



Children prefer a nonstandardized to a standardized jumping stone configuration: Playing time and judgments



Karlijn Sporrel, Simone R. Caljouw, Rob Withagen*

Center of Human Movement Sciences, University Medical Center Groningen, University of Groningen, The Netherlands

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ABSTRACT

Over the last decades, the omnipresent standardization of contemporary playgrounds has been criticized for several reasons. The present study examined whether children prefer a nonstandardized or a standardized jumping stone configuration. Children were free to play in both configurations, alone or in a group of four. After the playing the children were to rate how beautiful they found each configuration, and how much they enjoyed playing in it. We found that children spent more time playing in the nonstandardized configuration than in the standardized one, regardless of whether they played alone or in a group of four. Moreover, the children reported that they liked playing in the nonstandardized configuration better than in the standardized one, and also rated the former as more beautiful than the latter. However, no correlation between the aesthetic judgments and the reported joy of play was found. The implications of these results are discussed.

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1. Introduction

In an increasing sedentary society, it is of no surprise that the importance of playgrounds is well acknowledged (e.g., Czalczynska-Podolska, 2014; Hart, 1979; Moore, 1986; Solomon, 2014; Ward Thompson, 2013). However, contemporary playgrounds are widely criticized by both researchers and (landscape) architects (e.g., Hart, 2002; Jansson, 2010; Jongeneel, Withagen, & Zaal, 2015; Nebelong, 2004; Prieske, Withagen, Smith, & Zaal, 2015; Solomon, 2005, 2014; Sporrel, Caljouw, & Withagen, 2017; Woolley, 2008). Among the aspects that have been criticized is the so-called “standardization” (see e.g., Nebelong, 2004) of playgrounds. In a climbing net, for example, the distances between the ropes tend to be the same. Other examples of standardized playground equipment can be found in the influential work of Aldo van Eyck (e.g., Lefavre & Tzonis, 1999; Solomon, 2005; van Eyck, 1962/2008). After World War II, van Eyck designed hundreds of playgrounds in the capital city of the Netherlands. His playgrounds often consisted of different types of abstract play elements that are characterized by symmetry and standardization (e.g., Withagen & Caljouw, 2017). His jumping stones, for example, were often

placed in a symmetric figure eight with only two different distances for the child to cross (Fig. 1).

This omnipresent standardization of playgrounds is arguably the result of the aesthetic principles that guide the design process. Olwig (1990) suggested that a Euclidian reference frame is underlying the designs of most environmental planners.

[T]he first step the planner or environmental designer often makes when approaching a problem is to draw a plan, blueprint, or map. The problem thereby becomes framed by the invisible geometric coordinates upon which the plan is drawn. The design, then, is predicated upon a notational system that defines the world in terms of Euclidian geometric space. (p. 47)

These “invisible geometric coordinates” generally result in standardized, often symmetrical structures that tend to have an aesthetic appeal (see e.g., Koolhaas, 1978/1994). Indeed, several studies on picture perception have shown that, from infancy onwards, humans are attracted more to symmetrical patterns than to asymmetrical ones (e.g., Bornstein, Ferdinandsen, & Gross, 1981; Jacobsen & Höfel, 2003). Also, the playground equipment of Aldo van Eyck, which is often highly symmetrical, has been greatly valued because of its beauty (e.g., Lefavre & de Roode, 2002; Withagen & Caljouw, 2017).

Recently, Jongeneel et al. (2015) examined whether children also design standardized configurations when they are the

* Corresponding author. Center of Human Movement Sciences, University of Groningen, University Medical Center Groningen, P.O. Box 196, 9700 AD Groningen, The Netherlands.

E-mail address: r.g.withagen@umcg.nl (R. Withagen).



Fig. 1. The jumping stone configuration of Aldo van Eyck located in Zaanhof, Amsterdam (Courtesy of the Amsterdam City Archive).

architects of their own playgrounds. In line with other studies in architecture (e.g., Beek & de Wit, 1993; Rietveld & Kiverstein, 2014; Rietveld & Rietveld, 2011; Withagen & Caljouw, 2016; Withagen, de Poel, Araújo, & Pepping, 2012), Jongeneel et al. drew upon the concept of affordances. This concept was introduced in the 1960s by the ecological psychologist Gibson (1966, 1979/1986) to refer to the action possibilities the environment offers an animal. For a human being, a chair, for example, affords sitting and standing upon. Crucially, affordances exist by virtue of the relationship between the physical dimensions of the environment and the action capabilities of the agent. Whether a gap affords crossing for a child depends on the width of the gap relative to her jumping capabilities.

In keeping with a trend to let children participate in the design of their own playscapes (e.g., Francis, 1988; Solomon, 2005), Jongeneel et al. (2015) provided each child with six identical jumping stones. The child was to create a configuration in which she could step or jump from one stone to the other, without touching the ground. As can be expected from an affordance perspective, Jongeneel et al. found that the children scaled the gap widths that they created in their playgrounds to their action capabilities. Moreover, although children have been found to be attracted to symmetrical patterns in visual tasks, the vast majority of the participating children created a messy jumping stone configuration with varying gap widths.

Although this latter finding suggests that children prefer a nonstandardized jumping stone configuration to a standardized one, it does not provide strong evidence for it. Perhaps the children aimed at creating a standardized configuration but were unable to build one. Hence, when free to choose between playing in a nonstandardized or a standardized jumping stone configuration, children might prefer the latter to the former. Moreover, Jongeneel et al. (2015) let individual children design a playscape in which they were supposed to play alone, whereas children tend to play in groups. A casual observation of playing behavior on an earlier installation of a standardized and a nonstandardized jumping stone configuration (see Sporrel et al., 2017) suggested that when children play together they opt for the standardized one. Indeed, one can imagine that when a child is playing in a group, many games that are played (e.g. tag) are better facilitated by a standardized jumping stone configuration with one or two gap widths. After all,

in such a configuration the child “does not have to worry about his movements” (Nebelung, 2004, p. 30) and could concentrate on the game that is played (e.g., where her peers are) rather than on the width of the gap that she is to cross.

The current study aims to determine whether children prefer a standardized or a nonstandardized jumping stone configuration, and whether and how that preference relates to the children's aesthetic judgments of the configurations. To that end, children, playing either alone or in a group of four, were free to play in a standardized and/or nonstandardized jumping stone configuration, and the time they spent playing in each configuration was recorded. Our hypothesis was that the children who play alone will be attracted to the nonstandardized configuration. Therefore, we expected these children to start playing at this configuration and to spend more time in this nonstandardized configuration than in the standardized configuration. We expected the children who play in a group to prefer the standardized configuration. Moreover, to examine the relationship between the experienced aesthetics of the configurations and the joy that children had in playing in them, the children were to rate each configuration on both aspects after their playing. As the standardized configuration follows principles of symmetry, we hypothesized that children find this configuration more beautiful than the nonstandardized one. We expected the children's aesthetic judgments not to be related to their reported joy of play.

2. Method

2.1. Participants

Fifty-six children from one school in the north of the Netherlands participated in this study. However, two children were excluded from the analyses—the playing behavior of one child was not completely recorded (due to a miscommunication); and another child did not understand the instruction. Of the remaining children, there were thirty-four girls and twenty boys, all between 6 and 12 years of age. The study was approved by the local institution's ethical committee. Both parents and/or guardians gave permission for the children's participation by signing an informed consent.

2.2. Playground design

Two jumping stone configurations (Fig. 2) were placed in a public park in the city center of a town in the north of the Netherlands. Both configurations consisted of concrete jumping stones, all with a roughened top surface and rounded-off edges to



Fig. 2. Picture of the playground with the standardized (right) and the nonstandardized jumping stone configuration (left).

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