Place-making upon return home: Influence of greenway experiences

Recreation experience has long been studied for its close relationship to human health and personal development. Previous research focused mainly on the experiential and on-site outcomes. This study extends past research to explore the critical role of recreation experience on human development, particularly after people return home. To do so, an experiential-emergent-learning model of recreation experience is proposed and empirically experimented. Based on a participant-generated photo technique and a two-step interview protocol, support was provided for home-based behavioral changes as an enduring outcome of greenway experiences. Through tracking the interplay of recreationists' greenway experience, self-development, and home place-making, the study illustrated a learning cycle between greenway experience and human-environment relationships. The implications suggest the potential of a greenway network for promoting pro-environmental behaviors and sustainable tourism.

Keywords: home environment; self-development; participant-generated photos; multiphase leisure

1. Introduction

Recreation experience has long been studied for its close relationship to human health and personal development (Andkjær & Arvidsen, 2015; Lee, Jan, & Huang, 2015). Previous research mainly took an experience perspective to explore human motivation, perception and evaluation of recreation activities in relation to human health (Fix, Brooks, & Harrington, 2018; Manfredo, Driver & Tarrant, 1996). An emerging area of research is a learning approach to address the effects of recreation experience on personal development (Falk, Ballantyne, Packer, & Benckendorff, 2012; Hicks, 2017). Human development from the experiential learning view is a continuous learning process based on prior and current experiences (Kolb, 1984). The connections between recreation experience and human development have been generally directed at on-site learning, with the study of post-trip outcomes still forthcoming in literature.

Integrating the accumulation of research on recreation experiences, Fix et al. (2018) provided a comprehensive understanding with the development of their seminal experiential-emergent model (hereafter as EE model). This model integrated multiple phases of recreation trips and stressed that even though pre-trip expectations may not be met, on-site contextual experiences create idiographic experiences that influence post-trip evaluations (Fix et al., 2018). While the EE model addressed the post-trip outcomes of recreation trips, it highlighted the potential of life-long learning (i.e. personal strivings or larger personal projects) from recreation experiences (Brooks, 2003; Emmons, 1989) and called for research that more fully integrates experiential learning (Fix et al., 2018).

The experiential learning approach in recreation area posits that multisensory on-site experiences lead to emotional affinity with nature holding potential to (re)make self and place (Ballantyne, Packer, & Falk, 2011; Hicks, 2017). With some exceptions (e.g., Fix et al., 2018), extant research generally examines visitors' self-development and place-making on-site as part of a learning process (Dashper & Brymer, 2019). Human development and place-making in one's home environment as life-long learning of recreation experiences warrant investigation (Ardoin, Wheaton, Bowers, Hunt, & Durham, 2015). Theoretically, place-making is broadly defined as the process that people and communities explore to build socio–spatial relationships within their locale to enhance social value, health, and well-being as part of home environs (Corcoran, Marshall, & Walsh, 2018). Practically, one of the most important rationales for recreation development in most municipalities is to enhance urban lifestyles through leisure space provisions (Wolch, Byrne, & Newell, 2014). In this sense, the impacts of recreation experiences upon return home are a critical concern to understand the full range of benefits and their embeddedness in various aspects of our lives. Although we know much about onsite place-making upon recreation experiences, the longer-term impacts

of such experiences on home environs are still coming into view (Ballantyne, Hughes, Lee, Packer, & Sneddon, 2018).

This study is directed at further development of theory and evidence to understand connections between onsite experiences, learning, and impacts on one's home and lifestyle. By incorporating learning into the EE model, an experiential-emergent-learning model (hereafter as EEL model) is adapted and addresses life-long development. In this paper, the focal point for human development is place-making upon "return home" (RH) which is explored as an enduring outcome of recreation experiences. Greenways were selected as the study setting for two main reasons. First and foremost, greenways are linear spatial networks of various natural and artificial settings to support recreation, connection, and protection functions (Ahern, 1995). Linking natural corridors and communities, greenways hold potential for human learning because they represent a vehicle for education and expression of individuals and communities (Bischoff, 1995). Secondly, in contrast to ecotourism or national parks, greenways are a common outdoor recreation amenity present in both tourism and home settings (Timothy & Boyd, 2014), thereby enabling life-long learning (Cuffy, Tribe, & Airey, 2012). Whereas, the majority of previous greenway studies focused on physical-ecological planning issues, there has been limited concern for visitors' experience and psychological processes (Ardoin et al., 2015; Buta, Holland, & Kaplanidou, 2014).

The contribution of the present study is twofold. First, it advances recreation research by adapting an EEL model in which experiences and human learning are integrated to understand their influence and highlight learning outcomes upon return home. Second, this research provides a multiphase view of greenway experiences that holds promise to extend the vision and benefits of greenway development beyond the empirical context of this paper.

2. An EEL model for greenway experience

2.1 Greenways as expression vehicles

Greenways are a fast growing yet understudied area in recreation (Liu, 2019). Since the late 1980's, a greenway movement has been spawned in Western Europe and North America to connect otherwise fragmented environmental patches, such as forests, parks and trails into an integrated set of open spaces (Andkjær & Arvidsen, 2015). This movement addressed the increased demand for outdoor recreation (Smith & Hellmund, 1993), provided a boost for ecological protection (Kulczycki, 2014) and expanded available open space at regional levels (Ryder, 1995). Widespread greenway networks that extend hundreds of kilometers have been developed to connect local facilities, communities, and tourism attractions; and enable both overnight tours and excursions to diversify economies in locally-appropriate ways (Manton, Hynes, & Clifford, 2016).

A large portion of research on greenways is associated with planning literature, and has recognized education and social expression as important functions of greenways (Bischoff, 1995). Personal, patriotic, commemorative, cultural and political meanings intended by planners and designers have been identified in greenways (Budruk & Stanis, 2013), yet visitor learning from greenway experiences is rarely a target of research (Timothy & Boyd, 2014). Recent studies have found that greenway visitors are willing to pay a significant amount for their experiences and enact eco-friendly behaviors (Barnett, Jackson-Smith, & Haeffner, 2018; Lee et al., 2015). Moreover, with greenways providing "access to open spaces close to where people live" (U.S. President's Commission on American Outdoors, 1987, p. 209), greenway visits allow more frequent trips compared to mass tourism destinations. Even though greenways may lack the exotic appeal of traditional tourism sites (Hu, 2012), they are important recreational places particular in urban areas (Liu, 2019). Learning from recreation on greenways may be different from traditional tourism but of

particular importance because greenways afford experiences that lie between the mundane and liminal (George, Ottignon, & Goldstein, 2015).

2.2 Construction of the EEL model

Fortunately research on recreation experiences has increasingly been concerned with long-term human development (Chen & Li, 2020). With the conceptual framework associated with an experiential view addressing psychological happiness and experiential satisfaction (Veal, 2017), a human development perspective leads to incorporating enduring personal outcomes as part of recreation experiences (Emmons, 1989; Manfredo, Driver, & Tarrant, 1996). For instance, Fix et al. (2018) proposed a unified EE model (the un-bolded circle reflected in Figure 1) to incorporate the two prevailing approaches, experiential approach (concerning pre-trip motivation and post-trip satisfaction) and the emergent experience approach (focused on on-site meaning-making). The EE model conceives of the recreation experience as a cyclic process from pre-trip motivations, on-site activities, to post-trip evaluation and feedback to motivations for subsequent trips.

Moreover, Fix et al.'s (2018) work highlights the larger network of desired end states including new identities and lifestyles integrated in recreation experiences, which sheds light on the increasing experiential learning approach in recreation studies. For instance, outdoor recreationists were found to achieve skills (Kulczycki, 2014), self-awareness (Buta et al., 2014), self-esteem (Xie, Weybright, Caldwell, Wegner, & Smith, 2020), environment knowledge (Ballantyne et al., 2011), and pro-environmental behaviors (Barnett et al., 2018) over their trips. These experiential learning outcomes implied effective management of recreation resource and place-making that were broader than personal development (Buckley, 2015), yet lacked sufficient examination.

The experiential learning perspective postulates that human development is a life-long cyclic human-environment interaction process (Kolb, 1984). The cycle includes reflective learning from prior and current experiences that lead to "active experiments" (i.e. behavioral reactions) (Hicks, 2017). Recreation processes, in this respect, may undergo another feedback pertaining to humans' life-long learning in which visitors' self-concept and their relationships to environments adjust accordingly. Whereas place-making connected to recreation experience has been largely discussed regarding on-site environments (Kruger, 2006), such as parks (Manzo, 2003), longer-term effects such as place-making at home and work have not been a focal point of study (Veal, 2017).

Theoretical work on human relationships to places brings "home" to the focus since it is an environ of human being-in-the world (Manzo, 2003). Like onsite place-making, doing so at home is to enact new behaviors and endow fresh meanings towards home environments (Corcoran et al., 2018). Meanings nurtured through interaction with resource can shape one's "ecological self" – an important element in one's self-concept (Bragg, 1996) – and encourage visitors to reflect on their relationships with places, which finally lead to a re-creation of places (Budruk & Stanis, 2013). Human relationships to places are reflective of people's inside world where the psyche is enriched by what is outside (Howard, 1993). When a person makes meaning in recreation environments, the relationship to external world changes accordingly, which may enrich the inner self and lead to further place-making in one's daily life.

Hence, this study poses an EEL model (Figure 1) to build on and extend the work of Fix et al.'s (2018) EE model. To explore the enduring influences of recreation experience on visitors, an experiential learning approach is incorporated with attention to their return home from greenway trips. Other than feedback between experiences and future motivations, the

EEL model emphasizes interactions between on-site recreation experience and place-making at home through a cyclic process of life-long learning.

(Insert Figure 1 about here)

The EEL model builds on the EE model in four distinct ways: perspective, assumption, stage and outcome (Table 1). The *perspective* distinction is due to the addition of an experiential learning approach. Different from experiential and emergent experience approaches, the learning approach addresses "active behaviors" learned through recreation experiences. According to experiential learning theory (Kolb, 1984), human development is a constant learning process based on prior experience (Driver & Oldham, 1986). The EEL model extends the EE model from a personal experiential circle or a given recreation experience to a life-long human-environment interaction.

The *assumption* distinction between the two models is in their treatment of expectations. The EE model assumes pre-conceived expectations for recreation experience, including psychological states, broader outcomes and product attributes (Fix et al., 2018), whereas the assumptions of the EEL model includes the possibility of life-long achievements (e.g. knowledge about nature, impacts to lifestyle, or new behaviors). The third distinction of two models is their emphasis on different *stages* of recreation experiences. Although both models trace effects of recreation experience across time, the EE model focuses on the pre- to post trip feedback loop. Whereas the EEL model aligns with its assumption of long-term impacts and integrates lifelong learning outcomes after trips (Ballantyne et al., 2018; Jacobs & Harms, 2014). The final distinction between the EE and EEL models is in the *outcomes*. The former focuses on changes of future recreation motivations or expectations, while the latter focuses on changes in self-concept and furthering their relationships with place.

(Insert Table 1 about here)

This study empirically implements a mixed-method design based on the EEL model to examine the interaction between meaning making of greenway experience on-site and the long-term learning outcomes (place-making) upon return home.

3. Methods

3.1 Study sites

Greenways in China were selected for the study because the recent decade has witnessed a greenway construction boom coupled with rising research on greenways in China (Hu, 2012). Given the relative newness of greenway development in China and the need for greening of Chinese urban centers (Liu, 2019), research that assesses human learning from greenway experience could be useful in many ways. Moreover, greenway development in China is primarily directed at enhancement of tourism and destination image, which could provide distinct insights compared to the western experience that emphasizes public recreation (Guo, 2012). In addition, the approach of previous research in China is generally deductive with use of statistical aggregates derived from planning documents rather than being grounded in experiences of visitors (e.g. Liu, Wang, & Wu, 2015; Wu, 2014). Empirical study of greenways in a Chinese context is timely from both scientific and practical perspectives. Specifically, the Pearl River Delta greenway network in the southern part of China (e.g. Guangzhou, Shenzhen and Zhuhai greenways) and the Yangze River Delta greenway network in the east (e.g. Hangzhou and Wenzhou greenways) as shown in Figure 2 were selected for data collection. These are two of the earliest and perceived as most attractive greenways in China (Liu, 2019). These sites were easily accessible to the first author, provided a daily population of visitors from which to sample, and associated with comparatively well-developed facilities that collectively met 'illustrative' and 'opportunistic' criteria of case selection recommended by Veal (2006).

(Insert Figure 2 about here)

3.2 Data collection

Given the conceptual orientation grounded in visitor experience, self-development and place-making at home, the study is based on a constructivist paradigm in which lived experience and participant meaning-making are the targets of inquiry (Hennink, Hutter, & Bailey, 2020). An interpretive approach was deemed appropriate to understand lived experience and meanings constructed by subjects within their particular context (Veal, 2006). To identify the social-psychological processes of visitors, a participant-generated photography technique combined with in-depth interviews was adopted as compatible with the research approach (Hennink et al., 2020). Participant-generated photography was implemented by collecting photos from participants, a technique used to democratize expertise, build trusting relations with participants, and develop rich descriptions of lived experiences (Balomenou & Garrod, 2016). Photos are considered to be springboards for discussion of one's experiences (Gou & Shibata, 2017) and capable of facilitating the expression of conscious and unconscious feelings and connections (Butler-Kisber, 2010). In addition, they provide visual information that ground lived experiences in physical features of landscape (Gou & Shibata, 2017).

A two-stage data collection process was conducted with one participant being contacted both on-site and post-trip: (1) We approached greenway visitors with the on-site screening question "Did you take photos during the trip?" Those with affirmative answers were invited to take part in the study and, if so, to provide at least five favorite photos taken on greenways for highlights that reflected the relevance of the greenway experience to their lives (Croghan, Griffin, Hunter, & Phoenix, 2008). With the photos already taken by participants prior to the point of intercept, the protocol helped reduce researcher effects and increased the validity of the study (Brink, 1993). An in-depth semi-structured interview followed with three sections to it: understanding greenway experiences, identifying meanings

associated with each of their photos, and encouraging reflections on their greenway experiences. (2) Participants provided contact information and were interviewed about one month later. They were asked a second time to provide at least five favorites photos taken on greenways to reflect the relevance of the greenway experience to their lives. The recollections of photos one month later were directed at recalling their greenway experiences, reflecting on their photographs, and place-making at home related to their greenway experiences. Three open-ended questions including "Could you describe the experience of that moment on the greenway?" "Is there anything different in your daily life after you came back from the greenway trip?" and "What else did you learn from this greenway experience?" were asked with follow-up prompts to further inquire "how" and "why." In particular, photos or detailed information were queried if participants indicated that there were changes in their daily life that suggested place-making at home.

In total, 32 participants fulfilled the requirements of the study. Twenty of them were female. Although the age of participants covers a broad range from young adults to people over 56, the biggest group (25 out of 32) was between 19 and 35-year-old. Among them, one-third of participants were first-time visitors while the other two thirds were repeat visitors to the greenway. Collectively they reflected a diversity of education background with half (17 out of 32) attaining a bachelor's degree. The 64 interviews (2 for each participant) ranged from 30 to 94 minutes. In total, 344 photos were collected, including 180 from on-site interviews and 164 from post-trip interviews at home.

The leading author conducted the data collection and portrayed herself as both a researcher and greenway visitor in order to facilitate interactions with participants. This dual role helped break down barriers between the researcher and participants. The recognition of a dual positioning was a useful starting point that helped sensitize researcher-bias from the start of data collection, which is a common characteristic and state of the practice with

applications of a constructivist approach (Hennink et al., 2020). In addition, the second and third authors were not part of the data collection and functioned to maintain a healthy reflexivity for the analysis and manuscript preparation processes.

3.3 Data analysis

Thematic analysis was used in the present study for interpretations of the photos and interviews (Aronson, 1995; Kulczycki, 2014). Themes represent the main topics or patterns identified in the data to characterize the phenomenon (Fereday & Muir-Cochrane, 2006). With this study assessing the applicability of the EEL model, a deductive thematic analysis was conducted using guidelines described by Braun and Clarke (2006; see Appendix). Specifically, both photos and interview transcripts were included in the thematic analysis to categorize visitors' meaning-making, characterize their self-development, and identify place-making upon return home. The main visual themes related to each photograph were identified one-by-one in a spreadsheet. Frequencies of the themes were then counted to show the recurrence of each theme across photos, and finally, interpreted together with the interview transcripts (Croghan et al., 2008; Rose, 2016).

All interviews were transcribed verbatim and were reviewed by the first author (a native speaker of Chinese) for clarity and correctness before the analysis. The photos and transcripts were coded by participant numbers and whether the data is from on-site (as "O") or post-trip (as "P") interview. For instance, the photo GZ01O-1 means the first photo provided by participant GZ01 during on-site interview, where GZ01 refers to the No.1 participant who was encountered in Guangzhou. The software *NVIVO 11* was used for the interview coding and analysis.

4. Findings

4.1 Meaning-making of greenway experiences

Themes in participants' photos were identified and grouped into categories of meanings that were made (Table 2). In total, three domains of meaning were constructed by visitors on their greenway experience: appreciation of nature, appreciation of built environments, and appreciation of human interaction.

(Insert Table 2 about here)

Appreciation of nature

Visitors' photos showed an extensive appreciation for natural landscapes and features of the natural environment. Three main categories of nature appreciation were: green nature, water and the ecological system. From assessing the photos jointly with the transcripts, framing nature as green, and appreciating the many forms it took in terms of trees, mountains, lawns, farms and islands was a major finding (Figure 3). Visitors expressed a sense of comfort and relaxation with the green nature of the settings.

> I just stood there and took the photos [of the beautiful mountain]. It was really pretty and made me comfortable (SZ07O).
> I remember the green mountain that brought joy and made me relax (SZ07P).

(Insert Figure 3 about here)

Water, of all different kinds, is also a strong theme in participants' photos (Figure 4). There were 44% photos on-site and 37% photos after trip that reflected participants' appreciation of water. Aligning with a longstanding finding in landscape preference research (Zube, Sell, and Taylor, 1982), being close to water was regarded as an important aspect in greenway experiences. In our study, the presence of water in a landscape helped participants calm down and experience a sense of peace.

> I was impressed by the city river (Donghaochong), the flowing water makes me peaceful, exactly (GZ01O).
>
> The most impressive thing is the city river (Donghaochong). The clean and trickling water brought a comfortable feeling to people. With that feeling, people calmed down and appreciated the scenery (GZ01P).

(Insert Figure 4 about here)

In addition, visitors made meanings about the ecological systems from both on-site and post-trip photos (Figure 5). The natural beauty such as flowers (7% and 6%, on-site and post-trip, respectively), sky (7% and 12%) and beach (3% and 3%) with seasonal changes impressed visitors and brought romantic feelings to an otherwise routine life.

> Certainly, it is different to play here than at home. We can enjoy the good and natural environment here. With the flowers, plants and trees, right? (SZ08O).
>
> I like those photos because I like the natural scenery, the good environment, the fresh air and the blue sky. People can rarely see the blue sky in Beijing (ZH17O).

(Insert Figure 5 about here)

To summary, psychological comforts were achieved on greenways through an appreciation of nature. Participants felt relaxed, peaceful and romantic by getting close to green nature, water bodies, and ecological systems as part of greenway trips.

Appreciation of built environments

Built environments on greenways, particularly the greenway routes and the cultural constructs were captured in participants' photos during both rounds of interviews. Many participants voiced an appreciation that the built features on greenways reflect a spiritual connection between nature and humans. Spirituality discussed by participants was related to a sense of meaning that forged connections to oneself, others, and nature in ways that fulfilled and brought coherence to their lives (Cloninger, 2007; Heintzman & Mannell, 2003).

The greenway routes appeared in 19% and 24% photos from on-site and post-trip interviews respectively (Figure 6). The well-planned routes not only gave visitors a sense of safety, but also separated them from a routine daily life with an explicit spatial boundary that facilitated travel.

> I like that there is a route. Greenway is not just a concept. This is a real route that I can walk and ride along it. Yeah, it is such kind of feeling that there is a route, which particularly let me be here and play here (GZ04O).
> I like the flowers on both sides. The whole route is colored. Many greenways routes have different colors (GZ12O).

(Insert Figure 6 about here)

Cultural constructs, like bridges, statues, city landscapes, historical and artistic architecture were also a recurrent theme in participants' photos (Figure 7). Such structures enhanced participants' experiences and led to spiritual fulfilment where participants were inspired to appreciate their culture and community. For instance, a well for taking groundwater there stimulated one participant (GZ03) to connect her current self to memories of her past, leading to a spiritual connection.

> I was impressed by the well. It is the same as that in my hometown, which recalled my childhood memory in the village and made me feel like return to the past (GZ03O).
> The museum by the West Lake Greenway impressed me because I was lucky to encounter a knowledgeable person who introduced the cultural relics to me. I stayed in the museum for around two hours. I like the cultural things that inspired me (HZ22O).

(Insert Figure 7 about here)

The built environments were also preferred by participants because when they visited greenways, the well-organized greenway routes and cultural structures introduced spiritual comfort and stability to participants, including a sense of safety and cultural progression.

Compared to pure nature like wilderness, nature with built structures made participants feel at ease.

Appreciation of human interaction

While visitors appreciated environmental beauty on greenways, their photographs and interviews emphasized an importance of human interaction. On basis of a tradition with collective cultures like China (Xi & Li, 2019), environments with other people are comforting and reflect fulfillment rather than a people-less landscape in which individuals are isolated and without connection to others.

Participants were positively impressed by viewing other people playing on greenways, including their family members, friends, or even strangers (Figure 8). There were 31% photos from on-site and 32% from post-trip interviews showing other people playing along the greenways. Other people playing on greenways (people playing) reflected participants' appreciation of being around a happy and active community of others. The whole atmosphere inspired participants to be positive and enjoy their outing, as if happiness is contagious.

> Most photos we took are about humans. All are selfies of ourselves. We like to take photos of ourselves (ZH15O).
> We like the photos with people enjoying kite flying there. The image is very beautiful. I felt like people were happy, which also inspired me. This was a happy atmosphere, very happy (GZ06P).

(Insert Figure 8 about here)

Notably, cycling was one of the most popular activities on greenways. It also appeared frequently in participants' photos (Figure 9). Around 10% on-site photos included cycling, and 5% among home photos. It not only involved physical exercise, but also brought positive emotions like happiness to participants.

I like outdoor activities. And I feel cycling is meaningful because it is physical exercise to improve my health (GZ06O).

I like cycling on greenways. It is also a beautiful scenery in tourist attraction [greenways]. Many people took photos on that (GZ01P).

(Insert Figure 9 about here)

Summarizing Table 2, the themes identified in photos demonstrated participants' environmental appreciation during greenway visits. The environment included natural, cultural and self-related meanings. Participants showed favor to green nature, water and the ecological system, of which all provide various psychological comforts. The built environment promoted a sense of safety and spiritual richness in experience, and human interaction was important to inspire positive emotions of participants. To be sure, participants also expressed unsatisfied experiences about their trips, including perceptions of bland scenery, unconnected greenway networks, lack of facilities and poor sanitation that needed improvement. These complaints were often coupled with other factors that illustrated participants' appreciation for various greenway attributes and their experiences.

4.2 Self-development from greenway experience

Findings identified from greenway experiences also included cognitive changes. These domains are organized around self-concern, environmental, and social as shown in Table 3 and ways in which greenway experiences have become integrated into participants' self-concept. Participants envisioned the impact of a greenway as a new strategy to direct their lives.

(Insert Table 3 about here)

Self-concern learning domain

Many participants reported that they refreshed themselves after the greenway experience through reflection and reconstruction of their lifestyle, self and life attitudes. First, many

participants recognized their needs for a healthy lifestyle, and contribution of greenways for a better quality of life. Their "life" expanded to include more than their work-a-day world. Several participants came to realize the importance of work-life balance to spend more time with family members. Meanwhile, some visitors were impressed by the beautiful world outside of their daily routines to the extent that they committed to step out for self-refreshment with more outdoor activities: *"I got hooked on the slow pace of life after the first visit, we now usually step out of the closed city center during weekends to enjoy fresh air and refresh our mind" (SZ08O).*

Second, participants indicated a spiritual re-creation of themselves and their relationships to the outside world, which suggested a kind of existential authenticity (Wang, 1999). Participants cared about themselves and interacted with the surroundings, including physical environment and others on greenways. Specifically, some participants rethought physical and psychological health through physical exercise and engagement with nature on greenways: *"After cycling on greenways, I feel that keeping healthy is very important. Because I feel like more confident with exercise, I am definitely more concerned with my health" (SZ09P).* This overall impression and spiritual awakening reflected a renewed self-concept.

In addition, participants built positive attitudes about life through optimistic emotions gained on greenways. Participants felt open-minded to change and were inspired with their visits. One participant GZ06 showed increased confidence in himself and more commitment to a long-term exercise regime on greenways: *"Cycling on greenway for a long distance can improve my patience and persistence. Actually, it is exhausting to cycle so long. Not everybody could make it. But we can and we insist to touch our goals" (GZ06O).* Also, greenway trips encouraged participants to achieve a more promising life through hard work: *"After greenway trips, I just want to make more money and take more work. Previously, I*

thought myself lazy. Now, I think I became hard working" (GZ03P). The self-concern learning domain illustrates positive constructs built into self-concept based on greenway experiences.

Environmental learning domain

Participants developed an ecological awareness as part of their experiences. Ecological awareness means an elevated status in appreciating the importance and practices of environmental protection. Firstly, participants identified the critical role of a functioning ecosystem. They realized that a healthy environment, such as clean water, is important for human use: *"I think we should respect the nature after the trip. This is the most direct feeling. People here could understand the importance of nature and achieve the harmony between human and nature gradually" (GZ04O)*. Secondly, some participants already appreciated and promoted environmental protection, but they did not know about behavioral practices in daily life to do so. During greenway visits, they learned to reduce and avoid behavioral practices that are not sustainable, such as replacing vehicle driving with cycling to protect the environment: *"Greenway leads people to do something environmentally friendly. When we have greenways in our city, we have chances to cycle rather than drive all the time" (HZ21P).* Although it was a gradual process to make changes in daily life, once some participants learned about daily pro-environmental practices, their awareness endured across time and was associated with meaningful behavioral changes.

Social learning domain

Participants found greenways constructed a pastoral urban life for their harmonious interaction with nature and others, similar to experiences in rural landscapes yet provided within urban contexts. These greenways fulfilled various needs of people and provided participants with places to walk, play, exercise, relax, communicate with their family, and

simply reflect on life. The greenways were often close to home and offered a nature experience after a day's work at office. In contrast to busy and noisy urban routines living and working in high-rise buildings, the natural settings and leisure environment of greenways created a totally different slow-pace and green world: *"I think city life needs more greenways like that, which can provide space for people to play after busy work. To breathe the fresh air in such kind of natural environments is a very good thing" (SZ07P).*

Although these three domains were collectively present across the participants, not every participant discussed all three. Self-concern was the most prevalent one, and social and environmental were often tied to actual behavioral changes at home.

4.3 Place-making upon return home

Self-development drove visitors to (re)make their home place so as to fulfil their new commitments of life and re-align with their re-created sense of self. Among the behavioral changes reported after returning home from greenways, participants took actions for an ideal self, reshaped their surrounding environment and renewed their daily connections to local environment (Table 4). This place-making process illustrated enduring influences of greenway experiences on human development.

(Insert Table 4 about here)

Construct ideal self

Participants reported corresponding behaviors to re-construct their self-image through changing lifestyles. Such lifestyle changes included increasing outdoor leisure. For instance, several participants formed habit of visiting greenways or hang-out during weekends or holidays instead of indoor activities: *"Previously, I played badminton and ran indoor. But now more visits on greenways. This activity seems better and more convenient" (HZ25P).* Some other participants were cultivating daily habit of "early to bed, and early to rise" to

encourage a healthier and more positive sense of self after greenway visits: *"Regarding habit change, I am improving my daily time schedule. I try my best to get up early and sleep early because I found that physical health is very important after greenway experiences" (SZ10P).*

Greenway experiences were also characterized as encouraging reflection and making an existential self. Some participants found themselves less vain with increased experiences using greenways. They cared less about housing prices or luxury products and reported fewer consumptive activities: *"My son used to be keen on shopping, amusement parks. Now that we have been living here for a few years, he has sort of changed his mind. He still likes amusement parks, of course. But he has expanded his horizon by discovering new forms of entertainment on greenways" (SZ08O)*. Several participants took more exercise to appreciate the associated spiritual happiness or physical health: *"The greenway visits promoted my love in cycling. Initially it was just for fun, then for health, later it became a spiritual achievement. I like challenging myself in cycling" (HZ31P).* There were also individuals who increased social interactions for intimate relationships with others after greenway trips. In comparison to previous life in which they connected via mobile phones, the cyclists made new friends on greenways and got connected with each other for shared cycling trips afterwards: *"I made more friends who have the same interests with me through cycling on greenways. We made appointments with each other for regular trips" (HZ20P).*

In addition**,** participants reported a more positive outlook on daily life. Because of walking or cycling on greenways, some participants improved their confidence and became happier due to a sense of less pressure on oneself: *"Through regular cycling and swimming on greenways. I got different attitudes and less anxious in daily life. Actually, to be persistent in cycling on greenways make me more confident in business (GZ05O).* These changes demonstrated the making of an ideal self in daily life after returning from greenway visits.

Participants figured out positive self-constructs during the greenway visits and thus remade themselves to account for a more ideal and pro-environmental home life.

Improve home environment

It is interesting to note that greenway visits motivated participants to improve their home environments by "*bringing the green back home*" *(GZ03P)*. The greening of home environments was reported by several participants. Participant SZ08 moved her home to be closer to a greenway after her initial visit on Wutong Greenway: *"Yes, I was so impressed by this place when I first visited it that I decided to move in so I can enjoy the fresh air frequently" (SZ08O).* Some other people acted on their increased nature appreciation by implanting green in their living environment. For instance, they increased the number and diversity of potted plants at home (Figure 10): *"I had some potted plants at home. My friends who went there with me even sent me a video about her plants after the trip" (GZ13P).* Some visitors even implemented their practical learning from greenways into daily life: *"Do you remember the pet toilet on greenways you showed me last time? As an administrative worker in our community, I proposed the idea of installing pet toilets to address the many complaints about dog wastes. I feel very proud that my proposal was adopted" (SZ08P).*

(Insert Figure 10 about here)

Participants also reported an increase of pro-environmental behaviors in their daily lives due to the greenway experience. The first specific action could be educating their children. People connected the greenway experience with children's school learning and cultivated their good habit of saving and protecting water: *"On greenways, we taught the kids to protect the environment we live in. They got to know the circulation of water and became aware the importance of protecting the water. If the water were contaminated, we would be polluted by the contamination while drinking the water" (SZ08P).* Meanwhile, some participants became concerned about environmental clean-up in the public places of their

lives. For instance, some participants reduced their littering action outside and cleaned up noticeable trash: *"I picked up the visible trash around home sometimes because I want to keep the environment clean and comfortable as on greenways" (GZ04P).* Furthermore, participants learned from other greenway visitors to teach persons to be eco-friendly: *"When I saw some people litter, I told them not to do that. Those persons always felt shame and picked up the rubbish by themselves. Because I was also taught by others at my early years' cycling on greenways" (HZ26P).* In addition, there are participants becoming eco-friendly to take more public transportations, like cycling or walking instead of taxis: *"Because every time when I went to greenways, I walked or cycled. I got fun of that. So, I had less preferences on taxis. Sometimes I just want to walk or cycle for a while (GZ12P).*

The environmental concern raised from nature appreciation and social learning for pastoral life over the whole greenway experience facilitated the visitors to make their home places comfortable through greening the physical environment.

Renew human-environment connections

The social and environmental learning on the basis of greenway experiences also mean new human-environmental relationships which promoted participants to renew their connections to environment. Participants reported that they followed more greenway development and became more aware of environment management from news and government policies. Some showed more concern on greenways and would like further information about them. Still others kept an eye on greenway signs when walking or cycling in daily life: *"After the trip, I went to Shunde and found signs for greenways there. They are clearer than Liwan Greenway we visited last time" (GZ11P).*

Participants changed their travel patterns after greenway visits to appreciate local pro-environmental involvements instead of conspicuous consumption for remote destinations. For some participants, greenways reduced their needs or frequencies for long-haul travel because

they found the experience to those destinations and to greenways are similar to each other: *"I have traveled to different places before. But now I do not have desire to do that. Cycling on greenways is enough for me to take a rest and at the same time to keep healthy" (GZ11O).* Some people turned to enjoy slow-pace activities over trips after greenway visits: *"Since we get used to the greenway trips, we just like to stay in some place like Qinglv Road even we travelled a long distance from Xi'an. Here, we can enjoy ourselves and appreciate the surrounding beauty" (ZH17O).* Getting close to nature is another change regarding travel patterns based on greenway experiences. People appreciated nature and traveled to places in nature: *"I found some changes. I like the natural beauty now so that I prefer travelling to places with natural sceneries" (SZ18P).* Both the increasing concern for greenways and changes in personal travel patterns illustrated place-making at home to achieve human-environment harmony as a routine part of their daily life.

Behavioral outcomes above illustrated participants' place-making upon return home. Specifically, participants constructed an ideal self, improved their physical home environment and renewed their self-environment connections in ways that adjusted the meanings of their home places to be environmentally friendly.

The process from meaning-making on-site to self-development and place-making upon return home was traced. The evidence supported the EEL model (Figure 11) that reflects a life-long learning cycle between greenway experience and human-environment relationships. It shows the interplay amongst greenway experiences, visitors and place. People appreciated the natural landscape, the built environments and the human interaction on greenways so as to develop concern for self, environment and one's larger community of nature and humans. This increased awareness of self-in-place not only imposed feedback on future revisits, but more importantly, stimulated place-making practices upon return home in

the form of pro-environmental behaviors. It signifies the extension of individual experience influence to the aggregate experience-human-place connections.

(Insert Figure 11 about here)

5. Discussion and conclusion

This investigation of greenway visitors empirically supported the EEL model (see as Figure 11) in terms of connecting recreation experiences, visitors' learning, and visits to greenways. Compared to the EE model, the EEL framework extends the learning scope of recreation experience to place-making at home. Specifically, the EEL model expands the influences of recreation experience from individual experience feedback (or the previous circle of motivation – activities – evaluation) to the larger sphere of feedback that includes human changes upon return home inclusive of meaning-making, self-development, and place-making (see Figure 11), thereby enriching the social meanings of recreation experience. Individuals not only reconstructed their recreation motivations through their lived experiences (Marschall, Granquist, & Burns, 2017), but further changed their self-concepts to (re)make their home places. This meaning expansion of recreation experience sheds light on critical needs to explore the enduring relationships between outdoor space and home environment.

The present EEL model goes beyond on-site learning to demonstrate a systematic change of social values regarding home environment upon greenway experience. The natural, built, and human environments on greenways encouraged people to develop positive self-constructs, ecological awareness and pastoral urban life environs. Although off-site benefits including self-improvement is not a new topic in recreation (Guo, Smith, Moore, & Schultz, 2017), this study suggested that such transformations were linked to a reconstruction of their place identities, with many referencing connections of their greenway activities to their self-identity and needs to "green" their home environments. To fulfil this new place identity and

social values, individuals take actions to (re)make their home place in an environmentally friendly way, including the creation of an ideal self, greening their physical home environment, and revising their self-environment connections. Stated differently, the increased exposure to a green natural environment along the greenway led participants to "bring the green back home."

The enduring effects of recreation experience that the present EEL model highlights actually reflect the merits of greenways being accessible for environmental education. With greenways functioning as a transect across a large swath of urban areas, they have potential to influence a large portion of a city's residents, particularly compared to parks, plazas, or other patches of open space (Seydewitz & Munizaga, 2016). Future research could explore the sociological significance of greenways on basis of this EEL model, particularly its potential to encourage pro-environmental behaviors and sustainable tourism both on-site and back home over time. Notably, this study also noticed a potential decreased learning effect in repeated visitors that deserves further examination.

Locating the issue in a Chinese context, the EEL model broadens the applicability of a recreation theoretical framework into a country with development patterns more densely populated with less green space than western counterparts in which the majority of recreation and leisure research has taken place. China has 59% population living in modernizing cities surrounded with high-rise buildings (China Tourism Academy, 2017). Natural features and open landscapes are comparatively rare within such cities. Before the greenway movement in China, the per capita urban public recreational green space was 8.98 m^2 by 2007, dramatically lower than the global level of 60 m^2 defined by the United Nations Environment Programme (Li & Wang, 2014). In a seeming contradiction of place identity, a greenway network has potential to reflect elements of a pastoral urban life and implies a sustainable strategy for urban development within a Chinese context. Moreover, greenway projects in

China were initiated for tourism purposes, while in western countries, greenways are largely constructed for public leisure of urban residents (Dawe, 1996). Whether these intentions make a difference regarding learning processes of visitors deserves further explorations to appropriately justify and understand roles of recreational and park resources development.

Several practical implications for greenway planners and managers should also be highlighted with the present study. As part of a rationale for development of natural environments and provisions of outdoor space, managers could take full advantage of the effects of recreation experience on human development. Connecting greenway development to urban planning principles of sustainability and enhancement of urban greening could inspire a democratized chain of events. Greenway experiences have consequences for individuals to green their home places, which in aggregate across greenway users could lead to substantial benefits related to urban greening – better air quality, enhanced mental well-being, reduced stress in daily life, and increased physical health. Although these latter qualities were not directly tested in this study, activities related to greenways have been associated with such benefits (Wolch et al., 2014).

To conclude, this paper explored enduring effects of recreation experience on human development by following actual behavioral changes of greenway visitors upon return home. The present study makes contributions to recreation experience by highlighting visitor learning and home place-making as life-long benefits of greenway experience. Given the distinct cultural context, the qualitative approach used herein was appropriate and led to theoretical contributions that extended a widely used recreation experience framework to include self-development and place-making at home. The development of the EEL model provides direct connections to ways in which urban residents can be part of strategies to enhance urban greening and build more sustainable living environments.

Although use of participant photography in a two-step interview process was a strength of this research, it also may have introduced limitations. During data collection process, the photos provided may not always be the most representative ones. The themes in photos were also occasionally implicit given the lack of any primary feature or multiple attributes that could reflect a desirable meaning. Thus, other methods could be adapted for improvements. Moreover, the changes over a time span greater than one month could provide further insight to life-long impacts of greenways. Therefore, future studies can perform longitudinal investigations of the same group of people for behavioral changes over time. Additionally, this study identified mainly positive outcomes of the greenway experience at the early stage of greenway development. The potential negative side that has been suggested such as environmental pollution due to trash leftover from visitors, gentrification of nearby neighborhoods, rise of property values and displacement of long-time residents, to name but a few (Crompton & Nicholls, 2019), deserves future research attention.

Appendix: Data Analysis Procedures

(Insert Appendix Table here)

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