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Successful aging and leisure environment: a comparative study of urban and rural areas in Taiwan

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Abstract

Recently, the issue of health in the elderly has drawn a great deal of attention worldwide, and there are more and more people devoting themselves to the field of the elderly. Since the elderly have a better and healthier life by participating in leisure activities, the purpose of this study was to analyze the leisure environments and find the successful aging state of the elderly, and determine the relationship between leisure environments and the healthy state of the elderly. Methods used in this study included semi-structured interviews, non-participant observation, and content analysis. Furthermore, to investigate different environments for the elderly, this study selected the Banciao District as the sample of an urban community and Sigang District as the sample of a rural community. The study collected data on fourteen elderly people engaged in leisure activities and eleven leaders from a local government as the subjects. The conclusions of the study were as follows: 1) keeping a healthy state might enable the elderly to reach a state of successful aging. 2) The results showed different leisure environments in urban and rural areas. 3) The leisure environment influences the elderly in the degree to which they participate in activities. Engaging in leisure activities also helps the elderly age successfully.

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I. Introduction

The concept of health embraces various aspects of positive adaptation in the latter stages of life. However, we usually pay more attention to morbidity and mortality or the state of bodily functions (Tsai, 2005). The World Health Organization (1993) defined quality of life as “a broad ranging concept, incorporating in a complex way a person’s physical health, psychological state, level of independence, social relationships, personal beliefs and relationship to salient features of the environment,” giving rise to the concept of successful aging. In this trend, the model of

successful aging that was constructed by Rowe and Kahn (1997) has been repeatedly spread. What is the model of successful aging? It describes the health states of aging for the elderly; including avoiding disease and disability (physical health), maintaining high cognitive and physical functions (mental and cognitive health), and engagement with life (social relationships). All three terms are related to each other and the relationship among them is to some extent hierarchical. Only by combining these three ideas can the concept of successful aging be fully represented. According to past studies,

taking part in leisure activities is the crucial factor in enabling the elderly to age successfully (Chu, 2004; Lin, 2004; Yang, 2006; He, 2008).

In order to help the elderly to age successfully, Bammel & Burrus-Bammel (1999) pointed out that the elderly should invest more time in their leisure activities, which offer them more chances to socialize, become close to nature, exercise, and learn. Hence, solving the issues in aging successfully and adaptation in life by activities becomes important for the elderly, which would force them to re-examine their self-value. In terms of leisure behaviors from the physical, mental, and social aspects, the elderly are more sensitive to environmental changes, and the environment provides space for various leisure activities while presenting different demands and external stimuli (Hooyman & Kiyak, 2003). Creating optimal leisure environments to help the elderly to have a quality life are urgent issues in Taiwan. However, their demands previously did not get much attention; therefore, analyzing the leisure environments for the elderly is an important issue.

Edginton, et al. (1998) came up with the concept that leisure environments include social, physical, and natural dimensions. Social environment describes social relationships and interaction, such as special events and festivals inside the community. Physical environment provides man-made and constructed facilities for activities, such as a fitness center, and parks. Natural environment entails the natural surroundings for leisure activities, such as the ocean, rivers and mountains. Since different leisure environments supply different leisure resources for the elderly, primary focus in this study is the phenomena of leisure environments in both urban and rural areas.

With the rapid increase in elderly population, many countries are taking this

problem seriously. The aging indicator of society showed that when 7% of the population in a society is elderly, it is called an aging society, 14% is referred to as an aged society and 20% is described as a super aged society. In Japan, the percentage of population over 65 years old is now 22.68%, and the percentage will reach 29.7% by 2025. A similar situation can be found in Taiwan, where the population over 65 years old now is 10.8% and by 2025, the population 65 years old or older will reach 20% (World Health Organization, 2010). The Taiwanese government estimates that the percentage of the whole population of the elderly will reach 14% in 2017, and will go up to 20% in 2025. The schedule of aging indicator is increasing dramatically. In considering the potentially huge need for this age group, many researchers have devoted themselves to gerontology, and are making an effort to promote wellness for the elderly around the world.

This study attempts to understand how the elderly in both urban and rural areas age in good physical, mental health and social relationships. Secondly, according to the idea of leisure environments (including physical, social, and natural environment), the study strives to determine what leisure environments are provided for the elderly in urban and rural areas in Taiwan. Finally, to provide a practical study to examine how the environment influences the elderly, it attempts to find out the relationships between the leisure environments and successful aging in urban and rural areas. Studies in Taiwan that discussed about the concepts of successful aging firstly came out in 1995; 24 master and doctor theses are found in related to this area; 17 of them are quantitative researches (NDLTD, 2011). Most of these previous researches (Hsu and Chang, 2004; He, 2007; Lin, 2004; Rowe and Kahn, 1997; Tsai, 2005; Tate, Lah and Cuddy, 2003) solely discussed and

examined the definition of successful aging by questionnaire, and only gave the recommendation of pursuing leisure activities. They rarely discussed how the elderly present their leisure behaviors while engaging in activities, and compare the different status of successful aging in both urban and rural areas. In our study, we took a step further in examining how they reach a state of successful aging through leisure activities. Other than leisure activities, the leisure environment is usually neglected in previous studies, especially when dealing with the resources provided by government organizations in urban and rural areas. Our contribution thus is in discussing the relationship between different leisure environments and successful aging, and providing solid examples to understand the different scenario of the elderly and successful aging in the urban and rural areas in Taiwan.

II. Methodology

1. Study area

Taiwan currently has five direct-controlled municipalities; New Taipei City (former Taipei County) and Tainan City (former Tainan City and Tainan County) are two of them. Each direct-controlled municipality is followed by administrative levels of district/town and village/community. In this study, Banciao District (New Taipei City) and Sigang District (Tainan City) were selected as the samples to represent the urban and rural communities in Taiwan respectively.

2. Banciao District

New Taipei City located in the north of Taiwan, has the largest population on the island. Banciao District, with a population of 554,165 and which serves as the administrative center for the city (with city hall and most government branches), was selected as a study site for an urban area. It has very convenient and multiple kinds of

transportation, different types of neighborhood parks, and is also a green city. Abundant leisure resources can be found here. In addition, the percentage of population of the elderly is 8.09% (Ministry of Interior of Taiwan, 2011), which met the standard for an aging society (7%).

3. Sigang District

Tainan City located in south Taiwan, was the first city in Taiwan to build “an elder care center”. There are now 275 elder care centers around the country achieving the first goal of building an elder care center for each community on the island. There are 24,797 people in Sigang District, and the geographically centralized location is good for the elderly living there, and the percentage of population of the elderly there is 18.22% (Ministry of Interior of Taiwan, 2011), which met the standard of an aged society (14%) .

4. Research method

This study was executed by field observation and in-depth interviews from January to April, 2009. Field observation consisted mainly of collecting leisure information on facilities, equipment, activities, and natural environment through camera and notes. Next, in-depth interviews were conducted with 11 leaders from local governments (**Table 1**) and 14 elderly people engaged in leisure activities and recommended by leaders as interviewees (**Table 2**). In order to understand how the leisure resources delivered for the elderly from top-down level of government and organizations, this study recruited the interviewees from central government, local government, to nonprofit organizations (NPOs) in the community. The NPOs in community provide different leisure activities for the elderly residents.

By utilizing the method of purposive

sampling, this study chose representative interviewees among these groups. After interviewing the local leaderships, 2 to 3 elderly people were suggested by each leader, but some of the elderly refused to be interviewed. We later used the method of snowball sampling to get more interviewees, which means that interviewees are introduced by each other (Suzuki, 2007). The guideline for suggested interview list is the frequency of actively leisure activities participation. Furthermore, interviewees in most previous researches

are around 10 to 20 people (Chang, 2009; Cheng, 2011; Hou, 2010 ; Liu, 2011; Tseng, 2010). According to the collected opinions, we thus put them into categories with different ideas. These core ideas include fitness health, happiness, and intrapersonal relationship and so on, which all reflect the characteristics of successful aging. These results are considered with the greatest explanatory power, and a theory is saturated when it is stable in the face of new data and rich in detail (Pandit, 1996).

Table 1. Background of local leadership interviewees

Numbers (n = 11)		Position
Urban area	5 subjects from government organizations and local leadership (neighborhood chiefs, leaders of NPOs).	1. Central government (Banciao B)
		2. Local leadership (Banciao A)
		3. Evergreen college (Banciao E)
		4. Association's leader (Banciao D)
		5. Club's supervisor (Banciao C)
Rural area	6 subjects from government organizations and local leadership (neighborhood chiefs, leaders of NPOs).	1. Central government (Sigang E, Sigang F)
		2. Local leaderships (Sigang A, Sigang D)
		3. Association's leader (Sigang B)
		4. Community center (Sigang C)

Table 2. Background of elderly interviewees

Elderly (n = 14)		Information
Urban area	6 subjects engaged in leisure activities.	1. 80yrs, female elderly (Banciao 1)
		2. 70yrs, female elderly (Banciao 2)
		3. 72yrs, female elderly (Banciao 3)
		4. 70yrs, female elderly (Banciao 4)
		5. 72yrs, male elderly (Banciao 5)
		6. 73yrs, male elderly (Banciao 6)
Rural area	8 subjects engaged in leisure activities.	1. 74yrs, female elderly (Sigang 1)
		2. 68yrs, male elderly (Sigang 2)
		3. 66yrs, female elderly (Sigang 3)
		4. 80yrs, male elderly (Sigang 4)
		5. 70yrs, female elderly (Sigang 5)
		6. 81yrs, male elderly (Sigang 6)
		7. 73yrs, male elderly (Sigang 7)
		8. 65yrs, female elderly (Sigang 8)

5. Instruments

The guideline of the interview was sent

to interviewees before the in-depth interview. There were two kinds of

guidelines, one for the elderly, and the other for local leadership. The main purposes of the guidelines were to 1) understand what kinds of activities the elderly engage in and what state of successful aging they were in, and 2) comprehend what leisure environments the government provided for the elderly.

III. Results and discussion

1. State of successful aging

1) Physical health

Rowe and Kahn (1997) mentioned that the aging syndrome is usually related to chronic diseases. Age, higher body mass index, lower extremity movements, and diet are all potential factors that cause chronic disease. The elderly might realize that they were no longer young, however, keeping active can reduce the possibility of getting sick.

Although chronic disease and biological aging might bring on uncomfortable and inconvenient conditions for the elderly, this is not always the case in terms of self-rated health condition. Some interviewees might not objectively be considered healthy because of their chronic diseases, but they still consider themselves as healthy.

The data obtained from the interviews

displayed that most of the elderly who live in urban areas suffered from chronic diseases. They usually had knowledge about the disease, and knew how to cope with them. Hence, they tended to possess more positive attitude when facing aging and related diseases. Meanwhile, they would try hard to exercise to keep healthy. As for the elderly in the rural areas, besides chronic diseases, joint problems appeared to be a more common illness. Therefore, their capabilities with more aggressive types of exercises were relatively limited. Maintaining their present state of health is what they usually believed they should do. In short, the elderly in both areas made an effort to do exercise for their health, but they had slightly different attitudes when facing their health situation. Sometimes the elderly recognized that not only did the aging process lead to a decline in physiological functions, but it also became a psychological burden for their family. Therefore, the elderly in urban or rural areas tried their best to stay healthy. This point is consistent with those of Lo (2005). To conclude, all people can change their attitude toward aging all the time, and through their choice and efforts, they can move along the road of successful aging.

Sigang1: I think I am healthier than any one. If you do not believe this, you can look at my appearance or status of health... It is good (health), isn't it?... That is because I exercise all the time...

Banciao1: ... I go out to forget the disease, and being a volunteer lets me forget about the disease. I think it is not too late to learn something new. Thus, I would live happier.

Banciao5: ... oh ... you say I am healthy, am I? I get sick sometimes... hahaha... and if you say I am not healthy, well... It is not true. I can speak loudly. If I say I am sick, other people will think it is a joke... hahaha...

Banciao3: We should take care of ourselves and not burden our children. That is the best thing for them. We take care of ourselves, and I also talk to my children and tell them that it is their good fortune if I take care of myself...

Sigang2: I am not healthy, so I do the exercise to have good health...

Sigang4: We do not want to be old and aging, but it is a natural phenomenon. We cannot change it at all... when you are aging, and you are not good anymore... no way!

2) Mental and cognitive health

When discussing the concept of successful aging, mental and cognitive health is another important factor that cannot be ignored. The higher self-efficacy the elderly have, the higher their mental and cognitive ability becomes (Rowe & Kahn, 1997). Emotional support from their family and friends maintains their healthy body functions.

In mental and cognitive health from the interview, the elderly who live in urban areas keep a state of successful aging under five conditions; 1) relieving stress; 2) having a sense of wellness; 3) seeking spirituality and emotional solace in religion; 4) benefiting from maintaining self-efficacy; and 5) having a positive attitude toward life, which would lead the elderly to having better mental health. On the other hand, the elderly who live in rural areas keep a state of successful aging under five conditions: 1) obtaining a sense of delight and happiness; 2) not worrying about finances; 3) maintaining self-efficacy and being positive; 4) gaining new

information; and 5) relieving stress so that may lead the elderly to a much better mental attitude. To conclude, they feel much better when they feel satisfied with life, forget any unhappy things, and accept biologic aging with no great qualms.

With the definition of successful aging, Crowther et al. (2002) put emphasis on the importance of positive spirituality, because of the positive outcome of a mixture of religion and spirituality. A discussion about health can no longer be one-dimensional. Both physical and mental health play important roles in health (Hsu & Chang, 2004). Chen (2003) also commented on mental health. When the elderly played a positive, optimistic, independent role in society, they better adapt to aging. In addition, older people place much more emphasis on a sense of wellness, lifestyle, worries, and happiness in their later life (Tate et al., 2003). Moreover, they also strive to dedicate themselves to absorbing knowledge and have interests and life goals in order to enrich their mind (Lin, 2004).

Banciao2: ... Yeah... I remind myself to escape from pressures and worries. Whether you have money or not, you just live in your style, and let by-gones be by-gones. Life will go on, so do not worry about anything. I live at ease and worry about nothing. I am just in a good mood... that is my way...

Banciao4: ... Whether you have good or bad luck or not, it is not defined by others. The most important thing is your feelings. Your attitude will change your life. If you are optimistic, and do not make a fuss over everything, I think you will live happier. A moment's decision can determine whether or not things turn out as you wish. I just live in a delightful mood.

Banciao1: Some people say that life is like a game of cards, and that you have to play with the hand that fate has dealt you. Living or dying is determined by Buddha. If he wants us to go back (to heaven), we should follow his decision. Thus, I do not worry or think about anything, because the Buddha has already made up his mind.

Sigang5: ... Yeah... I have nothing to worry about. I do not have any chronic diseases, and spend most of my time walking to the village care center in the neighborhood. I have filial children and grandchildren. Everything is good, and nothing to worry about. That is ok, ...

Sigang6: ... Why shouldn't I be satisfied? The government implemented the old age pensions for us, the old. Thus, I worry about nothing else. I just care about food, and no more. As the days pass, everyday is the same, nothing special.

3) Healthy Social relationships

It is important for the elderly to have best/old friends and particularly those with similar backgrounds and ages, because they can communicate well with each other (Huang, 1993). Also, an interpersonal network that comes from family and enjoying their company would fill the emptiness (He, 2007).

From the results of the interview, the elderly who live in urban areas keep a state of successful aging under four conditions; 1) support from their relatives; 2) getting respect and concern from their peers; 3) having goals and expectations in life; and 4) keeping active with productive activities, which may improve their social network. The elderly who live in rural areas maintain a state of successful aging under five conditions: 1) having emotional support from their family and relatives; 2) having their own social relationships; 3) having goals and expectations in life; 4) having self-identity; and 5) participating in active

and productive activities that contribute to society, and would lead them toward aging smoothly in a socially healthy way. Above all, the elderly hope to have a quality of life and understand the importance of self-value. Furthermore, they reach a state of ego identity in the latter stages of life.

It is much more important to give emotional and other support than to receive support from others, because the giving process decreases the degree of sorrow from their lives (Rowe & Kahn, 1999). The elderly obtain many advantages through engaging in activity, including positive feedback and flexibility from role-changes. They benefit in having social networks and aging actively from leisure activity. Furthermore, there are two factors that support people in a healthy life — emotional and functional social support. Moreover, each support has a positive influence on health for the elderly (Rowe & Kahn, 1999).

Banciao2: All of my senior friends are nice people... We are just like relatives sometimes. And we are similar ages, so we have a good friendship with each other. We usually go for lunch or go out together... All of us are good friends, and we always stay together whether going out or eating out... we are very close to each other...

Banciao6: I feel bored if I go mountain climbing alone... I always go (climbing) with my friends. All of us are friends and neighbors. We know each other very well...

Banciao3: ... I still have a dream... hahaha... I dream of climbing the highest mountain again (sometime during the rest of my life)...

Sigang5: I am (satisfied)... If I am not satisfied with everything, I would not come here (village care center)... The mayor of the village is diligent and hardworking, and his wife treats us like their family... He could not do all things by himself, so he cooperates with our volunteers. He needs us to promote activities in the community... I feel much better if I stay here (village care center)... hahaha... I have (volunteer) things to do and friends to accompany me here... I live alone, so I always come here...

Banciao1: I can do things as I want, and my son and daughter in law support me. But I have to call them before I go out. They would worry about me if I did not (make a call)... ... Oh~ I like to come here (community center)! Everyone respects me, and calls me "grandmother". Hahaha...

Sigang1: I am glad cause I can be a volunteer here (village care center)... If I am able to do anything, I will do my best. If there is anything with which we can help, we will do it...

As aforementioned, the elderly have different interpretations toward aging. In this study, half of the elderly (Banciao 1, 3, 4, and 5, and Sigang 1, 3, 5, 6, and 8) could be examples of reaching a state of successful aging, mainly because their physical, mental, and social conditions are all evaluated as healthy. Even though one of the interviewees felt good about his physical health and he also has friends to do sports activities together, he worries about finances and feels frustrated while talking about the topic of stress. Because he held a more pessimistic attitude, he could not be considered as aging successfully.

2. Leisure environment in urban and rural areas

This section looked at two dimensions; one focused on the leisure resources from what the environment supplies, while the other examined how the elderly utilize the resources. In each leisure environment (social, physical, and natural environment), two different areas (urban and rural area) and three other elements will be discussed as follows, including resources offered, access to resources, and the unique leisure resources that environment or government provide.

1) Social environment

There are differences in both areas. Generally speaking, the social environment in urban areas indicates multi-faced lifestyles and emphasis on leisure life, and presents an atmosphere of short-term and anonymous interaction with neighbors. It also displays the commercial culture of

consumption to meet the needs of individuals (Tsai, 2000; Zhang, 2001). The results of this study in urban area manifested various learning courses, clubs, artistic, and cultural events, and chances for travelling, so the elderly had multiple choices for their favorite activities and felt free to engage in activities. Because there is a limitation of funding for non-governmental organizations (NGOs), and the commercial culture is popular, the elderly accept the idea of paying a “user’s fee”, and play a leading role in leisure activity.

When it comes to social environments in rural areas, the residents tend to be intimate with nature, share a collective conscience of the community, live a simple life, and stay with traditional culture and life (Tsai, 2003). The rural area of this study manifested that most of the leisure experiences occurred in casual surroundings (Edginton et al., 2002). The results showed that leisure programmers from the NPOs conducted activities free of charge and they were practical in nature. In the countryside, the elderly tended to engage in the activities and accept new information passively. Moreover, the few opportunities offered by the government could not meet all their needs, so leisure resources became difficult for the elderly to access and enjoy in their daily lives. But with the local government’s support on sports, the environment is filled with different leisure styles, such as a croquet court and village care center. The elderly felt a sense of happiness and self-realization through engaging in activities.

Banciao A: ... We (Senior Club) hold events for the seniors every year in Shinmin village... all participants are members of the Senior Club, and they have to pay some fee to be a member of the club surely... we hold events like fun competitions or sports games especially in May or June...

Banciao C: ... most of our activities are related to policies on elderly’s social welfare, and we hold them from April to May and offer activities in October and November...

Sigang C: ... we do not have access to public land, so we cannot use the land to arrange activities for free... thanks to the festival, we can apply for funds from the government, and we can hold that event. If we do not (have funds to hold activities)... we cannot be helped in rural areas, no way!!...

Banciao A: ...oh... we just have these (activities) normally. If we want to hold something creatively in the future, it is impossible to hold it without (club) member's support (vote)... we cannot decide by ourselves...

Sigang A: ...the elderly are unwilling to learn new things... and they attend activities in a passive way... (programmers) must offer some incentives for the elderly, or they would not engage in...

Banciao E: ...now we (Senior College) have five categories of classes, for example, computer class, Chi-kung class, language (Japanese) class, art class, and Karaoke class...

Sigang D: ... we have slow pitch Softball and Croquet... some of the elderly play croquet everyday...

The results of literature review, observation, and interviews displayed similarities and differences both in urban and rural areas. Although constricted by funding, both of the local governments provided celebrative ceremonies and festivals for the elderly. NGOs conducted most activities for the elderly. The leisure activities of the elderly showed differences in the resources offered. In urban areas, they had many options and took the initiative to engage in activities. On the contrary, due to a lack of financial support, multiple types of leisure activities, and the concept of leisure, the elderly tended to be sedentary in rural areas. From the unique resources presented, the study revealed differences between urban and rural areas. Here, the unique resources indicated not only the environment provided for the elderly, but also the activities or facilities that the government especially supplied for them. In an urban area, the social environment provided multiple and diverse types of activities. As for the rural local government, they specifically promoted pétanque, a sport which is not usually seen in Taiwan. And with the offering of this unique resource, the elderly can thus have the chance to enjoy this relatively new sport.

2) Physical environment

In urban areas, the accessibility, distance, and range of services are important factors influencing the elderly to engage in activity, and the facilities located in the community were used frequently. In addition, the facilities located in the broader region provided multiple learning spaces for them. The results of the physical environment showed that distance influenced the elderly on using facilities and attending activities in urban areas. Moreover, schools and neighborhood parks located in the community were the places where they most loved to go. Meanwhile, we found some other results in consistent with the findings of Kung et al. (2003). The elderly tended to enjoy open public spaces in the broader region facilities, and having a sense of community and identification with the local community, these might be main factors for the elderly to engage in activities on a continuous basis.

In rural areas, most of the leisure experience happened in the elder center and senior clubs. The elderly might feel inconvenience when using facilities. The results of the physical environment showed that transportation has a major influence for using leisure facilities in rural areas. Furthermore, health promotion is the most commonly seen feature in the activities

design. Another feature would be multiple purpose usage of the facility, in order to maximize its efficiency. These facilities help the elderly to obtain physical, mental and social health. The result showed that

the elderly were not only fond of dropping by the care center in the community intentionally, but also developed a connective interrelationship between an individual and leisure environment.

Banciao C: ... as I know, general clubs cannot be subsidized by the government, only some of the special clubs can. There are thousands of clubs in New Taipei City... you know... not all of them can get financial support...

Banciao C: ... there is an activity center affiliated with Fu-de temple nearby, and this is also a place where the elderly love to gather together...

Banciao C: ... the elderly engage in folk dance or Tai-chi chuan clubs... many of them join those kinds of clubs as I know... and they engage in activities in parks, stadium, or vacant lots... due to the space, big events and performances are held in stadiums...

Sigang 2: ... oh... when I am free, I just come here (an elder care center)...

Sigang 1: ... lots of elderly people go to Shu-wang-gong (a place in front of temple) to do Chi-kung together in the morning (at 5 a.m.), and we are just one of several groups to do (Chi-kung)... after that, I will go to play Croquet (in an elder care center).

The results displayed similarities and differences both in urban and rural areas. The urban area environment was filled with various and highly concentrated facilities and resources were supplied for them. However, there were few special facilities in rural areas. In spite of this situation, both local government influenced leisure environments by offering resources, so leisure facilities tend to be densely distributed in one particular spot. From the channel of providing aspect, due to biological aging, the elderly have poor mobility, so the convenience and distance from the elderly's house to the facility became an influential factor in attending leisure activities. They tend to use nearby facilities in the community. From the unique resources presented, with gradual attention to the needs of the elderly, the government started to set up facilities that were specially designed for them. Above all, whether in resources supplied, channel provided, or unique resources aspects, the government organization mainly provided the leisure physical environment.

3) Natural environment

The surrounding nature includes both

natural and artificial landscapes. The results showed that the scenery is full of artificial cultivation and greenification. In order to access nature, the elderly in urban areas usually engage in leisure activities in green places. Meanwhile, the climate and location are important factors that influence their closeness to the natural environment so they can reduce external stimuli and live a high quality of life. The results of our study corresponded with existing studies (Houhg, 1998; Zhang, 2001; Chen, 2005).

With respect to the natural environment in the countryside, the elderly not only treated nature as part of their everyday lives, but also had a close connection with nature. They were easily able to be close to their natural surroundings for living or recreation. However, due to urbanization, the landscape in the countryside is changing gradually. These results indicated that geographic locations influenced the elderly on their social networks. Moreover, they got more chances to exercise and obtain fitness by walking or bicycling to their farms. The results also corresponded to past studies (Tsai, 2003; Tsai, 2006).

Banciao C: ... the weather is so bad for the elderly... April to May and October to November are better for them... you know... otherwise it is too cold for them to attend activities outdoor... we should consider their health situation while holding the activities; besides, the most important thing is safety! ... Avoid falling ...

Sigang A: ... (activities are held) almost always in April... they are unable to stand the hot season (while tour)... and (annual) tour is held on 15th, March this year... it is much earlier (than in the past)...

Banciao C: ... we tend to program leisure activities as ecotourism or outdoors where the elderly can walk at ease, for example, the trail... or some of them love to go mountain climbing, and we program it for them ...

Sigang E: ... this (living amidst flowers and trees) improves the whole community's image... both Cgubgaan and Sigang villages are successful in beautifying the streets and environments ... they have their own clever ideas for decoration...

The results in urban and rural areas displayed that geographic locations and positions play a major part in influencing the elderly on engaging in activities. The central part of community is usually a distribution center, and most facilities and activities are held there. Also the best walking distance for the elderly to attend the leisure activities is within 20 minutes distance (Chen, 2008; Li and Lin, 2010), the geo-central located usually within that distance, which would largely increase the elderly's motivation. These reasons make the central of community usually become the place for elderly gathering.

External environmental factors also influence on the healthy situation of the elderly. Temperature and precipitation are the key factors that influence leisure activities. Lots of activities are held in warm spring and rainless autumn. From the unique resources presented, the elderly loved to access nature and go strolling in natural environment; moreover, they gradually adapted to manmade surroundings whether in urban or rural area. As a result, there was no difference between the two areas in the elderly's interaction with the natural environment. Generally speaking, although the urban area has much fewer natural surroundings, it still meets the leisure needs of the elderly

by supplying green areas for them. In order to raise the image of the community, the local governments placed much more emphasis on beautifying and greenifying the villages, so the rural area is mostly filled with plants now.

To sum up, after comparing individual leisure environments both in urban and rural areas, the local governments had a deep relationship with leisure environments, which they provided for both areas. Whether in urban or rural areas, the elderly suffer the problem of unequal distribution of resources, but the attitude toward participating in and being willing to use leisure environments became the main potential factor that influenced the elderly on using leisure resources within limitations.

3. Analyzing the relationship between leisure environment and successful aging of the elderly

The similarities and differences in urban and rural areas are shown below. The social environment in both areas provided leisure resources for the elderly and provided them with healthy physical, mental and cognitive, and social relationships. Both areas supplied leisure facilities for the elderly and promoted their physical health (**Table3**).

Table 3. Similar characteristics in urban and rural areas

	Social environment	Physical environment	Natural environment
Physical health	Provide sports courses to promote their health.	The distance between their homes and facilities has a great influence on the elderly to engage in activities.	
Mental and cognitive health	Money is the factor that the elderly consider when actively engaging in activities.		
Healthy Social relationships	Increased opportunities for them to contact others, make a contribution to society, and fill in the emptiness in their lives.		

The conspicuous differences are shown in **Table 4**. In the dimension of social environment, the urban area furnished the elderly with abundant activities and brought a positive influence on their mental and cognitive health. In contrast, the benefit provided by the social environment influences the elderly to be happy in rural areas. In the dimension of physical environment, these two areas supplied distinct types of leisure facilities and equipment, which influenced the elderly's physical, mental and cognitive health, and their social relationships. Finally, in terms of the natural environment, the surroundings had influences on them in different ways. Especially, this study showed no relationship between physical / natural environment and mental/cognitive health in rural areas. According to the

results of field observation, with limited leisure facilities supplied in rural area, the elderly have fewer opportunities to access. Therefore, we suggested that physical environment has no major influence on mental and cognitive health for rural area elderly. Also, since the rural elderly live in natural surroundings which they regard as living environment; most of them perceived mental and cognitive health through living environment, not by natural leisure environment. It was supposed that lacking the concept of leisure might not make the elderly pay attention to what influenced them. Consequently, we assumed that the social environment (leisure activities) is the mainly factor to influence the elderly on their mental and cognitive health, not by facilities or surroundings.

Table 4. Different characteristics in urban and rural areas

		Social environment	Physical environment	Natural environment
Physical health	Urban		Using fitness facilities can enhance their body function.	Climate has an influence on their health conditions and willingness to join activities.
	Rural		Exercises (pétanque, croquet) can reduce the rate of aging and disability.	Farming is the most common way for the elderly to get close to nature, and also benefit their fitness.
Mental and cognitive health	Urban	Helps them to forget about pain, stress and any unhappiness; they also have the chance to learn new things.	Helps them to feel happy, have a sense of identity, and reminiscence about happy memories.	Helps them to relieve stress, bring relaxation and joy, and recover their spirituality.
	Rural	Cheer them up.		
Healthy Social relationships	Urban		A tea corner provides a place for interaction, sharing similar memories, and being at ease.	Improve the relationship and coherence between peers.
	Rural		A community center and temple are distribution centers, where the elderly love to drop in to get support from friends.	Mainly close to natural surroundings and love to gather in community and be familiar with members.

IV. Conclusion and implications

This study has addressed several research purposes, with the aim of understanding how the elderly age in their latter stages of life and analyzing the characteristics of successful aging. This study also has included an investigation of leisure environments in both urban and rural areas. We observed how the elderly interact with the leisure environment, along with their leisure behaviors. Finally, this study has displayed how the phenomena of leisure environment and successful aging appear and how they interweave with each other.

Thus the principal conclusions are suggested as follows.

First of all, if the elderly can maintain good physical, mental health and social relationships, they can age successfully. When it comes to their physical health, having a positive attitude toward disease by self-rated physical health is one of the indicators of successful aging. Having emotional support from relatives and respect from their peers may improve their mental health. The final part of the indicator is to have their social leisure activities and have goals and expectations

for their future life. We thus conclude that the elderly should develop more intrapersonal interaction and contact with others.

Next, there are conspicuous differences between urban and rural areas in leisure environments.

1) Social environment

In urban areas, clubs are the key foundations for providing activities for the elderly, and offer services for members only. Furthermore, the elderly play an active role in choosing activities by themselves. The programmer considers their needs while designing activities. In rural areas, the village care centers are the key to providing activities for the elderly. The elderly play a passive role in choosing activities there. In addition, most of them are not willing to get involved in activity unless the programmer offers some incentives.

2) Physical environment

The urban area tends to provide various types of facilities densely distributed inside the city, and the elderly tend to use public open spaces to engage in activity. The government organizations in rural areas tend to provide unique resources that match the leisure demands of the elderly and they are inclined to do static exercise. The leisure activities are supported by the government, so the elderly can engage in special leisure activities.

3) Natural environment

In urban areas, the elderly usually go to green fields to enjoy nature. Temperature and precipitation are the key factors influencing participation in outdoor activity. In rural areas, due to geographic features, the village center becomes the main stop for the elderly. To avoid rainy and cold weather, activities for the elderly are held mostly in spring. There are still

similarities displayed on resources in this study. NPOs are the key that provide leisure environments for the elderly. In addition, due to a lack of funding, they hold out-reach programs and mostly travel.

Third, leisure environments may influence the elderly in engaging in activities, and are likely to help the elderly reach a state of successful aging. In urban areas, the elderly might choose their favorite leisure activities depending on multiple leisure environments. Their needs for interaction, learning, exercise, and self-realization can be fulfilled in these activities. Meanwhile, they might slow down the speed of aging and age successfully by maintaining high learning ability and adaptability. On the contrary, in rural areas, a highly centralized leisure environment might let the elderly connect with others easily, keep on attending productive activities, improve their self-efficiency, and create social value and identity in the community. Additionally, having the concept of teamwork in mind, friendship, admiration and support from coworkers would help them enjoy a meaningful and independent life. However, resulting from insufficient leisure resources, the elderly who live alone or outside the community might not be able to age smoothly and successfully.

V. Future study

This study investigated and demonstrated the current status of leisure environments and the elderly who aged successfully in Taiwan. However, due to different cultures, the original models of leisure environment and successful aging might not fit the Asian one yet. Further research is necessary to explore the results with other countries in Asia, especially in Japan where there is a super aged society and is filled with abundant leisure resources. Furthermore, there are the continuing needs to establish the model of successful aging toward the

Asian elderly, and develop a suitable and friendly leisure environment (including activities, facilities, and surroundings) for them.

Note:

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