“…the space wider, I can play ball…”: when children thinking about space

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Abstract:
The Covid19 Pandemic has multidimensional impact, children also strongly felt the impact, they could not do outdoor physical activity, play outside their house and play with their friends. They meet psychosocial stressors affect the health and well-being of children (Liu CH, Doan SN, 2020) The impact of restrictions faced by children, children very stressful, playing is one of the strategies to cope with stress felt by children. Finally, the space inside the house turns into a playground for children. Research conducted using qualitative descriptive methods and analyzed with an ecological model shows that when children play at house, they also think about the space that will be used to play, not just thinking about the dimensions of space but also the flexibility of the furniture and exiting generated by the space. Children play behavior adapt to the conditions faced by children.

Keyword: play, behavior, children, space, covid19

1. Introduction

December 2019, Covid19 appeared in Wuhan. March 2020, the UN set Covid19 as a global pandemic for the spread and severity of multi-dimensional impact, health, economic, educational, political, cultural and even spirituality. Everyone is affected, changing behaviour and adapting to new habits, as a way of adjusting to the Pandemic. Children are also affected, learn from home, play at home and gain weight as a result of low physical activity. Covid19 pandemic has the potential to profoundly affect young children’s development worldwide, through increases in poverty and food insecurity, loss of caregivers, heightened stress, and decreased health care [1]. In terms of playing, Research conducted during Covid19 pandemic in several countries, shows the phenomenon of a decrease in the number of children playing them outdoors and mostly replace it by playing with technology. The most dramatic decline was with outdoor physical activity and sport and whereas leisure screen time and social media use was reported as much higher than before the COVID-19 outbreak [2]. In the end, the Covid19 pandemic changed children's behaviour, they were no longer free to enjoy everyday lives, were no longer free to play with friends, stress was experienced by children, because of their social problems that had an impact on children's lives, psychosocial stressors affect the health and well-being of children [3]. Not easy for children to meet basic needs as part of the process of development of the child, there is no other choice, with all the limitations of the current pandemic, the child finally switched play using the gadget. Technology became essential during the COVID-19 pandemic. During a time of isolation and social distancing, the world relied on technology to learn, live, and stay connected [4]. The impact of excessive use of gadgets has become a new issue today, gadget addiction threatens children around the world. Required the support of parents allow children to get through this difficult time by changing
the idea of the house not only as a residence but also as a place to play, the house became a new playground. In the science of architecture, the concept of relativity space is evidenced by the changes.

We need to understand what it means to play. Homo Luden, The idea of playing Huizinga is more developed and dominates knowledge. Paida and Agon very evident in Homo Luden, Paida closely related to freedom (freedom), enthusiasm, spontaneity (not real/ordinary life), the excitement, the spirit of explosiveness and innocence, occurs in a place and a special time. While agon or agony, implying seriousness, rule (playing rules) and winners (purposeful) as well as in the race. With its Paida and Agon, Huizinga offered the idea of playing as a typical labor activity with seriousness and contestation, even tend to labour physic. The dominance of the understanding of play as physical labor, adopted by the industry and reinforces the argument that playing using technology is able to solve problems related to social and emotional children, even without interaction with other children. Some experts argue that play is good for children's physical growth. Plays an important role in child and adult-child interactions, in development of physical abilities of children (strength, skills, endurance, etc.), satisfying their need to play, mastering social roles, etc [5].

The opinion that the idea of playing as a labour physic in accordance with children perspective? For children, it turns out that the idea of play is not as complicated as imagined by philosophers, by deconstructing the idea of play, for children playing is a strategy to overcome the stress and boredom they experience as a result of pressure from the home and educational environment [6]. For children, playing is free time, eliminating the control of parents and adults, when that control is not there that is playing, they can play freely, they can play with anyone and they can play anything and anywhere [7]. However, the Covid19 pandemic makes children feel like they are missing the opportunity to experience it all. Even so, with all the resources children have, children can still play even though it can only be done in a private room, that's children.

2. Research Problem dan Methodology
This paper focuses on understanding the phenomenon of children's play during Covid19 pandemic and understanding more deeply about children's thinking when they choose a place to play at home. Research was developed from the assignment of the subject Behaviour in Architecture at the Binus University Architecture Department. Each student is given the opportunity to report children's play activities with reference to the 5 W + 1 H guidelines, during a pandemic. Of the 90 students, only 35 students reported activities using the direct observation method. To understand the consistency of children's answers, researchers also conducted comparative interviews (with the Covid19 protocol) with 11 children aged 10-12 years who live in Tangerang. Interviews showed the same phenomenon with the answers to student assignments. Analysis of the findings was carried out using the ecological models approach.

3. Literature Review
3.1. Play is?
Huizinga, other philosophers, Plato and Aristotle tried to understand the idea of play, the philosophers concluded that playing is only an activity that has practical value which serves as a medium to improve certain skills and abilities. Characters 'practice' has the meaning doing and active,
a deeper understanding is the verb (verb), the play is part of the labor, even more leads to physical, play more understood as an idea Labour physic. The domination of idea is still being used today, the presence of a playground and standardized equipment shows the alignments of experts towards understanding play.

Unlike the philosopher, in children’s perceptions, the idea of playing is very simple, recognized by looking at psychological expressions, laughing, being happy and free, playing is “… refreshing the brain…”. Play perceived as an expression of psychological compared with physical activity, the idea of playing is a labour mind [8]. Perceived by the child actually has a close relevance to the meaning of the play as a something that is happy, full of joy, exultation events and all of it is a psychological expression of inner and outer nature of the close relation to psychological than the physical. **Play is strategies to relieve stress.**

### 3.2 Space Is?

KBBI (Big Indonesian Dictionary) defines space as between two (rows) of poles or between four poles under a house. Space is also defined as a cavity that is limited or confined by planes, space is also defined as an infinite cavity, where everything exists. In English, the Space comes from the word spatium, space is boundless, three dimensional extent in which objects and events occur and have relative position and direction, Space is the unlimited expanse in which everything is located. Space is both medium and product of everyday life [9]. Ching, Snyder, Lefebvre and others explain what space is.

Yi Fu Tuan (2003), a professor in geography, define the difference between place and space, for Tuan, place is security and space is freedom [10]. Freedom comes from free, etymology of Free as Love or Peace. Peace is a Pact which means an agreement or mutual agreement. Congenial with Tuan, Kim Dovey in Framing Place stated that although the meaning would be private space, the presence of space is a collective agreement in behaviour that comes from the similarity in the group [11]. The description concludes that space is something relative or not in certain coordinates and can be present anywhere but its presence is not something without meaning. **Space is more meaningful as an agreement.**

### 3.3 Affordances is?

Some studies related to the affordances been conducted by several researchers including Gibson (1975), Kyttä (2002), Samsudin (2008), Ellen (2009), Sumaiyah (2010) and Said (2010). This research generally shows the phenomenon between children playing and their playing environment. The researchers used qualitative methods to show the phenomenon of play that occurred from different settings. In practical implementation, affordances have several levels (levels of affordances) 1. affordances that have been perceived ; 2. affordances that have been utilized ; 3. affordances that have been shaped [12]. Children's ability to understand the environment is strongly influenced by individual and sociocultural factors.

J.J Gibson an ‘ecological psychologist’, explained that there are four things that make an object have affordances to humans, if this is related to children, these four things become important as a reference for research: 1. the medium ; 2. The substance ; 3. The surfaces and their layouts ; 4. The objects [13]. These four things become things that attract children when they decide to use the space as a space for playing activities or exchange it for another space. Gibson explained that every environment has a different niche that makes each individual respond differently and how the environment are perceived with regard to their possibilities for use. In this research, how children perceived the existing space in the house and chose as a playground. **Affordances is what the environment offers the individual.**

### 4. Research Results:

#### 4.1 Children Life

From my student in Behaviour in Architecture assignment, there were 35 students who made direct observations of the children around them. From data, it can be seen that during the Covid19 pandemic, around 70% of children played indoors and around 30% of children did their playing activities outside the home.
Table 1: Children’s Play Data

| No. Respondent | Played indoors | Playing activities outside the home |
|----------------|----------------|-------------------------------------|
| 35             | 25             | 10                                  |

Source: Student questionnaire @ 2020

Meanwhile, interviews conducted among children in Tangerang, the answer was delivered almost identical, most of the children said that during Covid19 pandemic they tend to play indoors, whether it is on their own or on the direction of their parents, even if found some children also claimed that they tend to playing activities outside the home. Interviews involving 9 boys and 2 girls also showed the phenomenon that girls tend to play inside the house while boys have the potential to play activities outside the home. Throughout the COVID-19 pandemic, there has been a growing reliance on the use of technology to learn, live, and stay connected [14]. 70% of children who play in the home, the majority of them tend to play using technology, such as gadgets or any other game (play station), some children play do not use technology (playing ball, tag, etc.). Interview children in Tangerang shows the same phenomenon, most children who play in the home tend to be conducting play using the gadget and watch television. During a time of isolation and social distancing, the world relied on technology to learn, live, and stay connected [4].

Table 2: Types of Children’s Games on Indoor Play

| No. Respondent | Play using technology | do not use technology |
|----------------|------------------------|-----------------------|
| 25             | 20                     | 5                     |

Source: Student questionnaire @ 2020

Table 3: Space used by children

| No. Res | Terrace | Living Room | Family Room | Bed Room | Kitchen | Bath Room |
|---------|---------|-------------|-------------|----------|---------|-----------|
| 25      | 5       | 7           | 8           | 5        | 3       | 2         |

Source: Student questionnaire @ 2020

4.2. What is perceived by the Child?

The Covid19 pandemic has changed many human behaviors, all done from home, working from home, learning from home and even playing at home, generate new meanings of a house, if initially only as a residence or as an identity, or as an economic space [15], so this time the house also has a meaning as a classroom, as office space even as a playground, finally home has many meanings [16]. Thus, home does not signify a single place for each person, but can be a number of places simultaneously [17]. HOME IS: physical; spatial; emotional; imaginative; personal (identity); socio-cultural; financial; experiential; relational; locational; political; ecological; spiritual [18]. Home comes with all the complexity in it. Pandemic suppose children to stay at home, although sometimes boredom always experienced by children. From interviews conducted among children in Tangerang, all children stated bored at home, and even some children mention very bored. This feeling of boredom has potential become new stress for children, in addition stress during education.

“...bored at home...”
(Gabriel, 11 years old; Vincent, 12 years old; Gilbert, 11 years old)

When children feel bored, they do the coping to deal with it, such as by doing activities that are pleasing, in addition to playing, children are also conducting interact with their pets. "... feeding the fish ..."; "... playing with cats ..."; "... feeding the chicken ..."; "... look at the hamster ...". Pets brings a different atmosphere for the children, although sometimes not fully overcome the boredom experienced by children. Not only boredom, loneliness experienced by children, even though the house was filled with other family members, the loneliness was more because they could not meet, play, chat, laugh with neighbours the same age. the presence of friends has a role in overcoming boredom and loneliness. As a form of concern for the children during the pandemic, some parents equip their children with the tools of technology-based games, videogames and add TV networks, but the loneliness was still felt by the
Lonely children are bored even if the playground is the most modern [19]. "...deserted, because cannot play with a friend..."; "...bored, nobody to chat with..."; "...pleased to be able to laugh together with my friends..."

Currently, all family members have the potential to be present in the same time and space. Home atmosphere in a long span of time, also have an impact on children, density is also felt by the child and affect the child’s emotional. Density (amount of space per person) in a home is positively associated with familial emotional expressiveness and family decision-making [11]. Finally, this pandemic has the potential to cause psychosocial disorders in children when they are restricted to doing activities with friends outside the home, psychosocial stressors affect the health and well-being of children [3].

4.3. When children play at home,

Even though psychosocial problems are experienced by children, children continue to play at home, both playing alone and with other family members, especially brothers and sisters. This restriction on leaving the house is done because children also have concerns related to Covid19 pandemic. "...scared...contact corona..."; "...afraid of the corona disease...". Restrictions to leave the house tend to be provided by their parents "...playing at home, and Mom is not allowed to play outside... there is corona..." (Joseft). But there are also parents who give children the opportunity on a given day and time, to play outside the house with the use of masks. "...playing outside, at home always making noise..." (Gabriel); "...play on the playground, so that the body exercise..." (Gilbert). When they are at home, they will certainly use the available space to play. "...playing in the bedroom..."; "...playing in the living room..."; "...playing on the porch..."; "...often playing in the living room..."; "...playing the shower in the bathroom..."

The use of space to play in the house is possible because the child absorbs the affordances of the existing space, which are in accordance with the child's thoughts, some of which are. Children have the perception of space, when children are in the room, they have the ability to fill it, according to his needs. Students show a negative attitude towards 'empty space' and tend to 'fill it' [20]. Likewise, what happens when the child is at home, the child has cognitive intelligence, recognition and interpretation of space in utilizing it, cognition in building senses of space [13]. explained that there are four things that make an object have affordances to humans, if this is related to children, these four things become important as a reference for research: 1. the medium; 2. The substance; 3. The surfaces and their layouts; 4. The objects [13].

Tabel 4 : Ecological Model

| Children Statements                                                                 | The Medium | The Substance | The Surface | The Object |
|-------------------------------------------------------------------------------------|------------|---------------|-------------|------------|
| "... playing in the living room, there is an empty space..."                         |            |               |             |            |
| "... playing on the terrace... wider and airy..."                                   |            |               |             |            |
| "...in the bedroom, playing football with my brother..."                           |            |               |             |            |
| "...on the terrace, it's nice to play soccer and play tag with my brother...", the terrace is wider..." |            |               |             |            |

Source : Survey @ 2020

4.4. Sense of Space : Dimension

Medium is the plural form of Media, which means being in the middle (Etymology), being in the middle is an area or point equidistant between extreme (https://www.thefreedictionary.com). Medium is an area, area is a courtyard, an area enclosed by building. Area is representative of breadth from broad, length from long. When they use an children think about the dimensions of the area that will be used by the child “...main di teras...luas dan lapang...” (“...playing on the terrace... wide and airy...”); "...on the terrace, it's nice to play soccer and play tag with my brother...", "the terrace is wider..." When children think about area, children think about the dimensions of the area that will be used by the child. In addition, children also think about the possibility of a game that can be played in
Children understand that playing ball or chasing requires adequate space. The relationship between the medium and the possibility of a game that appeared already thought by children before they play.

| Medium                      | Substance | Surface dan Layout |
|-----------------------------|-----------|--------------------|
| Terrace with wide dimensions | Square shape | Flat and no furniture |

This is made possible because some of the things which are past their experience when they use the space as a space for play and imagination to imagine what would happen. Sense of place already owned by a subsidiary of childhood. Sense of place describes our relationship with places, expressed in different dimensions of human life: emotions, biographies, imagination, stories, and personal experiences [21].

### 4.5. Sense of Space : Layouts

Children do not just consider the medium, but also the Surface. Surface, derived from the Sur and Face. Face have meaning form or shape (etymology), while the lay meaning "relative position, direction, etc." [https://www.etymonline.com](https://www.etymonline.com)]. When they want to use the space as a playroom, children are also very attentive to the form (face) and the relativity of the position of the existing furniture. When the child says: "...main bola sama abang di ruang tamu, bangku dan mejanya di geser dulu..." ("...play soccer with my brother in the living room, move the bench and table first..."); "...di ruang tamu enak nonton TV, bangku nya enak dan bisa digeser..." ("...in the living room it's nice to watch TV, the benches are nice and can be moved..."), it means the child is very familiar associated with the cause and effect, children understand about the condition before and after of relativity position existing furniture. Children perceive that there is a relationship between space and furniture position and trends that arise from changes that occur. "the true question is how we perceive all these surfaces with their inclination to one another" [13].

| Medium                                      | Substance | Surface dan Layout                  |
|---------------------------------------------|-----------|-------------------------------------|
| Living room with a relatively wide dimension | Square shape | Flat with relativity of the position of furniture |

Surface and relativity of the position of furniture is an important consideration in children when they decided to use the space as a playground. The more relative the position of the furniture, the more likely the child will convert the space from a living room to a playroom. The less the relative position of the furniture, the less likely it is that the child will use this space as a playroom. The space is filled with a fixed furniture will make the child avoid the room as a playground.

### Sense of Space : an exciting spatial experience

Besides the dimensions, surface and layout, experience spatial Exciting, is also a child's thought and consideration. Some children prefer to choose a room to play in space that could potentially capable of providing a different atmosphere than usual. they said during the pandemic that the bathroom, which had not been an attractive space for children to play, had an appeal for children. Bathroom into a playground for them: "...kalau bosan, main di kamar mandi, joget di bawah shower..." (... if bored, play in the bathroom, dance under the shower...); "...kalau bosan, mandi di kamar mandi...jadi segar lagi..." (If I'm bored, take a shower in the bathroom... so refreshed again...)
Changes in body movements done outside of the habits be challenging for children. And the challenge caused a sensation for the child, so they are very fond of them. A bathroom with the presence of water is a sensation for children.

Conclusion:

Pandemic Covid19 change a lot of things, including playing in children, but children should play, the environmental conditions that are prohibited, play more activities that serve as a happy, full of joy, exultation events, **Play is strategies to relieve stress.**

Discussion about space, Foucoul, explains that heterotopia is a space that is formed not for materialistic or spiritualistic reasons [22]. Between materialistic or spiritualistic approach gave birth to another space, that is heterotopia, that is a real space present because of the social aspect as forming the shape contrasts with the real space. Heterotopia (Hetero: Multi/Plural; Topia/Topos: space) also comes with meaning as a relative space that can change or is known as a multifunctional space. Likewise, the spaces in the house should be heterotopia. Change that has occurred because of changes in functions, including changes in the function of the room is formal into space unformal. To be able to apply this, there are several things that must be fulfilled, including: a square shape of the room, relativity of furniture position, flat surface. In the end, pandemic Covid19 changing the meaning of space, of a residence turned into a playground.

Children have the ability to consider whether the space allows it to be used as a playroom or not. Experience and imagination of children make the space has a different meaning from the perspective of children. It presented by the space (shape, spacious rooms, interior layout, surface conditions) is perceived by the five senses of children, **Affordances is what the environment offers the individual.** "the process by which stimulation of a sensory receptor produces neural impulses that the brain interprets as a sound, a visual image, a taste, a pain, or other sensory image [23]. When they agree, with the considerations that have been made, the living room can be turned into a playroom, space is a mutual agreement. **Space is an agreement.**

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