Children’s Creativity and Creative Environment’s impact on Children Quality of Life. Case Study: Kampung Jogoyudan, Yogyakarta.

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Abstract. Human create the environment and, finally, environment shape the human’s character. The quality of life are strongly affected by state of person and environment in which it is lived. How long the process of integrity, what someone goes through, will affect the level of change to their lifestyle and that will affect to their next quality of life. Even though, these parameters can’t be used to measure the quality of life of the children. The world of children is a multidimensional world. Several domains and dimensions used as approach will determine whether there is improvement in their lives. This study is to show the influence of children’s creativity and creative environment on their quality of life. The importance of this study is to form a critical community mindset in creating a creative environment through architectural elements, so that it can improve the children’s growth and development, and finally it will impact to improve their quality of life. Bivariate and Multivariate correlational was used to prove the relationship between children’s creativity and creative environment variables with quality of life. The results of this study indicate that children’s creativity and the creative environment are strongly effect to improving children's quality of life.

1. Introduction
The environment is all objects and conditions, including humans and their activities take place where humans to be and affect the survival and human well-being and the life of other organisms [1]. Therefore, interaction between humans and environment in which they are located will be always happen. Humans will adjust to the environment in which they are, which in the end humans will gradually find themselves having changed. Humans tend to use thin clothes to provide comfort to the body when in a hot environment. In a long time, the human body will adjust so that it is no longer dependent on thick clothes to cope with the cold, etc.

Childhood is a time where they will learn a lot and get to know about themselves and their surroundings. They use all potential to be able to absorb everything from environment. School, home, resident area are places that children carry out their activities. Children’s development is a dynamic and active process, and those are strongly influenced by individual factors present from birth as well as their emotional and social experiences. Everything that occurs during childhood, those are indirectly will effect to the children’s future life hood. Freud explained 3 structures of human personality: id, ego, and super ego. The id is the actual personality of the individual, the ego is the personality that is formed as a result of demands on reality, while the super ego is the moral body of a person's personality [2].
of this study is to determine the impact of children’s creativity and creative environment to children’s quality of life.

There are several steps to enroll the research. First, validity and reliability test for instrument. After that analysis was conducted the correlation analysis method. Two correlation analysis was held, bivariate and multivariate. In this case, Children’s creativity and Creative Environment are independent variables and Quality of Life the Children is dependent variable.

2. Creativity, Creative Environment, and Quality of Life

2.1. Creativity

People and the environment always interact and that will produce creativity [3]. Ability to create new combinations based on data, information, or elements already exist or are known before, all experiences and knowledge that a person has acquired during his life, whether in the school, family, or in community. Creativity is very important and it needs to be toughed from an early age. Because by being creative, people can realize (actualize) themselves, and self-actualization is a high-level basic need in human life [4]. Creativity success is intersection between children's skills in certain fields (domain skills), creative thinking and working skills, and intrinsic motivation, which can also be called inner motivation [5].

Creativity development is very important to be developed from beginning because creativity is very influential in early childhood development. Create a product and high creativity required talent and a fairly high intelligence as well. For example, when the child asked to make something from square shapes, if they make the square into a house, book, medicine box, or chest, these indicate that child is creative because they make a various product from a square shape [6]. The function of children creativity development is to develop their intelligence, ability to express, and produce something new. If their potential is developed properly, the child will be able to realize and actualize himself into a true human being. For example, a child makes a doll from a pile of stones, or a child can be creative to make other desired objects from certain things [6]. Children are creative if they show the following characteristics; (a) tend to be active, (b) exploring, experimenting, manipulating, playing, actively asking questions, like to guess, (c) using imagination when playing roles, (d) playing language, telling stories, (e) arranging things according to the desire, (f) participate in doing something with adults, (g) repeating to find out more.

Figure 1. Development of physic (Fisik), Creativity (Kreatif), Ratio (Rasio) [7]. The word meaning in the figure; movement (gerak), feeling (perasaan), and imagination (imaginasi).
There are three processes in a humankind, that are conscious, conscious, and unconscious [7]. The development of thought/reason is a combination of motion and imagination, creative development is a combination of imagination and feeling. The physical, creative, and elements of thought always work simultaneously in humans. The varies of level can be happen depending on the age of the baby to adulthood. (Figure 1)

One of the potential factors that play a role in increasing children's creativity is the environment [8] and [9]. Creative environment is an ideal condition where community in the area can influence each other, collaborate and even compete to carry out creative activities, so that in the end creativity becomes a habit for the community. In other side, the creative environment is also become the attractive and inspiring space existence that can be stimulate creativity itself. The environment is a place where children grow or interact and take part development period, stimulate optimally and build their creativity. Home and school environments should be stimulate to children's creativity by providing guidance and facilitate with tools and amenities that encourage creativity [10].

2.2. Creative Environment
People need creativity to live his daily life and face obstacles [11]. Everyone has creativity, however, during the life, it can be lost because it is not nurtured and developed. There are certain things that are important in supporting children's creativity [12]. So that, start from infancy, the development of children's creativity is always going on. With their mother, children feeling sense of secure and comfort, and children will confidence to solve their problems and survive in the face of obstacles.

There are several basic aspects to creating a creative environment:
1. Comfort. In a simple way, people find it difficult to come up with creative ideas when in a slum, noisy, and disorganized environment. Therefore, the convenience of public spaces is the initial capital of efforts to create a creative environment in urban areas.
2. Openness. A place that has various scenery is preferable to monotonous.
3. Accessibility. A place that has more accessible to people can create a creative environment.
4. Tolerance. A place whom people use to exchange ideas and tolerance among people indicates that place is a creative environment.
5. Diversity. A place that various activities can be put to be carried out is prefer to people and that is a sign as a creative environment.

2.3. The Quality of Life
Quality of life is a way of life, something that is essential to enthusiastic the life, various of individually physical and mental experiences that can change individual subsequent self-existence, high social status, and typical characteristics of an individual's life [11] takes from Brian. Individual perceptions of the quality of life are the result of the intersection of culture, value systems and their position in life. It is relate with their conditions in daily life such as environment, social, physical and also some standards or values in many aspects of life.

There are several definitions and determinant keys of life's quality in subjective perceptions of satisfaction or happiness life, as an important domain for children [12]. Physical, psychological, and social are three main domains to asses on the quality of life. Various factors influence to Quality of life are place in which a child growth, family, health, and economic level.

3. Materials and Methods
This correlation research was conducted to find out relationship between Creative Environment and Creativity of Children into the Quality of Life of the Children in Kampung Jogoyudan Yogyakarta. This section will explain about variables of research, sample, instruments, and method of analysis.
3.1. Variables.
There are two variables in this research, independent variable and dependent variable. Independent variables are Creative Environment (X1) and Children’s Creativity (X2) meanwhile dependent variable is Children’s Quality of Life. The relationship between them are illustrated in Figure 2 below.

Note:
X1 : Variables of Creative Environment
X2 : Variables of Children’s Creativity
Y : Children’s Quality of Life.

Figure 2. Relationship X1, X2 and Y variables.

3.2. Sample.
There are 260 children in Kampung Jogoyudan, Yogyakarta but only about 125 children was in range 5-10 years old of age. This research used method developed by Isaac and Michael (the formula shown below) for sampling with 5% of error level [14].

\[ s = \frac{\lambda^2 \cdot N \cdot P \cdot Q}{d^2 \cdot (N - 1) + \lambda^2 \cdot P \cdot Q} \]  
(1)

\[ s \] : total samples
\[ N \] : total population
\[ d^2 \] : setting precision
\[ \lambda^2 \] : 1, error level maybe 1%, 5%, 10%
\[ P, Q \] : 0,5
\[ D \] : 0,05

From the formula 1, sample obtained was 119 children.

3.3. Instrument test.
Questionnaire Validity and Reliability. Validity test was carried out on a questionnaire to find information about Children’s Creativity using Product Moment Analysis (formula 2), meanwhile Reliability test was carried out using Alpha Cronbach formula (formula 3). This formula to be used to find out the reliability of instruments that the score is not 1 (one) or 0 (zero), but the questionnaire as essay questions [15].

\[ r_{xy} = \frac{n \Sigma xy - \Sigma x \Sigma y}{\sqrt{(n \Sigma x^2 - (\Sigma x)^2)(n \Sigma y^2 - (\Sigma y)^2)}} \]  
(2)

\[ r_{xy} \] : Correlation coef. of variables x and y
\[ n \] : Total of samples
\[ \Sigma xy \] : Total of x variables cross y variables
\[ \Sigma x^2 \] : Total of x square
\[ \Sigma y^2 \] : Total of y square
\[ (\Sigma x)^2 \] : Square of total x
\[ (\Sigma y)^2 \] : Square of total y
The validity only carried out on the Children Creativity questionnaire, meanwhile the questionnaire on the Quality of Life was valid under the reference of the National Public Health Journal Vol. 5, No. 2 [16]. According to the Validity of the Children’s Creativity questionnaire, 10 questions in the beginning. But after test, only 8 questions were valid for the research. About Reliability, \( r_{count} \) calculate with Cronbach’s Alpha was obtained 0.840, then it’s checked with \( r_{table} \) with 5% error level [15], so that that instrument is reliable.

**Table 1. Interpretation of r Value**

| Value of r | Interpretation         |
|-----------|------------------------|
| 0.80 – 1.00 | Very Strong           |
| 0.60 – 0.80 | Strong                |
| 0.40 – 0.60 | Strong enough        |
| 0.20 – 0.40 | Low                   |
| 0.00 – 0.20 | Weak                  |

Normality and Linearity test. Normality test is addressed to determine the normal distribution of each variable by looking at the 2-tailed significance value. If each variable is greater than 0.05, it means that the variables are distribute normally and it is possible followed with analysis. Normality test use Kolmogorov-Smirnov formula [14] shown below.

\[
KS = 1.36 \sqrt{\frac{n_1 + n_2}{n_1 \times n_2}}
\]

\( KS \) : Kolmogorov-Smirnov value
\( n_1 \) : Total observed sample
\( n_2 \) : Total expected sample

Meanwhile, the linearity test was conducted to determine the linearity relationship between the independent variable (X) and the dependent variable (Y) using the F test at significance level of 5%. [17]

\[
F_{reg} = \frac{Rk_{reg}}{Rk_{res}}
\]

\( F_{reg} \) : Value of linearity F
\( Rk_{reg} \) : Mean of regression square
\( Rk_{res} \) : Mean of residue square.

This test use product moment analysis (formula-2) to measures relationship between independent variables. The result of measurement should not greater than 0.800. If the correlation is greater than
0.800 then there is multicollinearity between the independent variables, so multiple linear regression cannot be continued.

4. Results and Discussion

4.1. Profile of Kampung Jogoyudan, Yogyakarta.
Kampung Jogoyudan is in Kelurahan of Gowongan, Jetis, northern part of Yogyakarta city. A kampong on the banks of a river (Code River) that has grown as a slum so that the government will evict it. Since 1995 this village has managed to improve its environment so that this kampong has been preserved. This 95,551 m² kampong has 7 RW (Hamlet) and 28 RT (Neighborhood).

4.2. Kampung Jogoyudan as Creative Environment
Kampung Jogoyudan was measured by variables to proof that Kampung Jogoyudan is creative environment. Reliable testing on the variable parameters of the creative environment criteria uses a reference or 5 Creative Environment Benchmarks from Borrup and Evans [8] [9]. The following data shows that Kampung Jogoyudan is a creative environment.

Table 1. Measurement List of Kampung Jogoyudan as Creative Environment According to Criteria from Borrup and Evans [8] [9].

| Criteria             | Variables                        | Parameters                  | Score |
|----------------------|----------------------------------|-----------------------------|-------|
| **Non-Economic Vitality** | Physical Building Components     | Building Density: 80-100 units/Ha | 30    |
|                      |                                  | Temporary Building: <25%   | 20    |
|                      |                                  | Building Distances: <1.5 ms | 50    |
|                      | Demographic Components           | Population Density: <400 people/Ha | 20    |
|                      |                                  | Population Growth: <1.7%   | 20    |
| **Economic Vitality** | Strategic Position               | Very Strategic              | 50    |
|                      | Dist. to Workplace               | 1 - 10 Kms                  | 30    |
|                      | Function of areas                | Housing and others          | 20    |
The score of Kampung Jogoyudan is 410, which means Kampung Jogoyudan is designated as a “Not Slum” area. Meanwhile, the noise level is between 45 – 55 dB which indicates a normal level for residential, educational, and recreational environments.

4.2.2. Openness.

Openness of public open space is assessed based on the availability public open space assessed by public. Data on the distribution of public facilities in Kampung Jogoyudan are used as the availability of public facilities and public open spaces that can be accessed by people.

4.2.3. Accessibility.

Accessibility is assessed from the convenience of access to Kampung Jogoyudan from one, two or more main roads, the assessment of circulation within the kampung, the enthusiasm of residents when accessing public spaces, the frequency of residents to carry out communal activities and people non-kampung can access to Kampung Jogoyudan.

4.2.4. Tolerance.

People tolerate each other for other religious communities to carry out worship in their own way. And the religious facilities in Kampung Jogoyudan already sufficient for community.
4.2.5. Diversity.
Diversity is assessed from the number of residents living in Kampung Jogoyudan who are Indonesian citizens and Non-Indonesian citizens. In Kampung Jogoyudan, all citizens are Indonesian. In particularly, almost residents are from Yogyakarta, and some of others are from Madura, Kebumen, etc.

4.3. Creativity of Children in Kampung Jogoyudan
The variable of Children's Creativity was measured to children with range 5-10 years of age. From 119 children, the highest score is 380 and the lowest score is 190 where the median is in the "moderate" classification.

Figure 7. Percentage of 119 Children with 5 – 10 years old in Kampung Jogoyudan according to Creativity.

Figure 8. Percentage of 119 Children with 5 – 10 years old in Kampung Jogoyudan according to Quality of Life.

Figure 7-8 above shows that children of Kampung Jogoyudan, both they go to learn in school or not, use playtime in kampung to build their creativity. 68.97% are using playtime very well, and 28.74% are using playtime for some, and 2.29 are using playtime less. The conclusion of this data shown that Kampung Jogoyudan environment on the creativity is high (creative).

4.4. Quality of Life the Children of Kampung Jogoyudan
The variable of Quality of Life of Children in Kampung Jogoyudan is measured by 12 points of character, namely: Physical Health, Psychological Health, Emotions and Mood, Relationships with parents and home activities, Friends, Limited physical function, limited motoric function, Cognitive function/school achievement, Events when the mood is positive, Events when the mood is negative, Personality, and Level of self-confidence. Measurements were carried out on 119 children with an age range of 5-10 years in Kampung Jogoyudan. From these measurements, the highest score was 480 and the lowest score was 340 where the median included in the "moderate" classification barely touched the "poor" level. Figure 7 above shows that children of Kampung Jogoyudan 81.73% have good of quality of live. While, 17.20% of them are intermediate and only 1.07% of them are poor.

4.5. Relationship Creative Environment, Creativity and Quality of Life the Children
4.5.1. Relationship Between Creative Environment with Quality of Life the Children
Through Product Moment correlation analysis, the value of $r_{count}$ is 0.248 while the value of $r_{table}$ with N=119 at a significance level of 5% is 0.076. So, the value of $r_{count}$ is greater than $r_{table}$. That means the relationship is positive and significant. Thus, it can be determined that higher level of the Creative Environment produces the higher Quality of Life the Children.
The analysis also explains that there is a positive and strong relationship between the independent variable and the dependent variable. This is also explaining that the Quality of Life between adults and children has a different approach for each assessment [19]. The differences of assessment are shown in Figure 9 and Figure 10 above.

After being tested for reliability, validity, and instrument testing on creative components that are multidimensional in Kampung Jogoyudan Environment which shows that there is a positive increase in the quality of life of Jogoyudan Children due to living and life there. This is also in accordance with the theory that the environment can facilitate activities that turn ideas into creative products [20]. The condition of major influence on developing children’s creativity, both physically and psychologically.

4.5.2. Relationship Between Creativity with Quality of Life the Children in Kampung Jogoyudan

The second calculation shows that there is a positive relationship and significant between Children's Creativity (X2) and Children's Quality of Life (Y). This is indicated by the value of \( r_{count} \) based on Product Moment correlation analysis is 0.082. This value is greater than \( r_{table} \) with \( N=119 \) at the 5% significance level is 0.076. This means that Children's Creativity has a positive impact 48% and significantly affects to the Quality of Life the Children in Kampung Jogoyudan. This proves the theory that there are indeed several factors that can determine children's creativity, that there are internal and external factors that exist when children grow and develop affect the limbic system, the place where the brain processes interaction and imagination in time together [18]. The more children can make imaginations or crafts from the environment and objects they see around them, the quality of life of children in terms of Overall Sense or even cognitive moments will increase.

4.5.3. Relationship Between Creative Environment and Children Creativity with Quality of Life the Children in Kampung Jogoyudan

The third calculation is to determine the significance of the correlation between Creative Environment (X1) and Children's Creativity (X2) simultaneously with Children's Quality of Life (Y). This test uses the \( F_{test} \) The result is the \( F \) value is based on analysis is 7.307. This value is greater than \( F_{table} \) at the 5% significance level is 2.07. This means that there is a positive relationship and significant between the Creative Environment and Children's Creativity with the Quality of Life for the Children of Kampung Jogoyudan Yogyakarta.

5. Conclusion

There is a strong impact between Creative Environment and Children's Creativity to the Children's Quality of Life. Environmental elements around the place of residence can be used to create creative environment and this will encourage children to use their imagination and skills to be creative. In the end, both will jointly encourage the improvement of children's quality of life. Public open spaces, public

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**Figure 9.** Diagram of Absorption Theory of Quality of Life as general (for adults). [19]

**Figure 10.** Diagram of Absorption Theory of Quality of Life for children. [19]
facilities in residential areas and environmental facilities should be directed not only for the function of urban utilities, but also for being able to be used by the community in their activities, especially children, in a more varied manner.

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