Chapter 5

Discussions

This chapter is aimed to discuss about the results which are acquired after analyzing the data of the survey. Referring to the research objectives, the discussions can be divided into two parts:

- The aesthetics response of the environment in front of Hue citadel;
- Aesthetic response's factors.

5.1 The Aesthetics Response of the Environment in front of Hue Citadel

Base on the results in the previous chapter, the photo-P5 is one of five representative photos of the environment in front of the Hue Citadel. P5 obtains the highest *mean value* in the preference test. This photo was taken in front of the main entrance[1] of the citadel (Figure 5.1). Due to the results, discussions of some characteristics of environment in the photos can solve how the people prefer to.

Im (1983) suggests that visual preference is considered a product of the interaction of the responders and environment or the response to the environment stimuli. This includes a complex interaction of affective and cognitive responses to environmental stimuli (Kaplan, 1987; Nasar, 1994; Rapoport, 1977; Ulrich, 1983; Zajonc & Marcus, 1982). In this study, the environment stimuli, those are considered

[1] The Ngan Gate, which is one of ten gates of the Hue Citadel, is used as the main entrance of the citadel

as the environmental feature attributes, are the environmental characteristics of the pictures such as: vegetation; shading; the buildings (shophouses); skyline; images of commercial activities; electric equipments, advertising sign, vehicle parking; and the others in visible senses. These characteristics are affected to the visual preference (Peterson, 1967; Im, 1987).

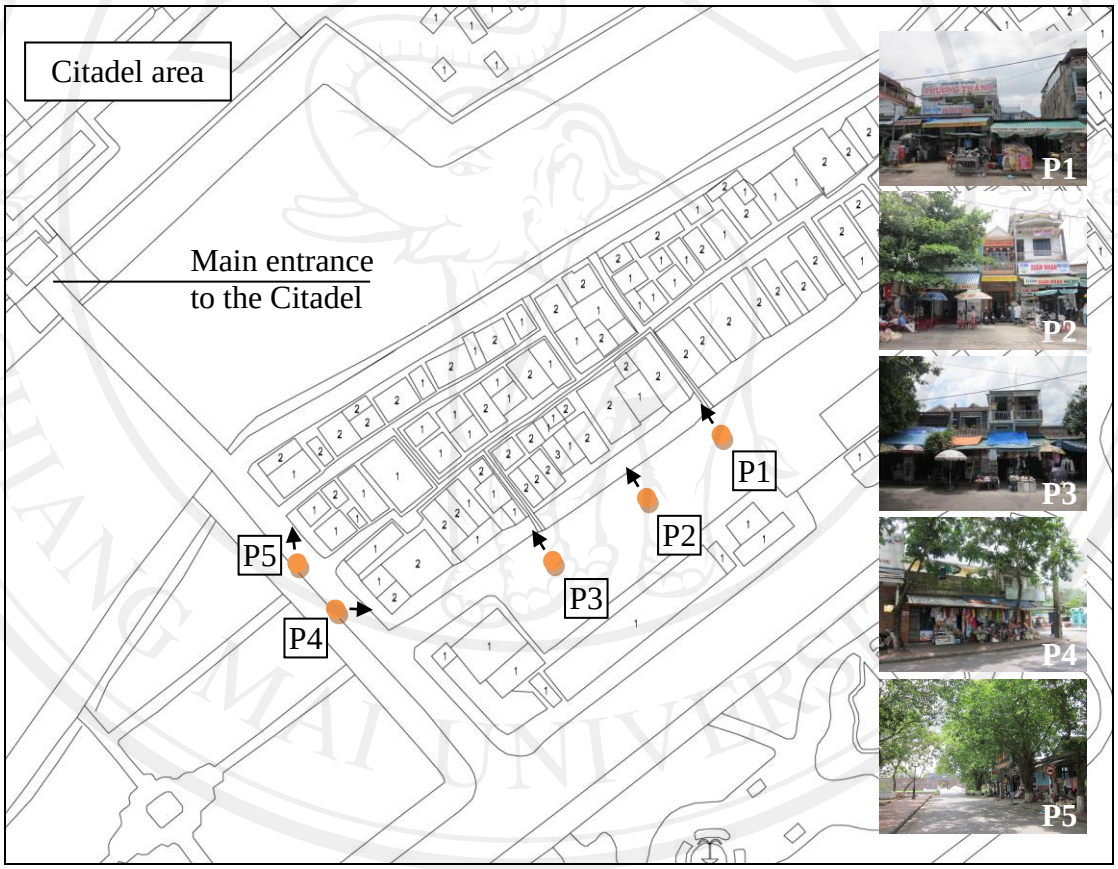

Figure 5.1 Map of the places where the photos were taken

Vegetation

Greenery is one of environmental elements, which is different among other photos. The P5 is responded in term of environment aesthetic as the most preference with the most amount of vegetation. As descriptions in the chapter 3 (chapter of

methodology), the photo-P5 and the others in the same group are grouped base on many criteria and the greenery also (Figure 5.2).

Figure 5.2 The most aesthetic response of the environment in front of Hue citadel

While looking at the photos, participants perceived the vegetation and they evaluated through their experiences of the vegetation's functions with the environment. The role of vegetation in landscape is claimed in many studies (Rogge et al., 2007; Wolf, 2004; Herzog et al., 2000; Coeterier, 1996; Kaplan and Kaplan, 1983; Purcell and Lamb, 1984). According to Ulrich (1986), liking for urban scenes is usually increased when trees and other vegetation are presented. Views of nature, compared to most urban scenes lacking natural elements such as trees, appear to have more positive influences on emotional and physiological states. The benefits of visual encounters with vegetation may be greatest for individuals experiencing stress or anxiety. His research demonstrates that responses to trees and other vegetation can be linked directly to health, and in turn related to economic benefits of visual quality (Ulrich, 1986). People perceive green spaces in terms of certain dimensions, some of which are more important and preferred compared to others with respect to helping

people recover from stress (Grahn and Stigsdotter, 2010).

Gilbert (1989) said that factors such as the size, shape, diversity, history, and distribution of green spaces with in a city as well as the design and management of the green spaces individually, play a decisive role in defining the functions of them.

Unlike the photo-P5, in the others, especially the photo-P1, the vegetation is only one or a few small trees which are existed among the picture with a hot climate sense. Even in the photo-P4, there are some trees with medium size; however, the canopy of them is not large like the photo-P5. Lacking of green tree in the images of photo-P1, P2, P3 may be one of reasons made the participants feeling hot and dazzling. The larger green canopy and higher percentage greenery can protect and against the heat from the sunshine. Besides, many positive functions of the vegetation in the landscape are used to evaluate in the process of the participants' perception. (Figure 5.3)

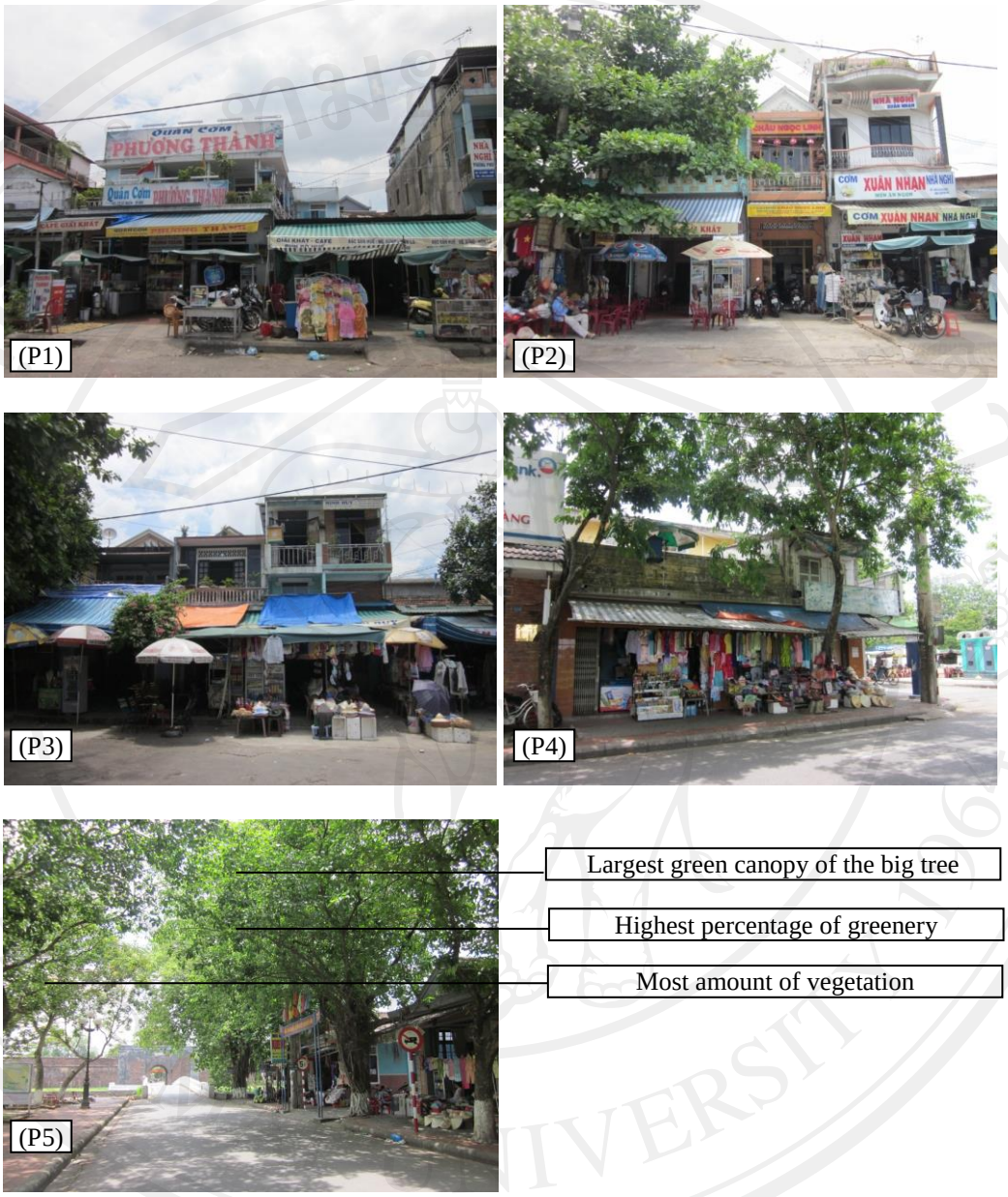

Figure 5.3 Differences in greenery element among five photographs of the environment in front of the Hue Citadel

Base on those functions of greenery in urban environment, the participants prefer the photo-P5 as the most aesthetic response is also the answer for the preferences of people to the vegetation. The large green canopy from the big tree in the picture of photo-P5 has made more positive feeling to the responders due to their

experience of greenery's roles. The greenery causes a cooler sense below the sunshine of a tropical area as Hue city.

The results reveal that, people prefer the greenery in term of aesthetic response of the environment and their evaluations are entirely based on the environmental perceptions. The preferences of aesthetic response increase in correlating with increase of the greenery in the environment. In other words, people prefer more vegetation to less vegetation in urban and it should be better with the big trees and large greenery canopy. (Figure 5.4)

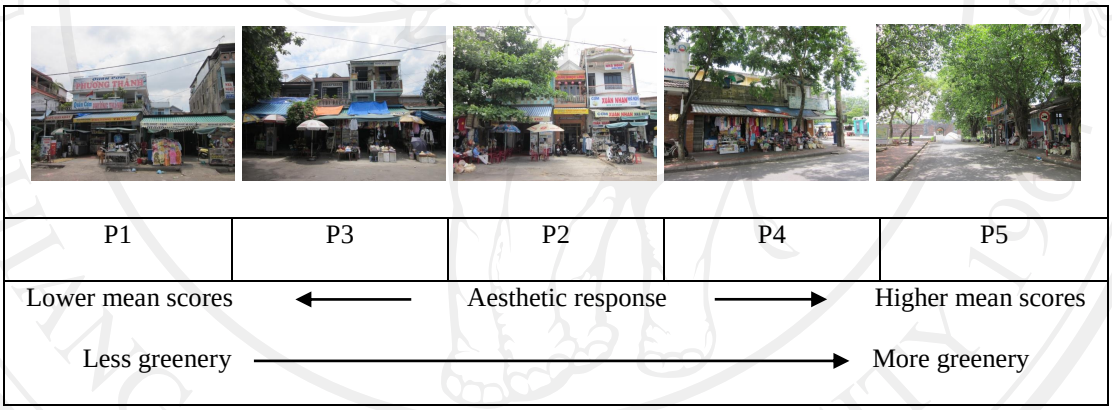

Figure 5.4 Aesthetic response of environment related to the greenery

Shading

Besides, in the photo-P5, the environment is also appeared with most shading. While the photos such as P1, P2, P3 are lacking in shading, especially, the shadow of outdoor space. This is one of elements that affects to the respondents' cognition. In the area of study, almost shading is due to the canopy of the big tree. Nevertheless, the shadow from the trees makes the outdoor spaces looking cool (see P4 and P5), but the shading indoors causes the buildings looking darker (P1, P2, P3). (Figure 5.5)

Shading indoor make the buildings looking darker

Lacking of shading from the big trees

(P1)

Shading indoor make the buildings looking darker

Lacking of shading from the big trees

(P2)

Shading indoor make the buildings looking darker

Lacking of shading from the big trees

(P3)

The shading from the big trees

(P4)

Figure 5.5 Differences in shading element among five photographs of the environment in front of the Hue Citadel

Shading is one of feature attributes in landscape and urban design. Many studies have investigated about the decrement of temperature due to the shading (Papadakis et al., 2001; Porta-Gándara et al., 2009). Shading refers to the effect of shadows cast upon adjacent areas by proposed structures. Consequences of shadows upon land uses may be positive, including cooling effects during warm weather, or negative, such as the loss of natural light necessary for solar energy purposes or the loss of warming influences during cool weather. However, the shading in this case may effects to the participants in the experienced evaluation of the climate of visiting in a tropical country. The shadow of the big tree can protect and reduce the heat from the sunshine and make the activities of the human are more advantageous. The results of preferences of environment aesthetic are more increasing following to the amount of shading in the pictures. Thus, people prefer more outdoor shading in the environmental landscape, particularly the shading as shadow of the vegetation. (Figure 5.6)

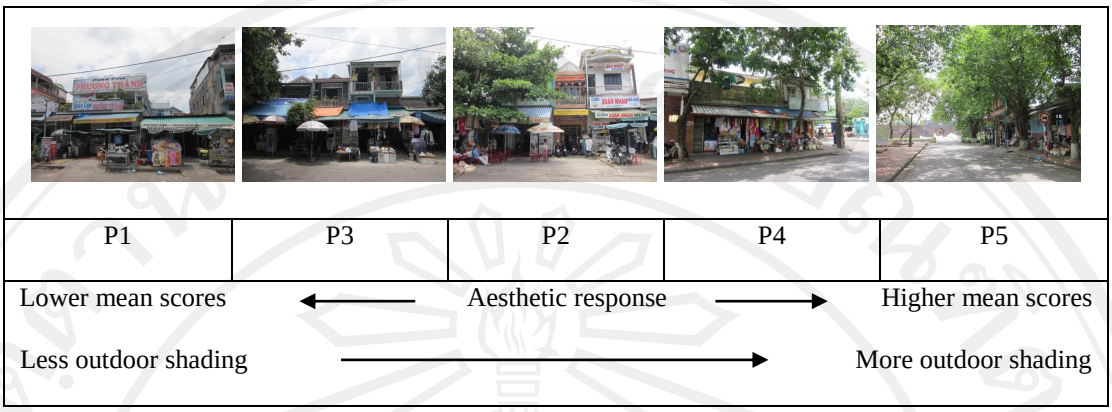

Figure 5.6 Aesthetic response of environment related to the shading

Other Spatial Configurations

According to Hershberger (1992), the forms, colours and spatial configurations of the built environment that may influence overall aesthetic response; and, due to the variation among such elements. Im (1987) also proposes that visual preference can be affected by physical variables, including texture, color, and shape of space components, as well as ratios among various dimensions. In this research, those elements are occurred differently in each photo. In the photo-P4 and P5, the buildings (shophouses) are not high and quite systematic with one storey only; these are appropriate to the built regulation of the local law for the building nearby the heritage area (Decision No. 2318, 1997). Meanwhile the other photos (P1, P2, and P3) content the images of the shophouses with lacking of identities: difference of the height and the width among each of shophouses; uneven skyline; and inhomogeneous number and height of storey. In addition, in the photo-P4 and photo-P5, the image of sidewalk is occurred that can be used for the walk-way; the sidewalk in the photo-P1, P2, P3 is employed for commercial activities (goods and advertising sign) or vehicles parking.

Public equipment such as traffic signals, telephone boxes, moving public toilet, electric poles, also affect to the aesthetic response. These elements is impeded the viewing of the responder while observing the landscape. The buildings and the goods of shophouses in this area cannot be appeared clearly because of the obstacle of those elements. Besides, the sky in the photo-P4, P5 is almost hidden by the canopy of the trees, but it seems to be drawn by the electric lines in the other photos (P1, P2, and P3). And the environmental aesthetic has responded with fewer preferences with the image of the electric lines on the sky. The characteristic as commercial activity also causes the troubles with its attributes such as goods and advertising signs. Types of goods and numerous of form of advertising signs make the spatial configuration of built environment is different in each photograph. Other spatial configurations are commercial activity and their settings including restaurant, guesthouse, and tourism service office. The respondents evaluate these features may be like or dislike depending on the individual experience in their cultures (Rapoport, 1976). (Figure 5.7)

(P1)

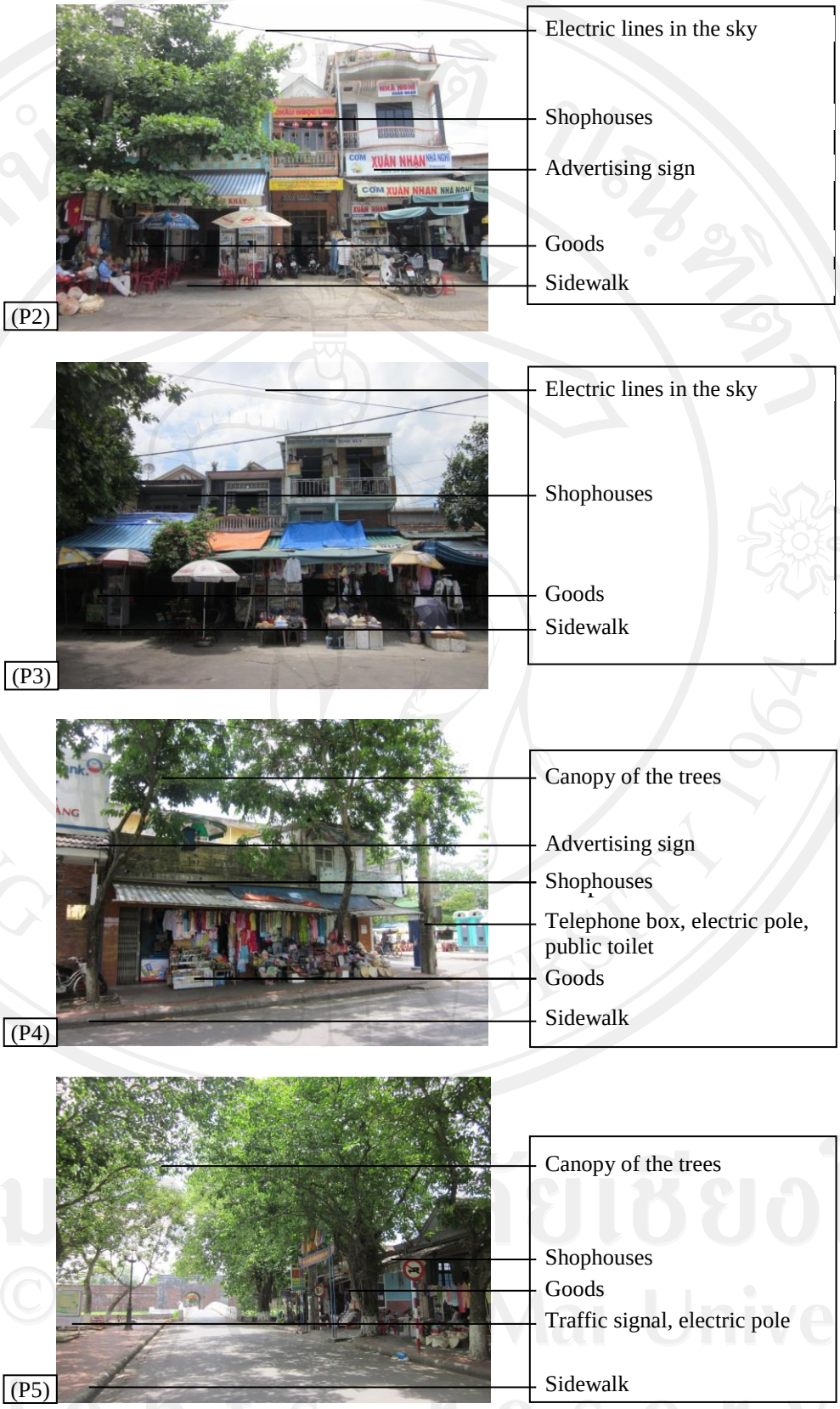

Figure 5.7 The spatial configuration of the environment in front of Hue citadel

Thus, from the results analysis and the descriptions of the elements of form and spatial configurations above, the study extracts that the participants respond to environmental attributes as forms and spatial configurations in this area base on cognizing through the photos and they give less preference with inhomogeneous buildings and unclear viewing. (Figure 5.8)

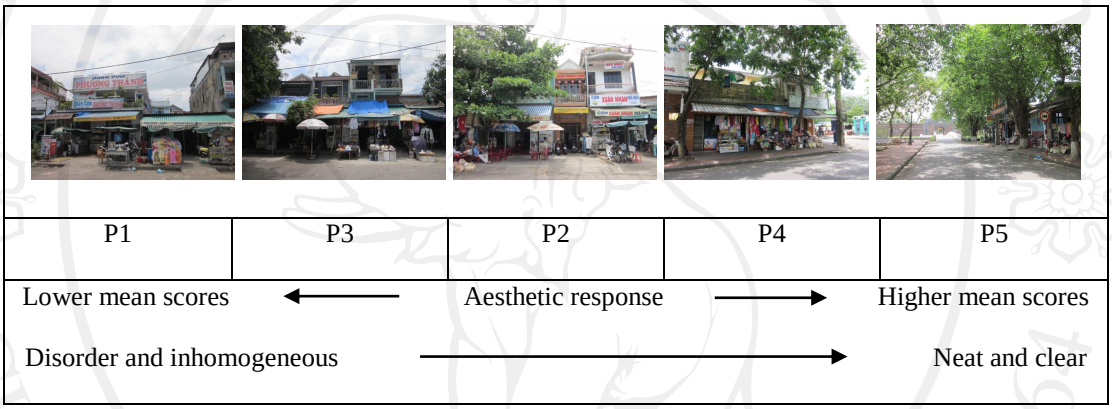

Figure 5.8 Aesthetic response of environment related to the forms and spatial configuration

The colour characteristics of a building's façades are inherent in the materials used in construction (cladding, brick, glass, and so on) or as painted surfaces (Gatz & Achterberg, 1967; Guthrie, 1995). However, in this study, the colour characteristics are also affected from the other elements such as goods and the advertising boards. These elements seem to associate with the shophouses and cause the facades of buildings become diversity of spatial configurations and colour. The participants perceived the colour of the environment in the pictures from many sources such as the colour of inherent colour of the facades, the colour of the good and advertising signal, and also the natural colour of the vegetation and the sky. Nevertheless, even many

people prefer colourful environment, the most aesthetic preference is still asserted with the green of the vegetation. Comparing to amongst the photographs, photo-P5 has more percentage of green colour, which is considered as the cool colour (Itten, 1961), while the others (P1, P2, P3, P4) are more colorful. This issue makes the respondents link to the heat when taking a tourism travel. (Figure 5.9)

Again, the effect of the physical variables (Im, 1987) to visual preference is proved in this research. The participants perceived the images of environment in term of aesthetics specifically by the characteristics of texture, color, and shape of space components, as well as ratios among various dimensions. The response of environmental aesthetic preference in this study depends on the perception and evaluations of the respondents to environment stimuli.

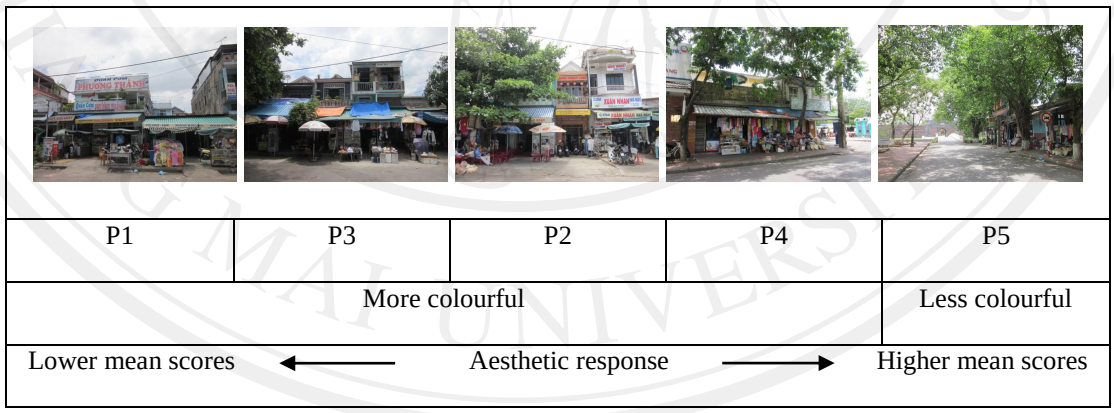

Figure 5.9 Aesthetic response and the perceptions of colourful environment

Personal Background

Nasar (1994) suggests that individual characteristics such as personality, affective state and cultural experience are considered factors that may influence aesthetic response to building attributes. The survey of study is carried out with four

personality characteristics: Gender; age; country; and sight. The percentages of male and female of gender are not high disparity (56.2% female participants and 43.8% male participants) and gender doesn't influence to the aesthetics response. In the graph[2] of evaluation of male and female to each photo, the couple shapes to express for scoring of male and female to each photo are in the same ways (Figure 5.10). This means that, the male and female perceive the environment in term of aesthetics similarly. It can be conducted that, the preference of environmental aesthetic is not influenced by gender of the participants.

The other personality characteristics may have reciprocal influence to the aesthetic response of the environment. Ribe (2008) asserts that differences in scenic beauty perceptions were associated only with respondents' ages, regional experience, and residential locations.

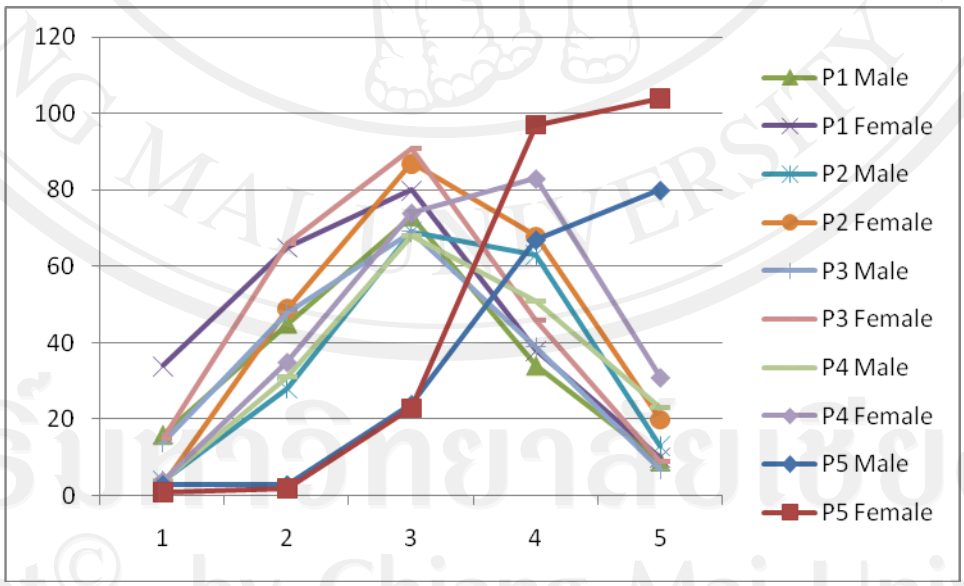

Figure 5.10 Evaluations of gender in preferences of environmental aesthetic

[2] The graph base on the results of crosstabs analysis (descriptive statistics) in SPSS

Age is categorized into seven groups: 18-20; 21-30; 31-40; 41-50; 51-60; 61-70; and over 70. In fact, age may influences to affective state and the sight. People's aging often causes the long-sighted eyes. The sight also has an important signification in observation. The respondents with the good sight always respond to the view as the best. Besides, when the respondents observe the images, some cases are colour-blind cannot evaluate exactly to the environment. Anyway, this research has only four choices in the colour-blind situation, so the influence of these cases is not considerable. The personality characteristic as country is relevant the culture variances; and it also affects to the aesthetic response.

Different groups of people perceive differently the variation of a city image, and visual preference is also different among people groups due to cultural variances (Rapoport, 1976). This research has conducted with six groups which are Asian, European, North American, and a few participants from Africa, Oceania, and South America. The number of participants from Asia is the highest at 70.0%, next is the European with 23.0%, and total of other groups is 7.0%. Thus, the results of aesthetic response are influenced by various evaluations due to those groups of participants. Certainly, the environment of one Asia country in the photos has evaluated differently among the people groups. However, the percentage of the Asian is nearly all, so response of environmental aesthetic almost depends on the Asian's assessments and preferences. The images of five photos are quite familiar with the experiences of the Asian.

Additionally, one of individual characteristics is culture experience (Nasar, 1994). Different groups of people may have different images of the same reality (Lynch, 1960) due to the fact that environmental perception, cognition, and evaluation

are constructed based on people's experience, current motivation, and future expectation (Yan, 1990). According to this research, people respond to the environment in term of aesthetic preference through familiarity. The respondents perceive the images in the photo base on their culture experiences. Although familiarity is not considered to play a major role or act as a predictor in terms of environmental assessment or preference (Kaplan & Herbert, 1992; Purcell, Peron & Berto, 2001), but familiarity with the picture can make a link between the reality images and the empirical images. The questionnaires were surveyed with three states of familiarity: *Yes* (participant feels familiar to his/her hometown); *No* (unfamiliar); and *No idea* (participant feels confuse with familiarity). In the results, the amounts of participants choose "no" state approximately equal "yes" state, while the amounts of participants choosing "no idea" state is so low (below 8%). The graphs in Figure 5.11 have quite similar shapes and the disparity of familiarity and unfamiliarity is not much. So it can be claimed that, familiarity may influences to the preferences of the respondents due to the experiences and imaginations, yet it doesn't affect to the general results of aesthetic response to the environment.

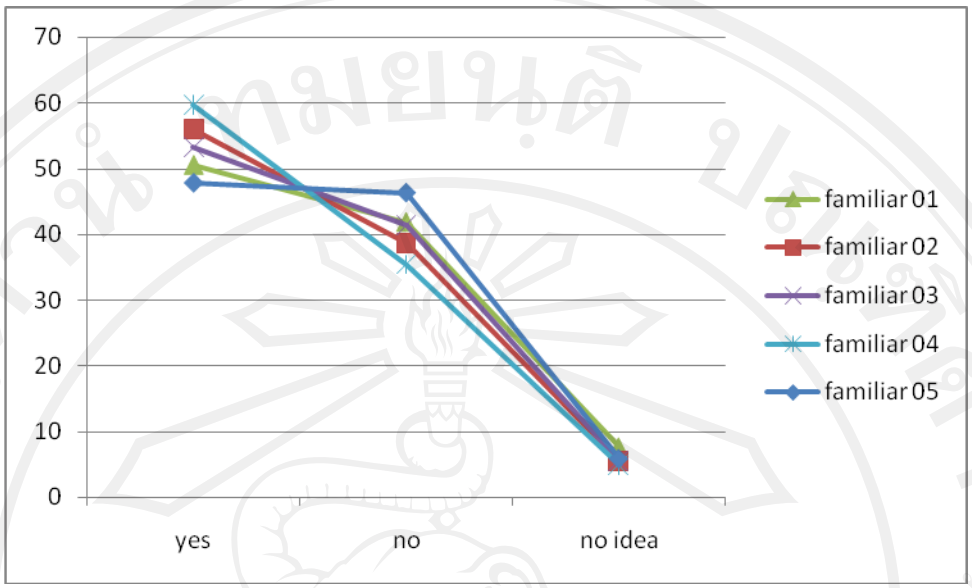

Figure 5.11 Percentages of participants are familiar with each photo

In conclusion, the preferences in aesthetics of the environment in front of Hue citadel are depended on the perceptions and evaluations of the respondents when responding the environment stimuli in this area. Participants prefer the environment in term of aesthetics with more greenery, more shading of the trees; people may not like spatial configurations of the environment with disorder and inhomogeneous shophouses, and unclear view for the city images because of the public service equipments. The results are entirely consentaneous the previous studies about aesthetic response of the environment.

5.2 Aesthetic Response's Factors

As seven factors of aesthetic responses mentioned in preceding parts, this study is interested in finding the correlations amongst preference and the other factors of aesthetic responses and the effectiveness of each factor when responding to the

environment in front of Hue citadel in domain of aesthetic.

Correlations of Aesthetic Response's Factors with Preference

Aesthetic response is considered a complex interface involving affective appraisal and cognitive judgments (Nasar, 1994; Stamps, 2000). These involve two dimensions of affective appraisal: the hedonic dimension and the arousal dimension; and cognitive judgments concern to preference, congruity, and size (Mehrabian & Russell, 1974; Osgood, Suci & Tannenbaum, 1957; Russell, 1988; Russell, Ward & Pratt, 1981; Ward & Russell, 1981). The questionnaires of this research investigate seven factors which in field of affective appraisal and cognitive judgemenst of aesthetic response those are: *stimulating, beautiful, harmonious, pleasant, exciting, sympathetic,* and *like*. The results of correlations analysis were applied to six factors of aesthetic response in the questionnaires with like factor (preference) reveal that the correlations between pleasant and like factors (pleasant-like), beautiful and like factors (beautiful-like) is the highest (Pearson correlation values in turn as 0.762 and 0.761); next is the correlations of stimulating and like factors (stimulating-like with Pearson correlation value is 0.666), exciting and like factors (exciting-like with Pearson correlation value is 0.628), harmonious and like factors (harmonious-like with Pearson correlation value is 0.560); and the lowest is the correlation between sympathetic and like factors (sympathetic-like with Pearson correlation value is 0.376).

The above results reveal that pleasant and beautiful factors have most important role in the relationships with like factor. People prefer the pleasantness and beauty when perceiving and evaluating the environment in term of aesthetic; whereas, sympathetic factor is the least concentrated factor in preference of environment

aesthetic.

According to Russell (1988), a range of descriptors has been linked to the hedonic (pleasure - displeasure) and arousal dimensions (active - inactive) and these have been found to be useful in quantitative studies relating to perception of affective qualities. In this research, pleasant factor and beautiful factor are considered as the factors of hedonic dimension (O'Connor, 2008). With the most correlations of pleasant-like and beautiful-like, it can be concluded that hedonic dimension and preference judgment have strong correlations.

On the other hand, the correlations of harmonious-like and sympathetic-like are the bottom of correlation values. Regarding to the meaning of congruity judgment, harmonious and sympathetic factors are considered as its factor (O'Connor, 2008, Groat, 1992; Janssens, 2001; Unver & Ozturk, 2002; Urland, 1997; Wohlwill, 1977; Wohlwill & Harris, 1980). According to the results, it can be concluded that the correlation between congruity and preference is the lowest in comparing to the other correlations. This result is also consistent with upon theories, because congruity and preference are the elements of cognitive judgments.

Thus, the results of the correlation analysis can describe the important associations of aesthetic responses' factors with preference. The strong relationships between the aesthetic judgments and preferences are obtained from the surveying. A few works that have incorporated open questions to obtain the preferences of the characteristics of the environments with the subjects and the reasons for the appraisals (see, for example, White and Dunn, 1974, or Chokor and Mene, 1992). Moreover, the results of the correlation analysis, which are presented in this research, also suggest that aesthetic responses (preferences of environment aesthetic) are an important role,

from an affective point of view, especially hedonic dimension in preference.

The Effective Factor with Aesthetic Responses

Using One-Way ANOVA analysis to find the F-values, the results solve the effective factor with aesthetic response. Table 4.1 reviews that like factor have highest score of F-values (5.620). This means that people respond to photo-P5 as the most aesthetic response and photo-P1 as the least aesthetic response with the most effective from *like*-factor (Figure 5.12). The score of like-factor in this analysis not only highest but also takes the disparity in comparing to the other factors' scores (see in Figure 4.4). The second effective factor is beautiful-factor with the score of F-value is 3.634 and the least effective factor is pleasant factor (1.308).

The results above clearly determine the role of like-factor or preference in evaluating the environment with the most and the least responses of aesthetics. Preferences, as distinct from aesthetic responses, are considered to involve cognitive judgments about whether the environment is liked or not. As with environmental preferences, this type of cognitive judgment may be conscious or not and generally involves an assessment of the potential and capacity of an environment (Kaplan & Kaplan, 1982; Zube et al., 1982). Regarding to many studies that focus on preference for objects and environments, the constructions are generally evaluated by the like-dislike (Caivano & Rimoldi, 1996; Herzog, 1992; Kaplan & Herbert, 1992; Tannenbaum & Osgood, 1952). This study also uses like-factor to define the preference of the participants for the environment.

Photo-P1 as the least aesthetic response to environment	Photo-P5 as the most aesthetic response to environment
	
Responding to environment of P1 and P5 with *like* factor is the most effective factor and *pleasant* factor is the least effective factor.	

Figure 5.12 The most effective factor of aesthetic response's factors to the environment

Seven factors of aesthetic response those are employed in this research have perceived differently from the participants. However, like-factor influences most strongly to the environment in the photo-P1 and photo-P5. This result proves and supports the correlations of preference with the other factors which discussed in the foregoing.

In conclusion, there are the strong correlations among the like factor and the other factors of aesthetic responses to the environment. The correlations between pleasant factor with preference and beautiful factor with preference are the most. This

issue shows that people's perceptions, evaluations and preferences to the environment in terms of aesthetic are much related to their hedonic dimension. The like factor is considered preference judgment is the most effectiveness to the most and the least aesthetics responses of the environment.