings, psychological needs are one of five human issues, functions, social, physical, physiological and psychological (Hersberger, 1999). In the case of children's playground, physical, social and psychological studies can be considered in expressing obstacles or giving positive direction in every decision making in children's play design in

open space. There are several questions related to understanding children's behavior and perceptions of the design of a children's playground area, namely:

1. How is the design of a children's playground (playground) in order to provide answers to the needs, desires and feelings of children?
2. What forms of physical relationship are appropriate between children, adolescents and parents in a particular situation?

For this reason, comprehensive thinking is needed. Therefore the planning and design of children's playgrounds must take a physical, social

and psychological approach in order to get a design that is character, aesthetic, interesting and pleasing to children.

### Methodology

This paper uses a literature review approach in the form of theory, existing research journal articles with content analysis method. Literature is used as primary data in the form of notebooks, theses, final research reports, results of questionnaires / interviews, and others. Secondary data is used by dictionaries, handbooks, textbooks, indexes, and others (Dedi Hantono, 2018). Two approaches for identifying social problems in a design.

First, the approach / method of observation (observation) and direct interviews (depth interviews) of the local community (respondents) by taking into account the factors of age, education and socioeconomic status. Second, conduct a comparative study of general principles or universal principles of community life. Three guidelines for choosing the literature used are: relevance, up-to-date, and adequacy (Hadi, 1991). To maintain relevance with the discussion conducted, the selected journal articles are articles that contain research on social, psychological and behavioral aspects of children in the playground in public open spaces. A variety of survey (observation) methods are developed to help designers find out the behavior patterns, wants and needs of their users.

One of them is the question and answer method or questionnaire both verbally or in writing. The level of success using this method is very dependent on the formulation of the questions that must be clear and focused on the problem. The choice of respondent category is very decisive. Not all respondents have the same level of knowledge and experience. The question is directed at the problem of children's social and psychological behavior towards the existence of their playground. Analyzing the essence of the answers will provide a picture of behavior patterns towards the needs of children's play facilities.

Direct observation of children's attitudes and behaviors towards the activities and time of their use will provide very useful information on the selection of types of play equipment so that it can be utilized optimally.

## Discussion and Results

### The Concept of Citizen Participation

Two approaches to managing landscape design to find basic designs that are in line with the wishes and expectations of the community. The first approach, is through the concept of community based development. This approach uses a system where the community builds its own environment as the owner or at least they feel they own it. This concept is ideal because the formulation of objectives, choosing alternative designs and monitoring the development of children's play environment is completed by the community in accordance with their interests. The government or local authorities only provide funds.

Landscape architects only provide assistance or consultations on design alternatives, giving basic instructions to facilitate the implementation of a mutually agreed upon design. This approach can only be carried out by people who have a democratic attitude and awareness of the use of shared environmental facilities in the social sense of society.

Social participation concept is a form of social interaction with an activity. The definition of community participation according to the United Nations is the creation of opportunities to enable all members of a community and the larger society to actively contribute to and influence the development process and to share equitably in the fruits of development (Midgley, 1986). In Indonesia this concept is known as the Mutual Cooperation. The second approach, is the city government taking the initiative to build children's playgrounds in certain areas by providing opportunities for the community to provide opinions, suggestions and responses through Focus Group Discussion (FGD). A FGD can be simply defined as a systematic and directed discussion of a particular issue or problem. Irwanto (2006). The form of initiative can be in the form of a limited design competition to produce basic ideas. Then the landscape architect draws the right conclusion and develops it in the design. This second approach contains difficulties in being able to accommodate the aspirations of all citizens. It is realized that from time to time there will be socio-economic changes in the community that will have an impact on future design.

### Physical Factors

Physical factors related to the design of children's playgrounds are the shape and size of children's bodies that are adjusted to scale the details of their environment, types of children's play equipment, seats, road width, and so forth. Analysis of the child's body size, motion and growth produces a certain dimension or measurements for various purposes in the detailed spatial design or landscape structure design. For example the swing should be low enough to make it easy for children to play without difficulty, the seat must be of a certain height and width to obtain pleasure and relief while sitting, the stairs must be designed with a certain size that is adjusted to the footsteps stepping forward or ascending by not making fatigue. The detailed design must be suitable for the condition of the children's body in its shape, size and beauty. The measurement system used in Le Corbusier's Modular theory is the essence of the proportions of the child's body, so that through this theory a harmonious relationship between beauty and enjoyment is found in the design. Le Corbusier created the Modulor Man ergonomic design which is a symbol of proportion, which combines mathematics, form, and aesthetics. Modulor Man is used by Le Corbusier to design with perfect scale, and to make it a solution to achieve ergonomic aspects in all designs universally (Aghnia Marsha, 2014). Likewise, based on Le Corbusier's theory, a detailed design can be developed for the needs of adults and children at various age levels, such as seats, playground equipment, stairs, tables, and the like. From a point of view, detailed designs also need to pay attention to certain sizes and dimensions of various shapes.



For this reason, the "Golden Section" theory was developed by Vitruvius, Alberti, Palladio, Leonardo Da Vinci and Michael Angelo. This theory aims to find the basics of measurements (lines, fields, shapes and spaces) in terms of children's perceptions of beauty that can be applied in designing the physical environment.

### Physiological factors

The discussion of physiological factors in relation to design is intended to obtain what criteria must be considered and fulfilled by the designers in completing the biological needs of children in an environment.

The physiological needs of children are very relative but can also be sought in terms of average size. And this is a reciprocal relationship between a child's biological condition and the environment that surrounds it. Society needs to eat, drink, sleep, fresh air to breathe, move, protect from heat and cold which can have bad consequences. Public health conditions can be seen as the impact of success or failure to adapt to their environment. Parents tend to maintain the safety and health of their children from internal and external influences such as the influence of climate, illness, metabolic abnormalities, gestures, mental stress. Meanwhile, sweating, shaking, sleeping, etc. are reactions or answers to the influence of the environment.

Theoretically, physiological needs can be easily specified. These needs can be met through increased food value, air refreshment, water purification, prevention of pests and diseases, controlling hot and cold air, shelter in the form of shelter or trees, opportunities to move and exercise in fresh and clean



Fig. 1, 2. Children's Bench Size

Sources. <https://www.aaastateofplay.com/outdoor-park-furniture/>



need for individual/privacy; (4) the need to express oneself; (5) the need for self-development. The five components above can always overlap and sometimes even conflicts that are difficult to avoid.

### The Need for a Social Sense for Children

Social needs of someone is the desire to connect with others, make friends and love. A need that is difficult to describe is the need for a sense of being needed by someone else or the need for protection by someone else. Kinship is a manifestation of the above needs. Relationships in society can be developed based on social needs and behavioral attitudes. This can be seen in various social activities such as sports activities in the youth arena, activities in the gathering of elderly people, social gathering activities, and so forth. Thus it is clear that an environment is intended for the community. Play develops the social emotional aspects of children. Through play children have a sense of belonging, feel a part / accepted in groups, learn to live and work together in groups with all the differences that exist. By playing in groups children will also learn to adjust their behavior with other children, learn to master themselves and their egos, learn to hold back, be able to regulate emotions, and learn to share with others. From the emotional side, unspoken desires are also increasingly formed when children play imagination and sociodrama. In the design work, it is reflected in more detail in the placement of children's play equipment with an inward orientation to enable social interaction.

### The Need for Child Safety

All children or parents want a play that is safe and



Sources. Author

Fig. 4, 5. Laying Childrens Play equipment with an inward orientation to enable social interaction

comfortable, free from fear, anxiety, and free from danger. Children's social relationships develop because of the curiosity of everything that exists in the world around, namely the curiosity of individuals about how to make good and safe relationships with the world around them, both physical and social in nature. Children's activities outside the room become important as an introduction to the environmental landscape. The obstacle is the number of vehicles passing by and there is no available land to simulate the child's responsiveness to the environment. The form of responsiveness to the environment becomes important because as living things need to have the ability to recognize the environment (Gibson, 1986). Given that children still have a weak and limited physical condition so that access to the playground should be easy to reach or have ease in use. The city government provides a playground that is comfortable, safe, protected from danger, clean and beautiful, but apparently does not consider the convenience factor. For example, the provision of game tools that are easy to use. Easy to reach, and not dangerous when used. Because often we find there are playgrounds that already meet other requirements but it turns out to be difficult to use for children. There fore it should provide a playground that is easily accessible and easy to use.

### The Need for Individual / Child Privacy

Individual space is owned by each child. In other words, individual space is part of a child's humanity. Various formulas explain the lack of individual space means the lack of interpersonal distance. This can result in discomfort, insecurity, stress, an imbalance, poor communication, and all obstacles to a



Sources: <https://medium.com/superiorrecreationalproducts/what-are-playgroundsafety-rules-210dc8c7f74f>



Sources: <https://www.playgroundprofessionals.com/playground/playgroundparts/playground-safety-sign-labels>

Fig. 6, 7. Palyground Safety

sense of freedom. Thus, individual space plays a role in determining the quality of individual relationships between children. These individual needs sometimes overlap with self-expression. Individual needs is something that is desired by the child at a certain time to gain experience and develop self-awareness. This is called the need for privacy. Children’s playground in private outdoor spaces in urban environments is decreasing. This phenomenon can be seen from the increasing number of children and their friends while on vacation looking for a place to relax outside the city, to look for activities such as camping, fishing, hiking, and the like. The need for privacy can be obtained by designing children’s playground in outdoor spaces in natural areas far from vehicle traffic.

**The Need to Express Oneself**

Many components needed to form self-expression, including appearance, attract attention. Some of the



Sources. <https://www.gametime.com/news/how-do-i-build-a-playground>

Fig. 8. Childrens playgrounds and recreation that have privacy values

needs of self-expression can be designed with territorial or boundary concepts. There is also a form of self-expression by forming an image or image. Territorial boundaries in the form of fencing or defense are one of the most fundamental forms of self-expression.

Play and activity is the world of children. Playing and doing activities that can stimulate the creativity of children. Therefore, it is important for parents to realize, pay attention, and provide opportunities for children to play. By playing and doing activities, children can make happy and happy expressions. In addition, children will also be more confident. Another form of expressing oneself is to carry out activities in the form of various games and sports that are provided in an environment. There fore in the design of children’s playgrounds it is necessary to consider environmental factors and the character of children in order to express themselves.

Sarah Scott (2010) says that designers must learn methods that teach the importance of the child’s environment to their development. Until it can be said that designing an object where children play, must first understand the character of children with their environment. The concept of Architecture for Children can be applied through approaches from nature and children as playground children. The approach from nature is by maintaining the surrounding environment as the best space for children’s development and utilizing architectural elements to create and maintain the natural atmosphere. The second approach, in children by reviewing from the perspective of the child’s psychology, which will



Sources: <https://www.gametime.blog.fitnessfactor.com/seven-benefits-of-ballplay-for-children/>

**Fig. 9.** Self expression in the form a game according to their individual needs

further affect the child's expression.

### The Need For Self-Development of Children

In general, people, especially children thirst for knowledge. This is related to the need for creativity and more importantly is to foster a sense of beauty and aesthetic values. Children have the drive to be creative and the application of their needs can be met with various forms of activities that produce appreciation in various qualities.

The need for children to develop themselves in order to increase knowledge and appreciation of nature, especially in the forms of natural detail, causing the need for information, data about the natural beauty of an environment. The theory of modern architecture in the 1930s until now can be said to tend to reduce the forms of detailed elements of the decoration. This is due to the notion of economic efficiency which is more concerned with



Sources: <https://sleman.unimus.ac.id/index.php/pariwisata/taman-bermain-anakanak/>

**Fig. 10.** Childrens play ground in Kaliurang Central Java Indonesia with a natural atmosphere



Sources: Author

**Fig. 11.** Childrens playground design ideas with due regard to social and psychological factor

function than form. But the tendency of architecture in the 1960s and 1970s arose the thought of re-displaying the beauty of old decorating arts and reviving the values of traditional beauty. The design of children's playground can be combined with the natural atmosphere by placing various types of plants that can be used for knowledge about plants. Thus children can develop themselves to love the environment and express themselves about beauty.

### Conclusion

It is very important to pay attention to children's behavior patterns and characteristics so that they can be implemented on children's playground design objects. Where children have agile and free characters so that they give birth to attractive design formations. In landscape architecture there are theories about the interaction of children with the physical environment related to the comfort of play, satisfaction with self-expression, security, self-development and increase knowledge. Basically the need for play satisfaction for children is the same as the need for self-development. A very important point of both is playing and learning. Playing is a fun activity. Play activities for children that involve children's movements such as those contained in games have a positive influence on children's growth and development, especially children's physical development. Play is very important for children's growth and development. By playing they can develop their emotional, physical, and cognitive growth.

Social and psychological factors in the design of

children's playgrounds is to give an idea of how the relationship between characteristics, needs and motivation of children with a design. An environment can be seen as a source to provide motivation and the formation of children's behavior attitudes. The main purpose of the design of children's playgrounds in outdoor spaces is to develop means to meet the needs of children exploring and experimenting.

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