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Review Paper

The Role of Place Attachment in Place Making: Sub-Concepts, Importance and Methods of Investigation

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Abstract

Place attachment (PA) has been investigated at different scales through different methods across various disciplines. This review seeks a nuanced understanding of its components, methods of investigation and importance through content analysis. Different researches consider diverse sub-concepts as the components of PA and there is lack of coherence in methods of investigation used. Studies in the area commonly use questions from earlier studies, with modifications, to investigate PA. Most PA studies were done at neighborhood levels and within public spaces. PA is important in place making through memories, meanings, in conservation and place keeping. Currently, few PA studies are in African context. There is need for PA studies in underexplored areas of brownfields and other industrial legacies. Virtual places are also gaining ground in PA studies. Lack of clarity on what constitutes PA may affect policy formulations and implementations negatively. The review is important in identifying the importance, components, areas of study, common questions among selected authors used in PA investigations. For coherence and clarity, it is recommended to adapt place identity and place dependence as the sub-dimensions of PA, with inclusion of other factors under them, according to the proposed conceptual framework. The findings reiterate the need for built environment professionals, and policy makers to integrate PA aspects in place making during new developments and urban renewals that greatly impact the urban and rural landscapes.

1. Introduction

Place, according to Scannell & Gifford (2010), is "repositories and contexts within which interpersonal, community and cultural relationships occur and to which people are attached. Place attachment (PA), as a place-person bond, affects the well-being of persons through experiences and perceptions (Li et al., 2023; Aguspriyanti, 2022; Wahyudie et al., 2021; Adewale et al., 2020). The dimensions of the influence include characteristics of the place and person, in addition to the psychological processes (Lewicka, 2011; Scannell & Gifford, 2010). Hashim et al. (2013) also discourse that

PA is influenced by physical, social and cultural factors. Time, experiences, memories, interactions, activities in a given place, in addition to place satisfaction (PS), are also its constituents. However, it is confusing as no standard way marks the study and analysis of PA across various disciplines that investigate place-people relationships. Moreover, there is lack of coherence from a built environment perspective (Wirth et al., 2016); a common understanding on PA concept is missing (Shao & Liu, 2017; Scannell & Gifford, 2010). This are however studies and definitions from environmental

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psychology, human geography and sociology from the past years. Linfeng et al. (2024), in their bibliometric literature review of PA, stated that the field is gradually being associated with new words or phenomena and the future trend will be associated with additional disciplines and fields.

PA, place identity (PI) and memory are three different concepts (Zahid & Misirlisov, 2021). Continuity of PA is anchored in the memories with a given place (Wirth et al., 2016; Ujang and Zakariya, 2015). The memories, however, continue to be under threat by transformations within cities today (K'oyoo & Breed, 2024). Development which is not fit for a given area affects the sense of place (SOP) and PA (Shamsuddin & Ujang, 2008); resulting in the disturbance of people's feelings. The use of collective memories, to identify and retain urban landscape identity during renewal projects that transforms urban landscapes, however receives less attention in comparison to the functional and economic investment considerations that are more valued (K'oyoo & Breed, 2024). Karsono et al. (2021), in their study of PA in the riverfront public spaces, showed that the level of attachment was reflected by the memories and knowledge about the place, as a result of being highly familiar and integrating within the place for a long time.

PA has been discussed alongside PI in several studies. However, in regard to their definitions and connections, there is confusion in the fields of urban planning and environmental psychology (Casakin et al., 2015; Hernandez et al., 2007; Hidalgo & Hernandez, 2001). Some studies have discussed PI as a sub-concept in the formation of PA (Anton & Lawrence, 2016; Zhang & Lei, 2013; Brown & Raymond, 2007; Kyle et al., 2004; Williams & Vaske, 2003; Vaske & Kobri, 2001), while others have described it as separate but related concept at the same level (Bazrafshan et al., 2021; Purwanto & Harani, 2020; Casakin et al., 2015; Rollero & Piccoli, 2010a; Hernandez et al., 2007; Lewicka, 2008; Jorgensen & Stedman, 2001). Jorgensen and Stedman (2001) suggested that SOP is a broad construct that encompasses the other concepts of PA, place dependence (PD) and PI. They considered PI to be an independent concept from PA.

It is important to understand the role of PA in urban design, otherwise, neglecting it can have negative

impacts on the results of planning and design of urban realms (Liu et al., 2020). Existing researches in urban design mainly focused on appearances and image ability of the physical aspects (Ujang & Zakariya, 2015). However, they failed in describing PA and place memories (PM) as the indicators for distinction of a given place. The identification of physical characteristics and attributes of places that contributes to PA has not been addressed adequately. Planners and designers have paid little, sometimes no attention and less consideration to the meanings and attachments in decision making during planning and design.

The aim of this review is to illuminate place attachment concept in terms of the components/sub-dimensions, methods used in its investigation, areas of study and the common questions used to investigate it. The review recommends the adoption of PI and PD as the main sub-dimensions of PA, together with other factors under them, for coherence and clarity.

2. Research Methods

The study employed content analysis in the investigation of the concept of PA. For this, secondary sources from peer reviewed journal articles in the urban planning profession were considered. Sources with cognate concepts of PI, PD and SOP were also included. The sources were mainly from open access platforms, such as Google Scholar and Google. The main term for the search was "Place attachment". Other sources that yielded allied concepts of "place identity", "sense of place", "place dependence", "place meanings" and "place satisfaction" were also analyzed for their contents on PA. Each source was analyzed according to its contents for any inclusion of the PA concept within the title, abstract and key words before finally including it to the study. The relevant sources, which were applicable to the study topic, were included from all disciplines and regions. The review included the latest studies (2015 to 2024) on PA in addition to the old ones (1989 to 2014) that have shaped the discourse in terms of components and methods of study from various disciplines. The review provides a discourse on PA as a common and important aspect in place-people-process studies. It offers a nuanced understanding of the subconcepts that constitute it and finally it proposes the author's conceptual framework for its investigation, based on the reviews done.

3. Place Attachment in Place Making

3.1 Importance of place attachment

Despite mutual criticisms among researchers in place attachment, studies support the importance of considering PA in the environments, city and landscapes and its importance in forming local meanings (Linfeng et al., 2024). PA has been investigated by several researchers (Chen & Liu, 2024; Xie & Wang, 2024; Song & Soopramanein, 2019) in terms of its contribution to responsible environmental behaviors. PA, through its various sub-constructs of place dependence, place identity, place social bonding and place affect, has a significant effect on proenvironmental behaviors among the community in various settings.

Bazrafshan et al., (2021) through their study of 'how long residents and bi-cultural migrants form bonds with urban parks' contributed to knowledge that is crucial to support decision making. The study addressed a research gap by evaluating the influence of historic and contemporary urban parks on the PA of users from different cultural backgrounds. Liu et al. (2020) filled a knowledge gap by exploring the relationship between local, familiar landscape elements and PA. The study concluded that planners and designers can build stronger PA by integrating landscape elements that are familiar to people. Meanings attached to places relate to the perceptual and psychological aspects, in terms of environmental experiences that form PA. PA is an element that can contribute to sustaining of PI and the SOP; thus, promoting emotional wellbeing, fulfillments and happiness to the residents (Ujang & Zakariya, 2015). Developing a landscape management in collaboration requires understanding of an individual's degree of attachment to the physical environments and the community contexts; thus, acts to influence intensity of associations and participation (Storie et al., 2019).

Wirth et al., (2016) investigated the interaction of place characteristics (place dimension) with the personal characteristics. They tested empirically the place changes over time in relation with PA and then concluded that significant transformations of the urban realms, even when occurring within a shorter time frame can strengthen the residents' relationships to places. This is when the changes are perceived as attractive upgrading. On the contrary, but related to this, Anton &

Lawrence (2016) studied the relationship of PA to residents' response to place changes. They concluded that people's attachment to place, in particular their PD, may affect the interpretation and evaluation of proposed place changes. People who viewed the proposed changes as negative had stronger PDs. Similarly, K'oyoo (2023b) was concerned by urban renewal changes. This may necessitate the need to overlook the heritage values that the residents in a given city attach to urban spaces and existing urbans form elements within them. Alrobaee & Al-Kinani (2019) in their study of PD as a constituent component of PA opine that improving the quality of the physical environments of places increases PA where people feel that their wishes are met and ambitions fulfilled. On the other hand, PA to the traditional urban built environments is higher than in new urban environments, as a result of satisfaction with the liveliness, neighborliness and diversity within such environments (Muhammad et al., 2021).

Landscape perceptions significantly influence the perceived restorations which contained the indirect effect pathway through PD and PI (Li et al., 2023). People find it easier to spend time and gain relaxing experiences in places with high attachment levels. When the physical characteristics of a place or landscape changes, individual's attachment to that place can be disrupted (Liu et al., 2020; Wirth et al., 2016). A city's individual and collective memory is important in maintaining its uniqueness in terms of urban landscape identity (K'oyoo & Breed 2024; Ujang & Zakariya, 2015). Thus, urban renewal must consider and respond to citizens' memory in designing the built environment; this has an important contribution, especially to the urbanizing of African cities, which are affected by redevelopments that often fail to maintain originality (K'oyoo & Breed, 2023).

PA brings environmental consciousness, as people who feel they belong to a place want to conserve and sustain the components of that place. Well-designed built environments in the neighborhoods facilitate cultural interaction that provided PA and sustainability. Thus, it is important to define and consider the components of PA during construction processes of the cities that are fast changing; the physical environment offers an effective dimension in terms of PA. This is essential in the process of conservation or cultural

heritage which leads to sustainability (Ujang & Zakariya, 2015; K'oyoo & Breed, 2024). PA has a clear influence on the social wellbeing; a place is not only a physical area but that people ground representations of the place in their social experiences (Rollero & Piccoli, 2010b; Stedman, 2003). This leads to attribution of different values to the same place. PA has a significant contribution to the SOP; thus, it should be considered in the design of urban places when redevelopments undertaken (Sattarzadeh 2018; Shamsuddin & Ujang 2008).

Overall, PA is important in forming meanings that are attached to various places by people; it influences associations of people within various spaces; it influences participation in various aspects, like conservation that lead to sustainability and therefore important in place making and keeping at various scales. PA has also been investigated in terms of proenvironmental behaviors as it has an influence through various sub-constructs of place dependence, place identity, place social bonding.

3.2 Levels of place attachment

PA can occur at different scales of places, such as homes, neighborhoods, cities, or countries. PA can also occur in places such as residences, public spaces (say shopping centers) and to attractions for tourists. PA has been studied over the years at city level (Muhammad et al. 2021; Adewale et al., 2020; Lestari & Sumbrata, 2018), at neighborhood level (Abu-Bakar et al., 2016), at both neighborhood and city level (Casakin et al., 2015; Rollero & Piccoli, 2010a; Hernandez et al. 2007), at three levels of home, neighborhood and city (Ayoola et al., 2019), and at five levels of apartments, house/buildings, neighborhoods, districts and city (Lewicka, 2008).

Moreover, in the recent years, there have been emerging studies on PA within virtual environment. People are increasingly spending time in virtual places; however, research on how bonds with real world places modify our attitudes towards virtual mobility and environments are scarce (Oleksy et al., 2023; Oleksy et al., 2024). Lewicka (2011) questions whether the virtual locations should be defined as places as they lack physicality. However, there is growing evidence that virtual places can be analyzed in the same terms as real

places because they can evoke feelings of place identity, place dependence and social bonding just like the physical places (Oleksy et al., 2023).

PA and PI, whether at the same level or one being a sub-concept of the other, are related. PA is a major contributor of PI (Hernandez et al., 2007); the two terms are also described to share common concepts (Rollero & Piccoli, 2010a). The common aspects for PA and PI are physical appearances, social interactions, sensory experiences and historical characters (Shao and Liu (2017). However, there is lack of clarity regarding the relationships between the concepts of PA and PI (Jaskiewicz, 2015). On the other hand, Lewicka (2008) considered PA and PI as two different phenomena. It is interesting and, at the same time, confusing that PA has been considered as a separate concept alongside PI and PD in the formation of SOP (Jorgensen and Stedman, 2001).

3.3 Components of place attachment

PI and PD are integral components of PA (Anton & Lawrence, 2016; Brown & Raymond, 2007). This is supported by Aguspriyanti (2022) who also studied PA along the two sub-concepts. The study considered PA as a connection between people and places that is influenced by functions and psychological aspects. The functional aspect is in terms of qualities of the features of the environment and the place activities, whereas the psychological aspect is in terms of people's feelings and emotions. Alrobaee and Al-Kinani (2019) analyzed the important factors in PA creation, in terms of qualities of the place and expectations within the place that contributes to PD as a constituent of PA. However, there is lack of clarity in distinguishing PA and PI, as they seem like overlapping (Hernandez et al., 2007).

On the contrary, other researchers considered PA as distinct place dimension to be examined alongside PI and PD (Bazrafshan et al., 2021; Jorgensen & Stedman, 2001; Stedman, 2003). PD refers to physical appearances, practical uses and perceived visual appearances, while PA is about feelings and emotions in addition to safety, social bonding and gathering and PI refers to memories, meanings, history and identity. Overall, PI as a concept contributes to PA. The three prominent drivers of PI, namely shared histories, meanings and memories, offer means to establish bonds

with a given place. This was more so for the residents who had long term engagement within a given area (Bazrafshan et al., 2021). The emerging reasons for the meanings attached to the selected features of the natural and built environment are their importance in the historical development over the years (K'oyoo, 2023a). These features present aesthetic appeal either for good scenery as natural aspects or for good architectural designs.

PA is influenced by three main factors, namely place personal characteristics characteristics, psychological processes (Lewicka, 2011); Scannell & Gifford, 2010). The psychological processes are to perceive and experience a given place. Identity within the urban landscape is the residents' opinion and perception of the special features that help them differentiate and develop attachment to a place (K'oyoo & Breed, 2024). It encompasses the forms/physical, functions and activities/social-cultural, and meaning aspects, which combine to create memories for the residents. Individual and collective memories of city residents link their identity with place identity. Special features in the landscape and urban fabric help residents differentiate between, and connect with the city's identity.

The physical and functional qualities of a given place influence the degree of dependency and attachment, which are platforms for various activities and social interactions. The identity of the place is established through the user's positive identifications with the places, in addition to the feelings of satisfaction, enjoyment and security. PA develops before PI and the attachment is seen to influence PI. This then provides personal and group identities (Hernandez et al., 2007; Twigger-Ross & Uzzell, 1996). The functional and the emotional attachments contribute to a stronger SOP and continuity of PI. Within urban squares, the social environment was found to have a higher impact on the functional attachments of the users when compared to the physical attributes (Ozkan & Yilmaz, 2019).

A recent study on PA, under the two dimensions of PI and PD, revealed the possibility of precedence from PD to PI in visiting historical districts (Li et al., 2023). On the contrary, Purwanto and Harani (2020) investigated PA and PI as two separate concepts that are discrete and at the same level. The study illustrated that

the PA of places by users depended on their experiences and the characteristics of the PI when visiting the public spaces. An earlier study by Hernandez et al. (2007) considered PA as a related concept to PI and that PA precedes the formation of PI. This means that an individual may feel attached to a place but it takes more than liking or attachment to incorporate the place as part of one's self in terms of PI. Physical features and symbolic meanings of a place exert influence on PA (Stedman, 2003; Lewicka (2008). In agreement to this Sattarzadeh (2018) suggested that PA is closely related to satisfaction of place, physical characteristics, experiences, emotional characteristics and beliefs in a given place. It is important to consider personal context to PA, in addition to the physical and social characteristics of the place, emotions in settings for various places are highly personal (Raymond et al., 2010).

3.4 Methods of study and sub-concepts

PA has been studied within various contexts, scales and using various sub-dimensions (Table 1). The adoption of quantitative approach, through surveys, is common due to the need to investigate perceptions of people on the various aspects that constitute PA. Surveys can be successful within a short period of time through questionnaires as compared to interviews that are time consuming. Most of the studies (Table 1) involved more than 100 respondents through the quantitative method. The various constructs in PA studies were tested through Likert scales that are commonly used to rate perceptions on various aspects among respondents.

Verbrugge and Born (2018) included PSB and narrative bonding, in addition to the common sub-dimensions, in studying the role of PA in public perceptions of a re-landscaping intervention. The dimension of narrative bonding was used to account for cultural and historical meanings in their study of river landscapes. Wahyudie et al. (2021) and Ramkissoon et al. (2012) also used four sub-dimensions, with three of them similar to those of Verbrugge and Born (2018) except for place affect. Wahyudie et al. (2021) carried out study under four sub-concepts rather than separately (Table 2). Generally, there is lack of clarity on what aspects to include in the study of PA as a concept.

In the African context, as part of the Global South, there are few studies that have been done on PA at homes, neighborhoods and city levels. Adewale et al. (2020) investigated PA in the urban slums within Nigeria, by using two dimensions of PD and PA, and concluded that attachment to home environment was more due to PD than PI. The top predictors of PA

included satisfaction with the housing units' features, support services, security and tenure. Ayoola et al. (2019) also investigated PA in Nigeria within the poor neighborhoods at three levels and they found out that attachment rate varied in decreasing order of city, social and physical attachments.

Table 1: Areas and methods of place attachment studies

Primary issue of research	Aspect of PA studied	Method of study	Reference
Perceived restorations, landscape perceptions and PA	PI and PD	Survey: 620 respondents	Li et al. (2023)
PA in temporary public spaces	PI and PD	semi structured interviews and direct observation	Aguspriyanti (2022)
PA in supporting preservation of religious and historical built environments	PI, PD, Place affect, PSB	Survey: 856 respondents	Wahyudie et al. (2021)
PA in Nigerian urban slums	PD and PI	Survey: 856 respondents	Adewale et al. (2020)
Linking local landscape characteristics & PA to restorative perceptions in urban parks	PI and PD	Survey: 382 respondents	Liu et al. (2020)
PA in poor residential neighborhoods	Social and physical attachments	Survey: 522 respondents within 4 neighborhoods	Ayoola et al. (2019)
PA and its consequences for landscapes management and readiness to participate	Tripartite framework; place, process & personal characteristics	face to face interviews with 40 inhabitants	Storie et al., (2019)
Perception of PA between cultural heritages	Place belongingness, PI	Field observation; interview - 327 respondents	Sari et al. (2018)
PA and continuity of urban PI	PD (emotional and functional attachments)	Survey: 330 respondents	Ujang (2017)
Effects of physical and social attributes of PA	Physical and social attributes	Face to face interview: 36	Ozkan & Yilmaz (2019)
Role of PA in public perceptions of re-landscaping interventions	PI, PD, PSB & PNB	Postal survey: 1102 respondents	Verbrugge & Born (2018)
Influences of perceived urban changes on residents' PA	Tripartite framework; place, process & personal characteristics	Mail survey: 746 respondents	Wirth et al., (2016)
PA towards waterfront	PD, PI and sense of Belonging	Field observation; interview; survey (100 respondents).	Abu-Bakar et al. (2016)
PA on residents' participation intentions in tourism developments	PD and PI	Interview (photo based); survey	Zhang & Lei (2013)
Role of PA in creating SOP for traditional streets	PD and PI	Interview (street users); survey (220 respondents)	Shamsuddin & Ujang (2008)
Relationship between PA and landscape values	PI and PD	Survey	Brown & Raymond (2007)

Note: PI, PD, PSB and PNB stand for place identity, place dependence, place social bonding and place narrative bonding, respectively.

Place attachment sub-dimension					
Place Identity	Place Dependence	Place Affect	Place Social Bonding		
Memory, ideas, feelings,	Association between humans and objects; the space's ability to fulfill the needs	Emotional aspect;	Strength of social		
attitudes, values,		affective relationships	relations between		
preferences, meanings and		between human and	individuals and places;		
concept of behavior, and		places (cognition,	feeling of individuals		
experiences related to the		preferences and	having a place including		
physical setting		judgment)	culture.		

Table 2: Sub-concepts in formation of place attachment (Source: Wahyudie et al., 2021).

Although most studies emphasis on a two dimensional model, that comprises PI and PD, it is comprehensive to consider the 4-dimensional model in studying PA (Raymond et al., 2010). PI and PD represent personal connections to place, which are either symbolic (identity) or functional (dependence) in nature, while Place Narrative Bonding (PNB) and Place Social Bonding (PSB) represent connections to the natural environments and to the community in a given place, respectively (Raymond et al., 2010). PI and PD may form through memories, experiences or events which are unrelated to the wider community or to the natural environment.

According to the tripartite model of Scannell and Gifford (2010), which Storie et al. (2019) and Zaidin et al. (2016) adopted, PA is constituted by three dimensions, namely person, place and process. Experiences and meanings of places through cognition processes are important in influencing the degree of attachments through process dimensions (Scannell & Gifford, 2010). According to a study of urban landscape identity, based on residents' perceptions, the proximity to Lake Victoria and views of the hills (natural features) were the most outstanding features of the city, while the lake was the highest ranked element with symbolic meaning that evoked individual and collective memories (K'oyoo & Breed, 2023). Thus, the inclusion of physical (built and natural), memories and meanings (cognition) as part of the place in formation of PA through PI is vital. The study on PA across highly visited neighborhood places revealed that social experiences at places caused higher PA and that they mediate the association between place type and PA (Zahnow, 2023).

PD as a sub-concept of PA implies functional attachments (Zhang & Lei 2013; Shamsuddin & Ujang,

2008) whereas PI implies emotional attachments (Brown & Raymond, 2007; Williams & Vaske, 2003). The effect of residents' PA is reflected in the functional and emotional bonding that influences how people perceive their identity (Zhang & Lei, 2013; Shamsuddin & Ujang, 2008; Smaldone et al., 2005).

3.5 Questions place attachment studies seek answer for

Studies on PA, PD and PI have been investigated through the common questions with some modifications from each other (Table 3). Recent works depended on these questions, as they already have demonstrated good internal consistency (Brown & Raymond, 2007; Williams & Vaske, 2003; Jorgensen & Stedman, 2001). The adoption of the research questions is recommended in the investigation of PA under dimensions of PI and PD because recent studies that have used them are successful in doing comparisons in terms of differences and concurrences to findings from earlier studies.

3.6 Proposed conceptual framework for place attachment studies

There is no standard way to clearly and coherently investigate the PA concept. As an output of the literature review, a conceptual framework developed (Figure 1), can be used to guide future research works. It is suggested to adopt PA as a super aching concept that incorporates PI and PD with all other sub concepts of nature bonding, social bonding within the PD subdimension. Place belongingness and place satisfaction act between PI and PD to constitute PA. Place social bonding is the feeling of belonging or membership to a group of people within a given place (Kyle et al., 2005; Scannell & Gifford, 2010; Ramkissoon et al., 2012).

Table 3: Commonly employed questions in investigation of place attachment sub-dimensions

Place attachment sub-dimension	Ideas reflected in the common questions	Reference	Inspiring authors
Place dependence (PD)	 Q is the best place for what I do. No other places can compare to Q. I get more satisfaction out of living in the Q than any other places. Doing what I do in Q is more important to me than doing it in other places. I would not substitute any other area for doing the things that I do in Q. 	Brown & Raymond (2007); Li et al. (2023);	Jorgensen & Stedman (2001); Williams & Vaske (2003); Williams &
Place Identity (PI)	 I feel the Q is part of me. Q is very special to me. I identify strongly with the Q. I am very attached to the Q. Living in Q says a lot about who I am. Q means a lot to me. 	Kyle et al. (2004)	Roggenbuck (1989)

Note: Q represents the specific case of place attachment related study.

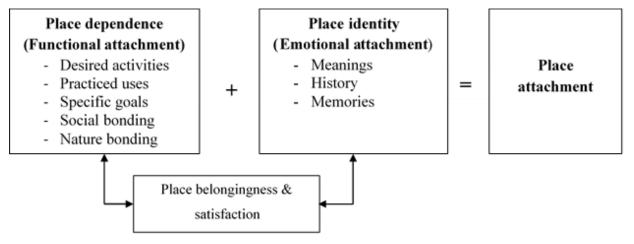


Figure 1: Relationship between place dependence, place identity and place attachment

This group can be family members or friends, in addition to the emotional connection that is based on shared histories, interests or common concerns. Place belongingness evolves when individuals develop communal bonds with other people through the people-place interactions (Scannell & Giffod, 2010; Ramkissoon et al., 2012).

4. Conclusions

The key takeaways on the importance of PA is that it is useful in forming meanings that are attached to various places by people, it influences associations of people within various spaces, it influences participation in various aspects, like conservation within the community and therefore important in place making and keeping at various scales. However, there is lack of coherence in PA research works, especially on the use of different sub-dimensions as PA components and methods of investigation. To contribute a solution to this, a conceptual framework, that can guide further research in terms of what to include as sub constructs of PA, is proposed. On the other hand, most of the PA studies have been done at neighborhood levels and within public spaces. There is need for more studies on importance of PA to improve quality of life and well-

being through place making. This can be used by built environment professionals and policy makers in place making, especially during new developments and urban renewals that greatly impact the urban and rural landscapes.

It is recommended to adopt PI and PD as the sub dimensions of PA, with inclusion of other factors under them for coherence and clarity among different studies. Moreover, the commonly used questions from previous studies that have been adopted and used by some recent studies are recommended for use across different scales of PA investigations albeit with relevant modifications.

As far as this research work is concerned, there is no literature review conducted on the PA related topics; thus, this one provides a fertile ground for future research on PA. However, the study depended on Google scholar and Google sources for the review, despite the fact that all articles considered were peer

reviewed. Other studies, that are Bibliometric in nature, could be undertaken to improve reviews on PA studies. Additionally, more detailed empirical studies on PA and other place-people-process relationships are expected in urban spaces at various levels in order to investigate the meanings, memories attached to spaces that are often impacted by new developments and urban renewals thus affecting urban landscape identities. African context should have more studies on PA from academia to cover for the scanty sources that are currently available. Due to the changes that occur in the fast transforming urban environments that affect place dependence and place identity and thus impact on place attachments, it is also important to consider aspects of PA in place making.

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Reference

- Abu-Bakar, E.A., Ujang, N., & Abdul Aziz, F. (2016). Place Attachment towards Waterfront in Kangar, Perlis, Malaysia. *Alam Cipta*, 9(2), 33-44
- Adewale, B.A., Ibem, E.O., Amole, S.A., & Adeboye, A.B. (2020). Place attachment in Nigerian urban slums: Evidence from inner-city Ibadan. *Cities*, 107, 102902
- Aguspriyanti, C.D. (2022). Understanding place attachment in temporary public space through noematic-noetic synthesis. ARTEKS: Jurnal Teknik Arsitektur, 7(2), 197-204
- Alrobaee, T.R., & Al-Kinani, A.S. (2019). Place dependence as the physical environment role function in the place attachment. *Materials Science and Engineering*, 698, 033014
- Anton, C.E., & Lawrence, C. (2016). The relationship between place attachments, the theory of planned behavior and residents' response to place change. *Journal of Environmental Psychology*, 47, 145e154
- Ayoola, H.A., Fakere, A.A., & Olusaga, O. (2019). Place Attachment in Poor Residential Neighbourhoods of Akure, Nigeria. *Covenant Journal in the Research Built Environment*, 7 (2), 20-36
- Bazrafshan, M., Tabrizi, A.M., Bauer, N., & Kienast, F. (2021). Place attachment through interaction with urban parks: A cross-cultural study. *Urban Forestry & Urban Greening*, 61, 127103
- Brown, G., & Raymond, C. (2007). The relationship between place attachment and landscape values: Toward mapping place attachment. *Applied Geography*, 27, 89–111
- Casakin, H., Hernandez, B., & Ruiz, C. (2015). Place attachment and place identity in Israeli cities: The influence of city size. *Cities*, 42, 224–230
- Chen, X., & Liu, P. (2024). Place attachment promotes pro-environmental behaviors: The mediating role of nature relatedness. *E3S Web of Conferences*, 536, 01001
- Hashim, H., Abbas, Y.S., Akbar, H.A., & Nazgol, B. (2013). Between Sense and Attachment: Comparing the Concepts of Place in Architectural Studies. *Malaysia Journal of Society and Space*, 9(1), 96-104)
- Hernandez, B., Hidalgo, M.C., Salazar-Laplace, M.E., & Hess, S. (2007). Place attachment and place identity in natives and non-natives. *Journal of Environmental Psychology*, 27(4), 310–319
- Hidalgo, M.C., & Hernandez, B. (2001). Place attachment: Conceptual and empirical questions. *Journal of Environmental Psychology*, 21, 273–281
- Jaskiewicz, M. (2015). Place attachment, place identity and aesthetic appraisal of urban landscape. *Polish Psychological Bulletin*, 46(4), 573–578

- Jorgensen, B.S., & Stedman, R.C. (2001). Sense of place as an attitude: Lakeshore owners' attitudes toward their properties. *Journal of Environmental Psychology*, 21, 233–248
- K'oyoo, E. (2023a). Use of photo-elicitation interviews to explore urban landscape identity in the context of urban renewal changes, a case of Kisumu City, Kenya. *Acta Structilia*, 30(2), 35-60
- K'oyoo, E. (2023b). Impact of urban renewal changes on urban landscape identity: Case study of Kisumu City, Kenya. *Acta Structilia*, 30(1), 156-185
- K'oyoo, E., & Breed, C. (2024). Urban memory and identity weighed against economic investment in urban renewal projects: A case of Kisumu City, Kenya. *Acta Structilia*, 31(1), 84-119
- K'oyoo, E.O., & Breed, C.A. (2023). Capturing landscape identity in the context of urban renewal: The case of Kisumu City, Kenya. *Town and Regional Planning*, 83, 18-32.
- Karsono, B., Saleh, B.M., Chung, C.O., & Wahid, J. (2021). Place Attachment in the Riverfront Public Space Case of Malaysia. *IOP Conf. Series: Materials Science and Engineering*, 1101
- Kyle, G., Graefe, A., Manning, R., & Bacon, J. (2004). Effects of place attachment on users' perceptions of social and environmental conditions in a natural setting. *Journal of Environmental Psychology*, 24, 213–225
- Lestari, W.M., & Sumabrata, J. (2018). The influencing factors on place attachment in neighborhood of Kampung Melayu. *IOP Conf. Series: Earth and Environmental Science*, 126, 012190
- Lewicka, M. (2008). Place attachment, place identity, and place memory: Restoring the forgotten city past. *Journal of Environmental Psychology*, 28, 209–231
- Lewicka, M. (2011). Place attachment: how far have we come in the last 40 years? *Journal of Environmental Psychology*, 31, 207-230
- Li, J., Luo, J., Deng, T., Tian, J., & Wang, H. (2023). Exploring perceived restoration, landscape perception, and place attachment in historical districts: insights from diverse visitors. *Frontiers in Psychology*, 14, 1156207
- Linfeng, S., Wanyi, Y., & Ujang, N. (2024). A systematic literature review of place attachment in environments, cities and landscapes. *New Design Ideas*, 8(2), 389-411
- Liu, Q., Wu, Y., Xiao, Y., Fu, W., Zhuo, Z., Cecil, C., Bosch, K.V., Huang, Q., & Lan, S. (2020). More meaningful, more restorative? Linking local landscape characteristics and place attachment to restorative perceptions of urban park visitors. *Landscape and Urban Planning*, 197, 103763
- Muhammad, U.F., Abdullah, W.M, Baba- Girei, Z.J., Ibrahim, A.O., Aaron, A.J., & Okoye, K.C. (2021). Place Attachment in Traditional Urban Neighbourhoods. *Palarch's Journal of Archaeology of Egypt/Egyptology*, 18(4)
- Oleksy, T., Lassota, I., Wnuk, A., & Wczesniak, R. (2024). Virtual changes in real places: Understanding the role of place attachment in augmented reality adoption. *Journal of Environmental Psychology*, 98, 102386
- Oleksy, T., Wnuk, A., & Lassota, I. (2023). Attachment to real-world places and willingness to migrate to metaverse virtual worlds. *Journal of Environmental Psychology*, 92, 102161
- Ozkan, D.G., & Yilmaz, S. (2019). The effects of physical and social attributes of place on place attachment. A case study on Trabzon urban squares. *Archnet-IJAR: International Journal of Architectural Research*, 13(1), 133-150
- Purwanto, E., & Harani, A.R. (2020). Attachment and place identity in public space through the ability of community mental map. *IOP Conf. Series: Earth and Environmental Science*, 402, 012024
- Ramkissoon, H., Weiler, B., & Smith, L.D.G. (2012). Place attachment and pro-environmental behaviour in national parks: the development of a conceptual framework. *Journal of Sustainable Tourism*, 20(2), 257-276
- Raymond, C.M, Brown, G., & Weber, D. (2010). The Measurement of Place Attachment: Personal, Community, and Environmental Connections. *Journal of Environmental Psychology*, 30, 422 434
- Rollero, C., & Piccoli, N.D. (2010a). Place attachment, identification and environment perception: An empirical study. *Journal of Environmental Psychology*, 30, 198–205
- Rollero, C., & Piccoli, N.D. (2010b). Does place attachment affect social well-being? *European Review of Applied Psychology*, 60, 233–238
- Sari, P., Munandar, P., & Fatimah, I.S. (2018). Perception of place attachment between cultural heritages in Yogyakarta City. *IOP Conf. Series: Earth and Environmental Science*, 179, 012012.
- Sattarzadeh, D. (2018). The Effect of Designing Urban Public Spaces on Place Attachment (Case study: Tabriz, Iran). *Space Ontology International Journal*, 7(4), 53-64
- Scannell, L., & Gifford, R. (2010). Defining place attachment: a tripartite organizing framework. *Journal of Environmental Psychology*, 30, 1-10

- Shamsuddin, S., & Ujang, N. (2008). Making places: The role of attachment in creating the sense of place for traditional streets in Malaysia. *Habitat International*, 32 (3), 399–409
- Shao, Y. & Liu, B. (2017). Place Attachment Assessment System in Contemporary Urbanism. Procedia Eng., 198, 152-168
- Smaldone, D., Harris, C., & Sanyal, N. (2005). An exploration of place as a process: The case of Jackson Hole, WY. *Journal of Environmental Psychology*, 25, 397-414
- Song, Z., & Soopramanien, D. (2019). Types of place attachment and pro-environmental behaviors of urban residents in Beijing. *Cities*, 84, 112-120.
- Stedman, R.C. (2003). Is it really just a social construction? The contribution of the physical environment to sense of place. *Society and Natural Resources*, *16*(8), 671–685
- Storie, J.T., Uusna, E., Eglaja, Z., Laur, T., Kulvik, M., Suskevics, M., & Bell, S. (2019). Place Attachment and Its Consequence for Landscape-Scale Management and Readiness to Participate: Social Network Complexity in the Post-Soviet Rural Context of Latvia and Estonia. *Land*, 8(8), 125
- Twigger-Ross, C.L., & Uzzell, D.L. (1996). Place and identity processes. *Journal of Environmental Psychology, 16*(3), 205–220 Ujang, N. (2017). Place Attachment and Continuity of Urban Place Identity. *Asian Journal of Environmen-Behaviour Studies*, 2(2), 117-132
- Ujang, N., & Zakariya, K. (2015). Place Attachment and the Value of Place in the Life of the users. *Procedia Social and Behavioral Sciences*, 168, 373 380.
- Vaske, J.J., & Kobrin, K.C. (2001). Place attachment and environmentally responsible behavior. *Journal of Environmental Education*, 32(4), 16–21.
- Verbrugge, L. & Born, R.V.D. (2018). The role of place attachment in public perceptions of a re-landscaping intervention in the river Waal (The Netherlands). *Landscape and Urban Planning*, 177, 241-250.
- Wahyudie, P., Antariksa, A., Wulandari, L.D., & Santosa, H. (2021). Place attachment in supporting the preservation of religious historical built environment. *IOP Conf. Series: Earth and Environmental Science*, 737, 012035
- Williams, D.R., & Roggenbuck, J.W. (1989). Measuring place attachment: Some preliminary results. In McAvoy, L.H., & Howard D. (Ed s.), Abstracts of the 1989 Leisure Research Symposium (p. 32). Arlington, VA: National Recreation and Park Association
- Williams, D.R., & Vaske, J.J. (2003). The measurement of place attachment: Validity and generalizability of a psychometric approach. *Forest Science*, 49(6), 830-840
- Wirth, T.V., Gret-Regamey, A., Moser, C., & Stauffacher, M. (2016). Exploring the influence of perceived urban change on residents' place Attachment. *Journal of Environmental Psychology*, 46, 67e82
- Xie, X., & Wang, Z. (2024). The impact of place attachment on the environmentally responsible behavior of residents in National Park gateway communities and the mediating effect of environmental commitment: a case of China National Park. *Front. Psychol.*, 15, 1386337
- Zahid, A., & Misirlisoy, D. (2021). Measuring place attachment, identity, and memory in urban spaces: case of the walled city of Lahore, Pakistan. *Journal of Architecture and Urbanism*, 45 (2), 171–182
- Zahnow, R. (2023). Place type or place function: What matters for place attachment? *American Journal of Community Psychology*, 73, 446–460
- Zaidin, N., Hussain, M. R. M., Tukiman, I., & Shahli, F.M. (2016). Place Attachment in Relation to Urban Street Vitality. *International Transaction Journal of Engineering, Management, & Applied Sciences & Technologies*, 7(1), 9-20
- Zhang, H., & Lei, S.L. (2013) Effect of residents' place attachment on their participation intention in local tourism development. *Tourism as a Tool for Development*, 72, 23-31