

# The Association Between Riverscape and Place Attachment in Historical Cities in Malaysia

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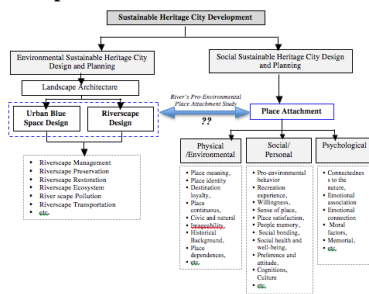
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## Graphical abstract



## Abstract

The landscape architecture covers aesthetic aspects, as well as, individual's activities, and their sense of attachment to urban elements. The river as a natural landscape can play a significant role in urban rehabilitation and residents' well-being and welfare. The rapid urban development and urban regeneration has inadvertently resulted in a limited attachment to urban ecosystem and landscape designs that make to lose urban river identity and river place meaning. In addition, the riverscape design was not sufficiently studied in historical city rehabilitation. In addition, urban riverscape design focuses on physical aspects while understanding the meaning, social value, social bonding, and psychological sense to riverscape as a place in historical city development still remains a challenging proposition to be undertaken. Hence, this study is motivated to address the need to investigate the association between riverscape and place attachment in historical city. The study conducted a comprehensive literature review on place attachment dimensions identified by previous research. The study determined twenty three dimensions within three clusters, physical/environmental, personal, and psychological. The dimensions are, pro-environmental behavior, connectedness to the nature, emotional association, person dimension, psychological dimension, place meaning, place identity, recreation experience, destination loyalty, leisure involvement, willingness, sense of place, place satisfaction, length of residence, scale of place, emotional connection, moral factors, place continuous, social bonding, social well-being, and civic and natural dimensions. In conclusion, these dimensions need to be considered in riverscape design and development in heritage cities, such as Malacca in Malaysia, to enhance quality of life and livability, simultaneously. As a future study, formulating the association between riverscape design and place attachment is proposed.

**Keywords:** Landscape design; riverscape design; place attachment; place identity; heritage city; urban rehabilitation

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## 1.0 INTRODUCTION

Landscape architecture has significant aspects in terms of practical, aesthetic, horticultural, design and environmental sustainability to make more meaningful contributions with cultural points (Conan, 2003). In terms of urban cognition, the "Image of the City" is another significant aspect undertakes the connection between people and the visual qualities and elements. In this study, Lynch has investigated the images of the cities embedded in lay public, residents and visitors mentally and psychologically. The most important target in this study was to find out the way that every single elements or parts of a city may cause of distinctiveness in urban landscape (Lynch, 1960).

The understanding of urban landscape is not only about aesthetic and view aspects but also is the elements, individual's activities, and sense of attachment to urban elements and place itself. In environmental psychology aspect, few studies have shown that the people visual perception of nature is mostly valued

rather than built city visual values (Kaplan, 1989; Velarde *et al.*, 2007). Some researchers have demonstrated that feeling attachment to place specifically to urban elements could be changed at the end of the day. The studies on emotional connection between people and urban objects have proved deep connections between social psychology, attitudes, visual perception and presented urban objects. Furthermore, the connection between human-made urban elements and individual's attention and attitudes was established. Moreover, it has also found that these feelings are highly accessible from memory at an early stage of the individuals' processing of visual information. The main reason for people to choose urban elements as special object is due to deep associations between them and that particular object based on activities and experiences saved in their memory beforehand. Thus, characteristics, identity, attachment and sense of belonging are possibly based on people understandings (Fazio, 2007; Korpela *et al.* 2009). Means, the physical features and attributes of a place are the elements would

judge by individuals (Shariff, 2011). The physical elements with special characteristics and attributes may affect people's perception in terms of place attachment (Shariff, 2011). Stedman (2008) expresses the physical environment and the exclusive properties have deep contribution to create and buildup the sense of place and place attachment.

## ■2.0 URBAN BLUE SPACE AND RIVERSCAPE

The river has been identified as one of the most important natural elements to human life and also industrial development (Hussein, 2006, Das, 2003; Amadi *et al.*, 2010; Suwandana *et al.*, 2011). Rivers create 97% of the fresh water resource. Rivers are the main and largest natural source of clean water supply and irrigation (Kalithasan, 2007). Furthermore, rivers are the great habitats for riverine and creatures due to supporting environment to rich biodiversity (Weng, 2003). Rivers generated about 21 trillion US dollars per year from their functions in terms of food, transportation, recreation and other purposes (Costanza, 1999). Numerous advantages of river have been reports, including, social importance for transportation, elaborating cultures and traditional heritage, source of main productions, as well as energy generation (Costanza, 1999). These facts would be sufficient enough to remind the magnificent role of rivers in terms of sustainability, need for humans and future generation. The successful river management needs full cooperation and participation of different stakeholders, including, urban designers, urban planners, and urban developers.

Indeed, there is inherent close and deep association between cities and river. According to history of civilization and developing societies, most of cities are civilized and developed nearby rivers (Maclonis and Parrillo, 1998). For Example, most of the cities in Malaysia have been initially set up and developed based on rivers (Andaya & Andaya, 2001), such as Kuala Lumpur, Terengganu, Malacca, Kuantan, Kota Bharu, and Kuching. Consequently, some of the villages are named after the rivers run through them (Yassin, 2010).

The terminology, riverscape (i.e. river landscape), has been proposed by Leopold and Marchand (1968). The riverscape refers to use and describe some features in terms of broad-scale physical, biological, and aesthetic nature of rivers (Roth *et al.*, 1996; Gergel *et al.*, 2002; Allan, 2004; Kearns *et al.*, 2005; Sullivan *et al.*, 2007; Jones *et al.*, 2010; Wu, 2013). However, there is a lack of sufficient riverscape development and management undertaking the quality of life, river nature preservation, aesthetics, and social well-being, simultaneously (Ravichandran Moorthy, 2012).

## ■3.0 PEOPLE PREFERENCE AND ATTITUDE ON RIVER

Human preferred to live and settle nearby river due to access to rich natural resources. Consequently, the cities have mostly developed based on river and water resources. Preference to rivers as natural visible urban elements is referred to historical, cultural and aesthetic value of water in landscape. Indeed, this deep association between human and water was known as early as the Mesopotamian and Egyptian gardens, and it continues till now in landscape planning and design approaches (Burmil *et al.*, 1999; Herzog, 1985). Bachelard (1983) hypothesized that the magnificent characteristics of water known as aesthetic value, restoration and naturalness are connected with the psychological theory. Kaplan *et al.* (1989), Nasar (2000), and White *et al.*

(2010) state river naturalness causes health and well-being among individuals.

On the other hand, the hydrophilia theory conveys the attraction to river landscape and riverscape are inherently in human. However, different individuals' preferences to river might be affected by social and cultural manners and activities (Kaplan, 1989). Regarding the hydrophilia theory, many researches mentioned there is relationship between river landscape preference and diversities in societies, previous experiences, and cultural backgrounds (Zube *et al.*, 1982; Herzog *et al.*, 2000).

### 3.1 People Emotional Connections to Rivers

Most of the time emotional attachment to the particular place increases due to the rich historical background of that place (Lewicka, 2005). The previous studies state emotional attachment to the place would be a product of different place identities, place meanings and from personal attitude. The emotional attachment to place is due to national identity or national symbol, and in more cases, due to the local identity (Lewicka, 2008). Furthermore, has "sense of place" is a broad and vast perceptual structure to places (Stedman, 2001). The sense of place consists of three main factors: (a) "place attachment", (b) "place dependence", and (c) "place identity". Researchers recommended that sense of place to urban elements, such as rivers, makes different attitudes; included, "affect", "cognition", and "cognitive".

## ■4.0 PLACE ATTACHMENT

Emotional and affective connection between people and particular place creates special bonding based on emotion, knowledge, behavior, activities, background and belief which is defined as "place attachment" (Hidalgo and Hernandez, 2001; Prohansky *et al.*, 1983). Place attachment can also be the practical connection between individuals and places that expressed as place dependence (Stokols; Shumaker 1981). Furthermore, place attachment will affect place imageability influenced by culture and experience (Rapoport, 1977). Indeed, the place attachment's dimensions build place identity, place characteristic and properties (Relph, 1976). Consequently, place attachment impresses the individual's identity and covers stability and connection to life and cultural significances of the society.

In addition, place attachment has three components, included, place; person and psychological issues (Agnew *et al.*, 1993; Low, Altman, 1992). There are some studies have evaluated the place attachment quite broadly, and within diverse descriptions. The "person" dimension of place attachment is related to perceive meanings individually or collectively. The "psychological" aspect includes the affective, cognitive, and behavioral components of attachment. The "place" dimension emphasizes on characteristics of place and attachment, involving spatial level and the status and prominence of social or physical urban elements (Scannell, 2009).

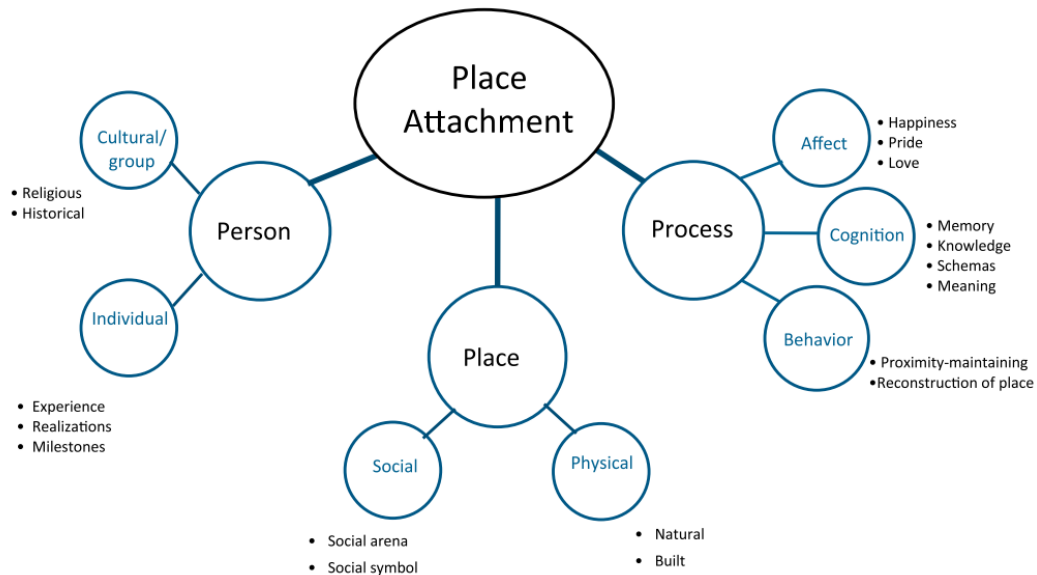
Moreover, the place attachment has developed as a main concept in different geographic and environmental researches (Kaltenborn & Williams, 2002; Walker & Ryan, 2008). Fundamentally, place attachment is described as the "bonds that humans share with specific settings" (Kyle, Mowen, & Tarrant, 2004). In other words, attachment to particular place appears when individuals get to know to place and consequently give it value and special characteristics (Kyle, Graefe, & Manning, 2005). Indeed, the respected and sacred places such as mosques, churches, temples or special natural elements have scared meanings to many religions. These kind of important places not

only religiously but also culturally have great meaning and quality to protect (Scannell, 2010).

To sum up, based on the review of the definitions of place attachment, it can be concluded that it refers to the bond that people develop with places (Agnew, 1993; Giuliani, Feldman, 1993; Low, Altman, 1992; Williams *et al.*, 1992, Kyle *et al.*, 2005).

A particular place can be get value and special quality and characteristics by an individual because it increases individual relationships and also group bonding (Hammit, 2000; Scannell & Gifford, 2010a, 2010b; Hammit, Kyle, & Oh, 2009). In these

cases, individuals develop mutual bonds with other people throughout their communication in a society (Hammit, 2006; Scannell & Gifford, 2010). Some other researchers claim that urban natural areas locates the context for social activities if maintained in these settings, are expected to lead to high levels of attachment (Kyle, 2005; Ramkissoon *et al.*, 2012). Hence, place social bonding was realized to be a strong and great factor of place attachment (Tumanan & Lansangan, 2012). Figure 1 illustrates the place attachment model and its dimensions proposed by Scannell (2009).



**Figure 1** Place attachment and related dimensions (Scannell, 2009)

Urban design studies are mostly focused on the properties of the physical urban elements. However, a few studies focused on understanding the meaning, value, characteristics and psychological sense of place (Ujang, 2012). In this Regards, the study conducted a comprehensive literature review on place attachment dimensions identified by previous research through using content analysis method. The study determined twenty one dimensions within three clusters, physical/environmental, personal, and psychological. Table 1 presents significant dimensions of place attachment studies by previous researchers.

**5.0 PROBLEM STATEMENTS ON INVESTIGATING THE ASSOCIATION BETWEEN RIVERSCAPE AND PLACE ATTACHMENT**

The total harmful impacts of human urbanization on landscapes interrupts fragile ecosystem such as growing up the air pollution, increasing energy consuming, decreasing aesthetic and attraction aspect of urban green areas, loss or fragmentation of farmland, increasing water overflow and consequently increased risks of flood and change in ecosystem life cycle (Johnson, 2001; Galster *et al.*, 2001; Yeh and Huang, 2009; Sansa *et al.*, 2010). All mentioned reasons on green urban development process have potential destructive impact and improper consequences on sustainability of human life and nature (Whitford *et al.*, 2001).

Indeed, the most of cities have lost their urban qualities, characteristics and meaning such as familiarity, harmony and aesthetic during the process of green development. So, the

question raises, “*what are the people’s perc landscape environment where is being vanished very fast due to rush development?*” (Krupat, 1985; Lamit, 2003).

According to Wheeler (2004) poor connection between rush development, urban regeneration, economic globalization, standardized urban development, and also, lack of proper association with urban ecosystem, landscape, local history, culture and people expectation cause loosing urban identity and place meaning. Furthermore, the neglected environment preservation by urban designers and other decision makers on the issue of people perception, needs and desires has lead to such more inappropriate place for users (Ismail, *et al.*, 2008; Lamit, 2003; Lang, 2005; Sulaiman, 2000).

The lack of constructing the meaningful and valuable landscapes meaning associated with people perception and landmarks has been one of the great concerns in high quality landscape design (Kara, 2013). Indeed, urban design studies are mostly focused on the properties of the physical elements, however, a few studies focused on understanding the meaning, value, characteristics and psychological sense of place (Ujang, 2012). For example, a research conducted by Ramkissoon *et al.* (2012) which evaluates place attachment as a multi-functional element contains place dependence, place identity, place affect, and correlation with landmark attachment.

**Table 1** Place attachment and dimensions evaluation

ASPECTS	Physical/Environmental							Social/Personal							Psychological								
	Pro-environmental behavior	Connectedness to the nature	Place dimension	Place meaning	Place identity	Attachment theory	Place continues	Civic and natural	Person dimension	Recreation experience preference	Destination loyalty	Leisure involvement	Length of residence	Value belief norm theory	Moral and normative factors	Individual attachment	Social bonding	Social well being	Emotional association	Willingness	Sense of place	Place satisfaction	Emotional connection
Elizabeth Gosling(2010)	√	√																√					
Leila Scannell(2009)			√					√															
Lynne C. Manzo(2006)				√														√					
Norsidah Ujang(2009)					√																		
Megha Budruk(2013)									√														
Tsung Hung Lee (2012)									√	√	√												
Natalia López(2012)										√									√				
Shuhana Shamsuddin(2008)				√	√																√		
Haywantee Ramkissoon(2012)		√																				√	
Bernardo Herna' ndez(2007)					√							√											
Maria Lewicka(2009)																							
Paul Morgan(2009)						√																	√
Bernardo Herna' ndez(2010)	√				√																		
Christopher M. Raymonda(2011)	√												√	√									
Maria Lewicka(2010)							√															√	
Christopher M. Raymond(2010)					√										√	√						√	
Hesam Kamalipour(2011)	√																					√	
Rollero(2010)																		√					
Scannell(2010)	√																						

On the other hand, many rivers suffer from rush urban development and its improper changes around the world. This issue has defected the value, quality, characteristics and individuals association with riverscapes (Larson, 2013). Indeed, the lack of proper attention to rivers and its ecosystems is understood regarding general identification, people perception on river preservation (Nel *et al.*, 2009; Herbert *et al.*, 2010). According to studies in the application of landscape and public connection, the attachment to the riverscape is still incomplete. Much more research needs to explore our understanding about meaning of rivers and our ability to restore and manage the crucial factors (Segurado *et al.*, 2013).

These rush urban transformations have led the urban areas to be disorganized, lacking in visual and physical coherence (Hall, 2003). Consequently, it has been observed that the new urban development condition is reducing urban legibility and urban identity due to lack of attachment issue (Ujang, 2008). Moreover, it can be concluded that the loosing sense of place and identity in cities will defect people’s interest to be in public place regularly, and as a result, the landmark places become less and less meaningful to the people specifically among young generation. The fragmentation on place attachment and landmark attachment has been already observed in some cities, such as, Kuala Lumpur (Ismail, Harun, 2009).

In one hand, the place attachment to historical urban elements motivates people (Fredman and Heberlein, 2005; Kyle, Mowen, *et al.* 2004), but on the other hand, it has not examined yet (Budruk, 2013). Moreover, some researchers have been calling for extra studies on place attachment and place satisfaction in natural urban area (O’Neill, Kozub, & Hyfte, 2010;

Dredge, 2010; Tsai, 2011; Yuksel *et al.*, 2010). However, a few studies have mentioned all aspects related to place attachment in a single theoretical model (Ramkissoon, 2013). In particular, a few researches have been conducted on relationship between river landscape and population (Wu *et al.*, 2003; Carbonneau and Eros *et al.*, 2012), while river landscape ecological approach is still novel and incomplete. Hence, much more research needs to explore in improving our understanding of individuals’ contributions on restoring and managing river ecosystem (Segurado *et al.*, 2013).

**■6.0 RIVER MANAGEMENT POLICIES IN MALAYSIA**

River management is one of the main concerns in 21<sup>st</sup> century in all over the world, as well as Malaysia. In one hand, government has permanent responsibility to river management. On the other hand, some non-governmental organizations (NGOs), public, industrialists, farmers, and other stakeholders are proposing great responsibility and role in recent years. In Malaysia, the government need to make new policies to control rivers, by having consultation and assistance with other lay public and stakeholders such as industrialists, entrepreneurs, planters, NGOs, educational system, and especially general public to conserve and protect riverscapes (Weng, 2005).

In the context of Malaysia, the government vision is to develop the entire country to a fully-industrialized nation by 2020. Malaysia government plans to settle 70% of the population in urban areas to manage the rapid urbanization and development (Hall, 2003). Besides, Jabatan Perancangan Bandar and Desa



(JPBD, 2005, 2006) and the 9th Malaysian Plan have reported that rapid urban developments have caused inappropriate physical changes which led to changes in the meaning of local places, disassociations with the local culture and people perception and life style (Ismail *et al.*, 2008). Indeed, all cities in Malaysia are located and developed base and close to the river or riverscape. Since the 18th century, this change has clearly shown that swift urbanization, rush development, industrialization and intensive farming activities cause of changing in river environment quality and economy functions. Indeed, function and role of rivers have become less significant for human life (Md, 2010; Yassin, 2011). In this regards, the “Third World Water Forum (3WWF)” held in Kyoto-Japan emphasizes on the need for planning, managing and restoring rivers globally, and locally. In addition, the “Cintailah Sungai Kita” [means, Love Our Rivers] is one of the campaigns run by Malaysian Ministry of Natural Resources and Environment established by 2<sup>nd</sup> February, 1993. Most of the campaign’s activities include river adoptions, river monitoring, river inspection, river beautifications, rubbish traps installation, and installation of rubbish traps, waste treatment, awareness and education, domestic and industrial waste treatment (Abdullah, 2002; Gani, 2008).

## ■7.0 DISCUSSION

One of the most significant issues is the urban heritages should be valued, understand and preserve for the next generations in good and same condition to provide and recover the sense of identity and community in urban area (Lowenthal, 1999; Steinberg, 1996; Tweed, 2007). Further than the documentation role of historical urban elements, the urban heritage also contains the value of traditional cultures, meaning, value, characteristics and quality that represent the public memory. In this context, the heritage is often defined as monuments, buildings, urban areas, historic centers and quarters involved with natural and man-made environments (International Charter for the Conservation and Restoration of Monuments and Sites, 1987). Today, the most of these qualities have threatened, physically damaged or even destroyed the less-tangible elements in urban areas, such as streets, people perception and activities, historical urban elements, open spaces and urban natural texture (ICOMOS, 1987; Tauseef, 1993; Steinberg, 1996; Tweed, 2007). Conversely, less tangible or intangible features are normally excluded in urban heritage definition, and also, implementation of urban conservation. This remarkable situation has lead in strengthening historical cities characteristics, while failing to place identity (Tweed, 2007).

Most of the public places in historical cities like streets, squares, parks and old trees have suffered by rapid urban development (Bowen, 1996; Tweed, 2007). According to Green (1999) and Rogan *et al.* (2005) when the quality and characteristics of a city is threatened, the meaningful urban elements, the “sense of community”, “sense of attachment”, “place identity” and urban stability with the environment are also going to vanish.

According to Malaysia Museum and Antiquity Department (2008), there are 181 construction and urban elements have recorded by the Malaysian Heritage Department since 1977 to 2004 but there is no historical and natural urban elements were recorded till now. In fact, there is a deep lack of identifying less tangible and intangible properties and quality of the historic urban areas, urban natural environment and people’s activities.

Consequently, most of the urban nature elements that give city unique characteristics, quality and provide the sense of attachment and meaning to the urban area are disappeared gradually (Shuhana, 1999; Idid, 2004). Besides, having impact on characteristics of place, these changes also impact on individuals’ activities, experienced, perceived and feeling about places toward urban natural elements (Nurshidah, 2007).

According to discussed issues and problem, the research illustrates the framework of association between riverscape and place attachment in historical urban development in Malaysia (Figure 2). The research asserts that place attachment within three clusters, physical, environmental, and psychological, are associated with riverscape design and urban blue space design. The association need to be investigated in Malaysian heritage cities to enhance the success of preservations and conservations.

## ■8.0 CONCLUSION AND FURTHER STUDIES

All urban cities in Malaysia are located and developed based and close to the river areas. Since the 18th century that rapid urbanization, rush development, industrialization and severe agricultural activities have lead to river characteristics, economy, and environmental changes in Malaysia. Indeed, in Malaysia, the role and function of rivers have decreased and became less significant to human life, and mostly to transportation purposes (Yassin, 2011). In addition, consequences of development, demolition and destruction have affected Malaysia in terms of city’s familiarity, legibility and historical landmarks in urban areas (Hashimah and Shuhana, 2005).

The Malaysia government has started to implement the archeological finding act to prevent the destruction and preserve urban landmarks. However, after more than 30 years, the situation and policies in terms of conservation and planning movement in Malaysia have not been changed. In fact, the plan for preservation and maintenance in most of the historical cities in Malaysia is still concentrating on monuments and buildings protection. But, no historical and natural urban elements are recorded till now. Hence, deep gap of identifying less tangible and intangible properties and quality of the historic urban areas, urban natural environment and people’s activities needs to be closed. Besides having impact on place characteristics, these changes also impact on individuals’ activities, experienced, perceived and feeling to places which need to be explored as well. There are high demand to have comprehensive and integrated plan in terms of natural resources management and protection recognized by Malaysia government policies. This issue pursues Malaysia government to establish river management to effective planning, monitoring, enforcement and rehabilitation.

The study determined twenty three dimensions within three clusters, physical/environmental, personal, and psychological. The dimensions are, pro-environmental behavior, connectedness to the nature, emotional association, person dimension, psychological dimension, place meaning, place identity, recreation experience, destination loyalty, leisure involvement, willingness, sense of place, place satisfaction, length of residence, scale of place, emotional connection, moral factors, place continuous, social bonding, social well-being, and civic and natural dimensions.

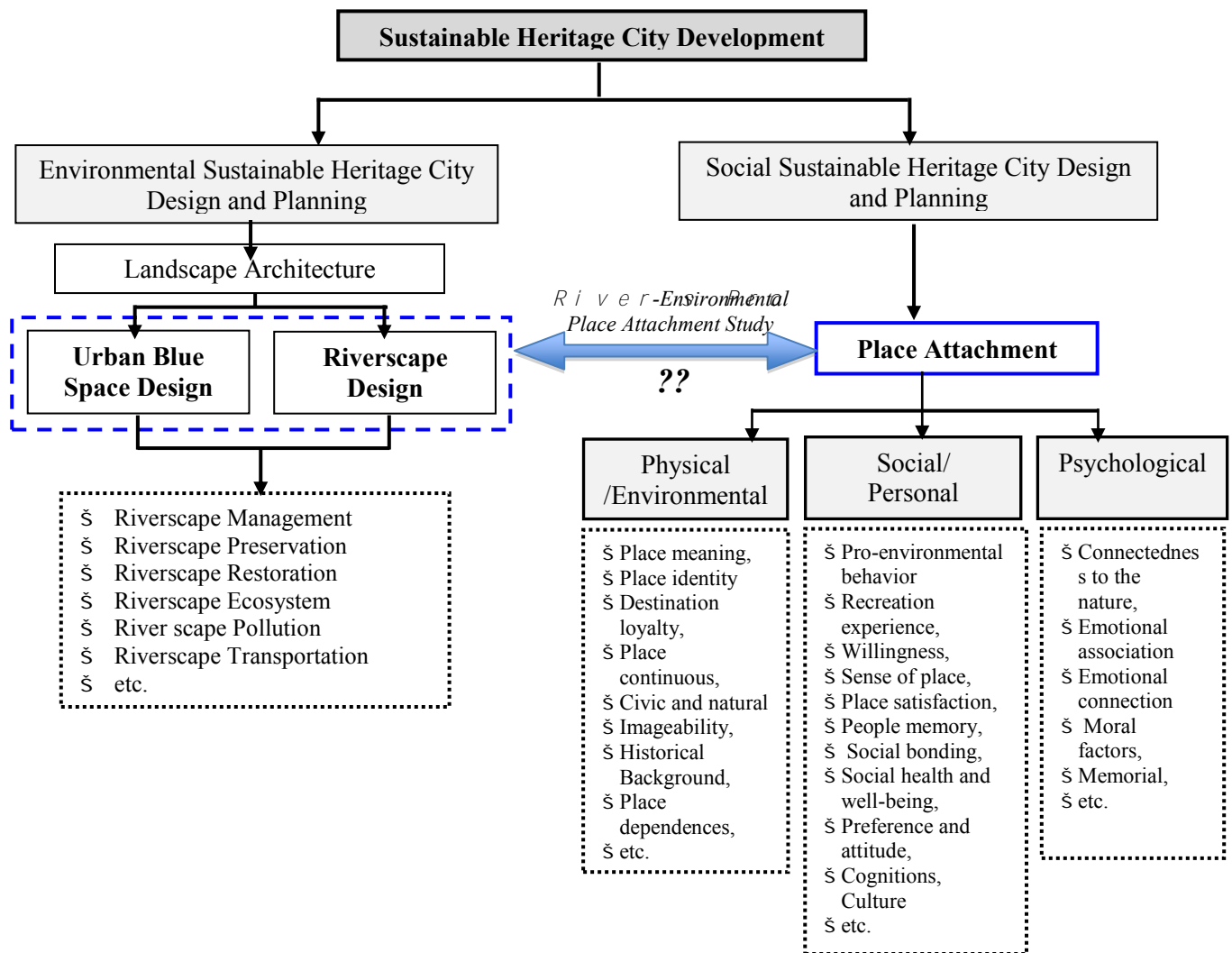


Figure 2 Framework of the association between riverscape and place attachment in historical urban development

In conclusion, these dimensions need to be considered in riverscape design and development in heritage cities, such as Malacca in Malaysia, to enhance quality of life and livability, simultaneously. As a future study, formulating the association between riverscape design and place attachment is proposed.

In conclusion, the abovementioned dimensions need to be considered in riverscape design and development in historical cities, such as Malacca in Malaysia, to enhance quality of life and livability, simultaneously. As a future study, formulating the association between riverscape design and place attachment is proposed.

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