The influencing factors on place attachment in neighborhood of Kampung Melayu

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Abstract. Place attachment on neighborhood differs according to place characteristics and person characteristics. By dividing the research area of Kelurahan Kampung Melayu into flood area and non-flood area, this research aims at analyzing place attachment on neighborhood and analyzing factors influencing the place attachment. This research using quantitative approach using Structural Equation Modeling (SEM). Self-administered questionnaires using likert scale were distributed randomly to 400 residents. Result of the research shows that residents tend to have place attachment to their neighborhood. Factors influencing place attachment on residents born in the neighborhood with length of stay 10 years or longer and having house are family factor for residents living in non-flood area and physical factor as well as social factor for residents in flood area. This research concludes that place attachment on neighborhood is formed because dimension of place is interpreted not merely physically but also socially, namely the existence of family ties and social relationship with people in the neighborhood.

Keyword: place attachment, neighborhood, Kampung Melayu

1. Introduction

City is center of economic, opportunity and innovation. This attraction cause increasing of population in city. Increased population has implications for the increasing need for space for settlements as one of the primary human needs. Limited provision of housing by the government as well as purchasing ability of the community, bringing up self-built settlements by the community, such as irregular settlements or urban villages. Urban village is part of city spatial that have uniqueness of settlements and many residents activities creating identity of urban village [1]. Urban villages that are mostly located among the city's built areas, not only serve as a place to live but are expected to provide benefits to the surrounding environment and increase community participation in line with the economic growth of the city [2].

Jakarta as the nation’s capital and became the center of various activities in the order of twenty-seven as the city with the largest population in 2016 reached 10,483,000 inhabitants [3]. The implications of this large population are the increasing demand for housing. Irregular settlements or urban villages are found in Jakarta, one of them is in Kelurahan Kampung Melayu, East Jakarta. Kelurahan with the highest population density in East Jakarta is reaching ± 640 inhabitants/ha in 2015. According to history has been made settlement starting the 17th century. Settlements in Kelurahan Kampung Melayu located close to the economic center of Jatinegara Market and adjacent to Ciliwung River which is included as flood prone area. In 2007, the height of flood in Kelurahan Kampung Melayu reaches ± 2 meters. In 2014, 2015 and 2016, Kelurahan Kampung Melayu was included as flood affected areas [4].

The government conducted normalization activities of the Ciliwung River to cope with flooding in Kampung Melayu. River normalization activities conducted in 2015 on the southern side of Kelurahan
Kampung Melayu which moved some residents in RW 01, RW 02 and RW 03 to the flats provided by the government in West Jatinegara Street. RW or Rukun Warga is community group which consist of some neighborhood group named Rukun Tetangga (RT). Not all residents who expose river normalization moved into flats, some moved out of Kelurahan Kampung Melayu. The northern side of Kelurahan Kampung Melayu that has not been normalized is still experiencing flooding up to now, that is part of RW 04, some of RW 05, some RW 06, RW 07, and RW 08.

Although some areas of Kelurahan Kampung Melayu have decreased flood incidence due to normalization of the river and some areas are still experiencing flood events, the residents survives. This area has been used as a place of residence for generations for generations. There are things that they do not get elsewhere when compared to what they get and feel during their stay in Kampung Melayu. The persistence of the community to settle in neighborhood, in environmental psychology is caused by the emotional attachment between humans and their neighborhood, known as the place attachment [5]. Place attachment can built by the length of residence and experiences owned with people and neighborhood where they lived. Three dimensions which interconnected in building place attachment are person, process, and place [6]. Places are not only physical but more about how a place has meaning for person and person to give meaning to the place. Place define not only the physical environment, but also social environment. For example a place where human emotions arise awakened with people and lifestyles of people in the place supported from their physical settings [7]. Dimensions of person and place can influencing the built of place attachment. Both can be broken down into factors that influencing place attachment. From previous studies, it was identified that place attachment could be influenced by demographic, physical, social, economic factors [8,9,10,7], and family bounds [10].

Related with the concept of friendly city, place attachment on neighborhood provides an overview of the factors that according to the assessment of residents provide comfort so that for decades the residents can survive and settle in the neighborhood where they lived. The comforts of living manifested by place attachment are not only limited to physical places but also to interactions with people in the neighborhood [7].

Reflected with the long-settled residents of Kelurahan Kampung Melayu by dividing the two areas to provide neighborhood characteristics as the dimensions of the place, including non-flood area that have been normalized river and flood area that have not done the normalization of the river, place attachment that built can be influenced due to family factor, physical factor, economic factor, or social factor. Assessment of the residents as a long-standing person’s dimension and experience and memories during their stay will reflect what factors most influencing place attachment.

2. Literature Review

Place attachment is the bond of human emotion, not only with the physical setting of the place, but also with the people and lifestyles of people in the place supported by its physical setting [7]. Place attachment is an integrated concept that encompasses different patterns of association (affective, cognitive and behaviour), places, actors and social relationships (individuals, groups and cultures) [5]. Place attachment can occur in different scale of places (homes, neighborhoods, cities, countries, etc) and different type of places, such as residence or public spaces such as shopping centers, tourist attractions, etc [5]. This research focuses in neighborhood as place.

From the diverse definitions of place attachments, formulated three dimensions of place attachment in a single frame of mind: person, process, and place [6]. The actor, who is bound, the extent to which the attachment and meaning of the place individually and collectively. The process of psychology, how affective form, cognition and behavior in attachment. The third dimension is place that refers to a meaningful space. Model of place attachment (person, process, and place) can be seen in Figure 1.
Factors that influencing place attachment from previous studies can be grouped into demographic factor, family factor, physical factors, social factors, and economic factor. This research analyze all of the influencing factors as comprehensive analysis [11]. Demographic factor in this research choose residents who native with a length of residence of 10 years or more and has a house. Length of residence, native, and home ownership are predictors of place attachment from previous studies [12].

Family factor, physical factor, economic factor, and social factor include some indicators that show condition in neighborhood according to residents assessment. Family factor that influencing place attachment in this research focus on existence of family [10]. Physical factor focuses on availability of public facilities [7,8,9,13,14]. Infrastructure as a basic physical and utility for the operation of a building and settlement consists of: 1) road network, 2) drainage network, 3) clean water network, 4) waste water network, 5) network of garbage, 6) electricity network, 7) phone network, 8) local transportation network [15]. While facilities as supporting facilities to organize and develop economic, social, and cultural life consists of: 1) government facilities and public services, 2) educational facilities, 3) health facility, 4) means of worship, 5) means of trade and commerce, 6) cultural and recreational facilities, 7) open space, parks, sports fields [15]. Economic factors focuses on proximity to work sites [9], places that provide income for residents, people willing to provide financial assistance, including providing loans when needed [10]. Social factors focuses on social closeness (strong bonds with neighbors, mutual care of one another), closeness to the neighbors seen from daily interactions, intimacy among residents [7,14,16], participation in activity [9,17]. The influencing factors and indicators on place attachment can be seen in Table 1.

| No | Factors and Indicators | [7] | [8] | [9] | [10] | [12] | [13] | [14] | [16] | [17] | This Research |
|----|------------------------|-----|-----|-----|------|------|------|------|------|------|---------------|
| I  | Demographic Factor     |     |     |     |      |      |      |      |      |      |               |
|    | Age                    | V   | V   | V   | V    | V    | V    | V    | V    | V    | V             |
|    | Home ownership         |     |     |     |      |      |      |      |      |      |               |
|    | Length of residence    | V   | V   | V   | V    | V    | V    | V    | V    | V    |               |
|    | Gender                 | V   |     |     |      |      |      |      |      |      | V             |
|    | Number of              | V   |     |     |      |      |      |      |      |      |               |
| No | Factors and Indicators | [7] | [8] | [9] | [10] | [12] | [13] | [14] | [16] | [17] | This Research |
|----|------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------|
|    | family members         |     |     |     |     |     |     |     |     |     |               |
|    | Income                 |     |     | V   |     |     |     |     |     |     |               |
|    | Natives or Non-natives | V   |     |     |     |     |     |     |     |     |               |
| 2  | Family Factor          |     |     |     | V   |     |     |     |     |     |               |
|    | Home for parents and ancestors | |     |     |     |     |     |     |     |     |               |
|    | Existence of family    |     |     |     | V   |     |     |     |     |     |               |
| 3  | Physical Factor        |     |     |     |     | V   | V   |     |     |     |               |
|    | Architectural form and city planning | | V   | V   |     |     |     |     |     |     |               |
|    | Availability of service facility | | V   | V   | V   | V   | V   | V   |     |     |               |
|    | Amenity                |     |     |     |     | V   |     |     |     |     |               |
|    | Safety, low of crime   |     |     |     |     |     |     |     | V   |     |               |
|    | Accessibility, close to city center | |     |     |     | V   |     |     |     | V   |               |
|    | Diversity              |     |     |     |     |     |     |     |     | V   |               |
| 4  | Social Factor          |     |     |     |     |     | V   | V   | V   | V   |               |
|    | The existence of social relations, close relationships with neighbors, interactions, know each other | |     |     | V   | V   | V   | V   |     |     |               |
|    | Helping neighbors      |     |     |     |     |     |     |     | V   | V   |               |
|    | Desires and behaviors of living together | |     |     | V   |     |     |     |     | V   |               |
|    | Desire to participate Factor of Economic | |     |     | V   | V   | V   | V   |     |     |               |
|    | Affordability          |     |     |     |     |     |     |     |     | V   |               |
|    | Proximity to work sites |     |     |     | V   |     |     |     |     |     |               |
|    | Opportunity to work    |     |     |     |     |     |     |     | V   |     |               |
|    | Availability of people who | |     |     |     |     | V   |     |     | V   |               |
This research uses quantitative approach with survey as research strategy. Survey research uses a questionnaire to collect data and information from large number of people [18]. The variables in this research consist of dependent variable and independent variable. The dependent variable is the place attachment on neighborhood, consist of 7 indicators of neighborhood are an ideal place, feeling satisfied, feeling as part of life, emotions and memories, having the impression, feeling happy, having the desire to move [19]. The independent variables are family/heredity factors, physical factors, social factors, and economic factors. Family factor consists of three indicators, physical factor consist of thirty-one indicators, economic factors consist of five indicators, and social factors consist of three indicators.

Four hypothesis in this study are : 1) hypothesis 1 : place attachment influenced by family / heredity factor, 2) hypothesis 2 : place attachment influenced by physical factors, 3) hypothesis 3 : place attachment influenced by economic factors, and 4) hypothesis 4 : place attachment influenced by social factors.

Data collection techniques conducted in this research is the spread of questionnaires, area observation, agency visits and literature review. The distribution of questionnaires was conducted to the residents of Kelurahan Kampung Melayu which became the sample of this study. The number of respondents in this study is 400 residents divided proportionally according to the residents of each RW. Level of confidence used 95% or accuracy (degree of accuracy) = 0.05. Questionnaires include self administerer with questions measured using a likert scale of 1 (strongly disagree) to 5 (strongly agree). Likert are used in survey research to measure ordinal level of individual assessment [18]. Observation is done by observing the condition in Kelurahan Kampung Melayu, covering neighborhood condition, socio-economic condition, condition of facility and infrastructure, social relation. The institution visit was conducted in Kelurahan Kampung Melayu to obtain demography data, facilities and infrastructure, flood incident, normalization of Ciliwung River. The literature review is done through documents, books, journals and internet material about place attachment, influencing factors, Kelurahan Kampung Melayu profile.

Data process using statistical method of Structural Equation Modeling (SEM) with Analysis Moment of Structure (Amos) program. SEM is a multivariate statistical technique that is cross-sectional, linear, and general, including factor analysis, regression, and path analysis [20]. SEM is widely and popular used to data analysis in many field of researches, including in place attachment topic [21]. The variables in SEM are divided into two, namely: 1) Observed variables that is variable that can be observed directly, and 2) Unobserved variables (latent variable/factor) is a variable that is not observed directly [20]. In SEM there are measurement model and structural model [21]. The measurement model will describe the relationship between all latent variables (variables not observed directly) with the observed measurements, while the structural model will describe the relationship between all latent variables [21]. The output of SEM is the regression weight table showing the significance value, the standardized regression weight table showing the factor value, as well as the path diagram. From these two tables, it can be seen that the most influential factor is the smallest.
table is used to test the hypothesis. One output from SEM is a path diagram that serves to explain patterns of relationships between variables graphically.

4. Results and Discussions

This study selected native respondents with a length of residence of 10 years or more and has a house to analyze the factors that influencing place attachment on neighborhood. Assessment of respondents to neighborhood where they live, covering family factors, physical factors, economic factors, and social factors measured the effect on place attachment. The characteristics of neighborhood as the place dimension in Kelurahan Kampung Melayu are divided into two, namely the non-flood area that have been carried out by normalization of rivers and flood area that have not been carried out by the normalization of the river. The division of the region can be seen in Figure 2.

**Non-flood Area**
- On the south side of Kelurahan Kampung Melayu.
- Normalization of Ciliwung River has been done.
- Between settlements and rivers are restricted inspection street.
- The neighborhood is irregular and dense.
- Near Jatinegara Market.
- Settlements tend to be open, surrounded by high traffic networks.

**Flood Area**
- On the north side of Kelurahan Kampung Melayu.
- The settlement is adjacent to Ciliwung River because it has not been normalized yet.
- The neighborhood is irregular and dense.
- Near sub-districts Offices and kelurahan facilities such as community health center, elementary and junior high schools, neighborhood markets, shops, services.

![Figure 2. Division of Area in Kelurahan Kampung Melayu](image)

Source: Dinas Cipta Karya, Spatial and Land Affairs of DKI Jakarta Province, 2013 and Data Processing, 2017.

4.1. Attachment Place in Non-Flooded Area

Non-flood area is located on the south side of Kelurahan Kampung Melayu. Named the area is not flooded because Ciliwung River has been normalized in 2015 so that the incidence of flooding in this neighborhood is reduced. The neighborhood that include these irregular and densely populated settlements are located along the Ciliwung River. Access to this settlement is very open, meaning that from various sides (west, north, east and south) is restricted by road (Jatinegara West Street on the east side and KH Abdul Syafie Street on the south side) with high vehicle volume because from/to center activities of Jatinegara Market and Kampung Melayu Bus Station. The north and west sides are bordered by the Ciliwung River, but there are inspection street that limit the river to the settlements. Visualization of the non-flood area can be seen in Figure 2. The number of respondents in the non-flood area is 136 residents. After the selection of respondents in accordance with the predictors of
place attachment, that is length of residence, native, and home ownership, there are 90 residents who are native with a residence of 10 years or more and have a house.

From the result of processing of Structural Equation Modeling (SEM), it is known that the factors that have the greatest influence to the smallest place attachment in the non-flood area by respondents of the native with the residence of 10 years or more, and the status of the owned house is family factor (0.491) Social (0.490 but not significant), economic factor (0.021 but not significant), and physical factor (-0.051, but not significant). Hypothesis testing is accepted if the latent variable is a variable that cannot be observed directly has a significance value < 0.05. Because of the significance of influencing the hypothesis test, factor that influencing place attachment in non-flood area is family factor. The path diagram as a visualization of the SEM calculations formed from the factors influencing place attachment can be seen in Figure 3.

![Figure 3](image)

**Figure 3.** Factors Influencing Place Attachment by Respondents of the Native with Long of Residence 10 Years or More, and Status of Owned House in Non-Flood Area

Source: data processing, 2017.

Family factors that influencing place attachment in the non-flood area are consistent with previous study [10] that where grandparents or relatives have meaning and bond for some people. Of the few respondents known to people living in this non-flood area have been several generations. For example his grandparents first lived in non-flood area, then his parents, and currently his son. Or there are also, the current neighbors in non-flood area is his family such as parents, uncles, older siblings, and others.

Indicators that have the greatest influencing to the smallest on family factors in non-flood area by native with ten years or more, and homeownership status is memories with family (0.775), family identity (0.689), and family existence (0.682). The length of residence that is from birth until the time of this research is done to provide experience and memories with neighborhood, especially the memories with families who are always together during the stay in non-flood area. The place attachment is more to the dimension of the place that is interpreted as the social environment [6] that is the relationship with the people in the neighborhood, especially those who have family ties.

Physical factors, economic factors, and social factors are factors that do not significantly influencing place attachment on neighborhood in non-flood area. The availability of electricity (0.975), road (0.875), shopping facilities (0.837) which has the greatest influencing on physical factors.
The flood area in this study is located on the north side of Kelurahan Kampung Melayu. It is named flood area because the river normalization has not been done so that flood incident still happens in this neighborhood. The neighborhoods that include these irregular and densely populated settlements are located along the Ciliwung River. Access to these settlements is not open, meaning not too close to Jatinegara West Street which has a high volume of vehicles. This neighborhood is close to sub-districts office and kelurahan facilities such as community health center. There are also elementary and junior high schools, as well as neighborhood market and shop trade. Visualization of flooded areas can be seen in Figure 2. the number of respondents in region 2 is 234 people. After the selection of respondents in accordance with the predictors of place attachment, that is length of residence, native people, and home ownership, there are 158 residents who are native with a residence of 10 years or more and have a house.

Data processing using Structural Equation Modeling (SEM) method, it is known that the factors that have the greatest influencing to the smallest place attachment in the flood area according to the respondent native with 10 years old or more, and the status of owned house is physical factor (0.555) Social (0.406), family factor (0.005 but not significant) and economic factor (-0.116 but not significant). Because of the significance of influencing hypothesis testing, the factors that influencing place attachment in flood area are physical factor and social factor.

Factors that influencing place attachment in flood area are physical factors and social factors in line with the three-dimensional-model of place attachment which is place dimensions include the physical environment and social environment [6]. This means that the emotional bond that formed between humans and the environment where he lived not only understood the physical place of the building and its natural environment, but also formed because of interaction with humans.

Indicators that have the greatest influencing to the smallest factor on physical factors on the place attachment in the flood area according to the respondent native with the residence of 10 years or more, and the status of owned house is electricity (0.860), garbage (0.857), educational means (0.836) Health (0.835), shopping facilities (0.817), waste (0.804), means of worship (0.802), clean water (0.771), public transportation (0.487), and road (0.358). Drainage, sports facilities, and parks do not include physical indicators that influencing the attachment of the place because the process of calculating the factor value for the three indicators is negative. The most influencing place attachment to the physical factor (infrastructure) is the availability of electricity in the neighborhood. As for the physical (facilities) the biggest effect is the availability of educational facilities and health facilities. This is in accordance with the characteristics of the place which the flood area is close to the Kampung Melayu Village’s community service center, so the availability of other facilities available in this area, namely the Village Health Center of Kampung Melayu, the 26 Elementary and Junior High School Jakarta and doctor’s clinic.

Indicators that have the greatest influencing to the smallest factor on social factors on the place attachment in the flood area according to the respondent of native with the residence time of 10 years or more, and the status of the property owned is 0.872. This means that the most influencing place attachment to social factors is the participation of respondents on the joint activities undertaken in the flood areas. On participation, the greatest indicator that influencing was the participation of the joint activities of the community such as social gathering, recitation of the Quran or pengajian (0.748),
followed by neighborhood clean-up or *kerja bakti* (0.713), participation of RT / RW, PKK, and youth (0.710). The greatest participation of the community is not the activities of the formal organization, but the activities of the initiative of residents, such as social gathering and recitation of the Quran or *pengajian*. In this flood area, there are various recitations conducted starting for groups of children, youth, father, and mother.

Family and economic factors did not significantly influencing place attachment in flood area. Although families living in the flood area have the greatest influencing (0.821) on family factors and the availability of savings and loan facilities (0.908) have the greatest influencing on economic factors, they are not factors influencing the building of emotional bonds between residents and their neighborhoods in the flood area.

5. Conclusion
The conclusions of analysis and discussion are:
1. The place dimension influencing place attachment. Characteristics of places viewed from family factors, physical factors, economic factors, and social factors have uniqueness so that there are differences in factors that influencing place attachment according to the assessment of residents living in the neighborhood.
2. Place attachment in non-flood area according to the native with a residence time of 10 years or more and possessing a house may be built due to the presence of a family living in this neighborhood. The presence of memories with the family becomes the largest indicator that influencing place attachment to family factors.
3. Place attachment in flood area according to the native with a long residence of 10 years or more and have a house owned can be built due to physical factors and social factors that influencing. This is in line with the three-dimensional model of place attachment according to [3] such as the place dimension of place attachment encompasses physical and social environment. Emotional bond between residents and neighborhood in the flood area not only signifies the physical place of the availability of facilities and infrastructure, but also formed because of interaction with person. The proximity of flood area with Kelurahan Kampung Melayu service center with the availability of educational facilities and health facilities for the residents has the greatest influencing on physical factors for place attachment. While on social factors, participation of residents in joint activities especially those conducted through initiatives from and for residents has the greatest influencing on social factors for place attachment.

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