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Research Article

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A Study of Gender Differences in Recreational Activities among the Retired Thai People

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Abstract

The objective of this research was to study the difference of gender in the recreational activities of Thai people in the retirement age. The key variables of this study were payment for the activities, supporting factors, satisfaction in recreation, and benefits in recreational activities. The 394 respondents who joined the Ma-Kham-Wan game in Phetchabun province in 2019 were the sample of this research. The study used the convenience sampling method to collect the questionnaire from them. For the statistical analysis, the researchers employed descriptive statistics and t-test for the data analysis. The research results revealed that (1) the majority of the respondents were Female at 268 persons equal to 68 percent, approximately 80 percent was 61-70 years old, around 60 percent was Bachelor Degree, 55 percent had owned house, about 50 percent of the retired respondents had income between 450 – 750 USD per month and approximately 70 percent of the respondents paid for the recreational activities between 150 – 450 USD per time, (2) the payment for recreational activities was not significantly different between the retired female and male, (3) the financial supporting from their family had statistically significant difference between the retired female and male, but the other supporting variables like traveling and advisory supports were not significantly different between the female and male respondents, (4) the satisfaction factors both physical and psychological satisfactions had a significantly difference between the retired female and male, (5) the perception of the benefit in recreational activities between the female and male was different in the aspect of quality of life, it found that the retired female accepted this point higher than the male, and (6) the physical and stress-reduced benefits from recreational activities were not different between the female and male. The study suggests that the policymakers should promote the recreational activities for the retired Thais around the country both retired females and males. This will help to support the retirement people to have a better life quality and be healthy both physical and psychological aspects. Also, the family of retirement people should focus on their interest and satisfaction in the recreation for a healthy life and support them on benefits from recreational activities.

Keywords: Gender, Recreational Activities, Retired Thai People

1. Introduction

Many countries around the world are facing an aging society. And not only the world society but the ASEAN countries and Thai society are entering an aging society since the elderly population is also over 10 percent (Patcharapan kijpan, 2018). The definition of an "aging society" means a society with a population aged 60 years and over, more than 10 percent of the total population (Department of Older Persons, Ministry of Social Development and Human Security, 2019). Aged people or elderly in foreign countries mean both males and females aged 65 years or over and retired from working (Suwanna Techathirapreeda, 2014). But the elderly in Thailand means Thai people, both males, and females, who aged 60 and older and retired from the routine job (Department of Physical Education, Ministry of Tourism and Sports, 2014; Ritthiron Phumphokhai & Prasopchai Pasunon, 2017; Suwanna Techathirapreeda, 2014). The Thai government has set measures to drive the national agenda on aging society in 2018 to create a good quality of life for Thais in an aging society (Department of Older Persons, Ministry of Social Development and Human Security, 2019). The World Health Organization has proposed a framework for the aging society in the future. To create active aging for the elderly by focusing on healthy life, stability in life, and participation in society. It is considered a way to meet the needs, protection, and creating opportunities for the elderly around the world (Department of Older Persons, Ministry of Social Development and Human Security, 2019). Because of the elderly encountered various physical deterioration such as decreased agility, memory loss, slow decision-making, or lower immunity. Therefore, the elderly or retired people should have physical activities for themselves such as walking, running, swimming, yoga activities. These activities will greatly benefit them (Patcharapan kijpan, 2018; Singh & Kiran, 2014). Recreational activity is the activity for the happiness and life satisfaction of the retired people. Also, recreation activity means an activity that is done voluntarily during free time to have fun, enjoy, calm, and relieve tension. It can make people fun like games or group tourism. The elderly can select recreational activities for themselves to make them feel happy, be healthy, and create life satisfaction. This means the recreation can serve people's needs both physical and psychological needs (Jittraporn Therawat & Thong Khamkerd, 2017). Besides, recreation activities of the elderly create meaning in life, have the opportunity to learn new things in life after retirement and help others in their society (Kim, et al., 2014). However, recreation activities in the elderly should be activities that are not too heavy and can be chosen by oneself according to their needs such as social activities and participation, various merit-making, tourism activities, agricultural tourism or nature tourism, and physical activities (Suwanna Techathirapreeda, 2014; Singh & Kiran, 2014; Toepoel, 2013). Many previous studies have identified populist factors, namely gender, which should study the differences between males and females that affect factors in choosing or responding to research interests. For example, how gender differences will affect the participation of recreation activities. Therefore this research expected to study the recreational activities in the Thai elderly people or retired people focusing on the gender differences in recreational activities. The results from this research can support the Thai government sector to create the policies and plans for Thai retired people and also to serve the private sector for strategic planning for the elderly people to improve both their quality of life and gain the private sector's performance.

2. Research Objective

To study the gender differences, Females and Males, in recreational activities among the elderly or retired people in Thailand focusing on payment, supporting, satisfaction, and benefit view of recreational activities.

3. Literature Review

3.1 Supporting from family

Because the elderly need to have recreational activities for themselves, they need support from family. Many types of activities such as walking, running, swimming, yoga activities can benefit the elderly (Patcharapan kijpan, 2018; Suwanna Techathirapreeda, 2014; Singh & Kiran, 2014). The study of Galenkamp, et al. (2016) found that there were many factors to encourage elderly people to participate in recreation or incentives for participation such as financial support, travel support, the network of friends, physical factor, and psychological factor. This point consistent with the study conducted by Sniadek and Zajadacz (2010) who noted that key factors like demographic, psychological, social, and economic factors, would affect the participation of recreational activities in elderly people.

3.2 Satisfaction

Recreational activity is the activity for happiness and life satisfaction. People can select recreation for themselves to make them feel happy and create life satisfaction. Therefore, recreational activities can serve people's needs both physical and psychological needs (Jittraporn Therawat & Thong Khamkerd, 2017). Research by Gautam, Saito, and Kai (2007) stated that participation in recreational activities positively affected the satisfaction of the elderly. Consistent with Kim, et al. (2014) and Singh and Kiran (2014) research who pointed out that serious recreational activities in the elderly lead to the happiness and satisfaction of the elderly. Also, Watcharin Semamon (2014) stated that there were 3 aspects of satisfaction in recreational activities including Physical satisfaction, Psychological satisfaction, and Place satisfaction. This point related to the study of Suwanna Techathirapreeda (2014) who found that recreational activities in the elderly group help to promote physical and mental health. When the elderly group participates in the recreational activities, that can create the opportunity to learn new things in life, to support others in the society, to enjoy and relieve stress and tension, and to develop emotional and physical refreshment (Kim, et al., 2014; Ritthiron Phumphokhai & Prasopchai Pasunon, 2017; Singh & Kiran, 2014; Sombat Kanchanakit, 2014).

3.3 Benefit View

Benefit views of recreational activities can impact on the elderly people's participation. Many information showed that recreation in the elderly can help improve the quality of life, promote good health for the elderly, help emotional development, promote self-expression, and enhance new experiences to live happily in society (Sombat Kanchanakit, 2014; Ritthiron Phumphokhai & Prasopchai Pasunon, 2017; Gautam, Saito, & Kai, 2007; Kim, et al., 2014; Toepoel, 2013; Singh & Kiran, 2014). The research from Suwanna Techathirapreeda (2014) pointed out that recreational activities in the elderly group were good activities to promote physical and mental health for the elderly or retired people. People can select recreation for themselves to make them feel happy and create life satisfaction. Therefore, recreation can serve people's needs both physical and psychological needs (Jittraporn Therawat & Thong Khamkerd, 2017). The Toepoel (2013) research indicated that leisure activities or recreation of the elderly or retirement age reduced isolation from society and the elderly had a better quality of life due to social benefits such as mental happiness, and stress reduction. According to Gautam, Saito, and Kai (2007) research, participation in recreational activities positively affected the mental health of the elderly. This helped to reduce the stress and anxiety of the elderly. And it also showed that there was a positive relationship between mental health and physical health of the elderly. The research of Kim, et al. (2014) stated that doing serious recreational activities for the elderly would have many benefits including physical health, mental health, and social benefits. Also, it helped to build more self-confidence. Research from Singh and Kiran (2014) found that recreational

activities helped build strength and promote good health, such as reducing stress and anxiety in life, as well as created social opportunities and learned new things in elderly people's lives.

3.4 Gender and Recreational Activities

According to Sniadek and Zajadacz (2010), it found that key factors like demographic and psychological factors would affect the participation of recreational activities in elderly people. The study of Punyakaew, et al. (2019) showed that gender attribution in active aging levels was significantly different between elderly females and males but other factors like age, marital status, education, health status, family status, were not different. Consistent with the study of Ethisan et al. (2017) who found that Physical activity between females and males was significantly different. It showed that Thai females had physical activity higher than Thai males. Also, the study of Sjogren and Stjernberg (2010) summarized that the gender of elderly people was related to recreational activities. It found the difference between elderly females and males in physical activity because many factors were different among them such as financial conditions, marital status, fear of falling, educational level, and smoking habits. The finding pointed out that females were less engaged in outdoor recreational activity than males. This point was consistent with the study conducted by Paillard-Borg, et al. (2009) who found that older females were lower engagement in leisure activities than males.

4. Research Framework

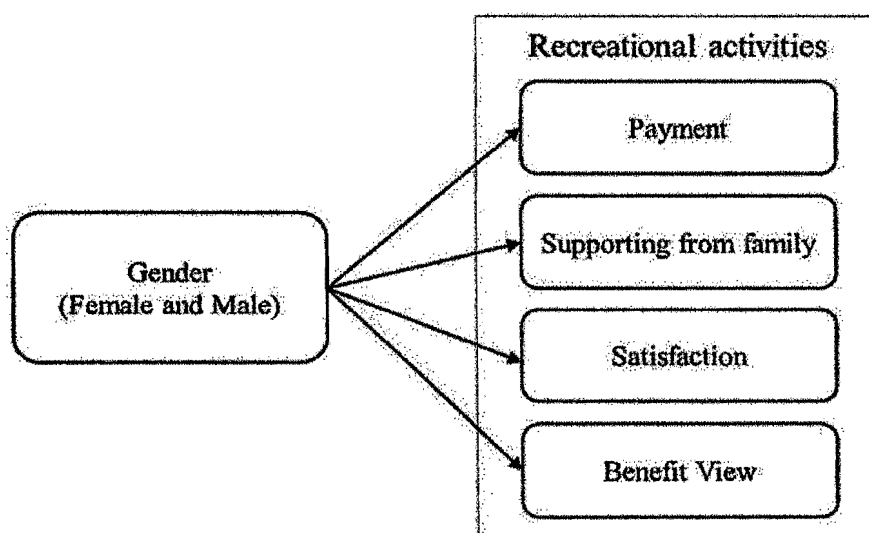


Figure 1: Research framework

5. Research Methodology

5.1 Population and Sample

The population of the research was people who either retired or elderly. This means both Thai men and women aged 60 years and over, according to the definition of the Ministry of Social Development and Human Security (2019). Thailand's statistical data from the National Statistical Office of 2017 showed that 11,312,447 elderly people were in Thailand. The researchers calculated the sample size by using the formula of Cochran (1963) with a 95% confidence level and +/- 5% precision. Therefore, the sample size of this research is 384.

5.2 Research Tool

This research used questionnaires as a research tool. The questionnaires were developed from a review of previous research and relevant literature (shown in Table 1). The questionnaire consisted of two main parts, the first one was the demographic data and the second part was the important variable data which comprised 3 important variables: support, satisfaction, and beneficial aspect of recreation activities. There are 12 questions of the above variables, as shown in Table 1. The research questionnaire was evaluated by three experts by considering the Item-objective congruence (IOC) value. It found that the IOC of every item was more than 0.6. After that, the researchers analyzed the reliability of the questionnaires with Cronbach's Alpha statistics, in which the test value was 0.92. This showed that the questionnaires had a high quality for this research (Hair, et al., 2014).

Table 1: Research questionnaire details (Part 2)

Variables	Items	sources
Support	Consists of 4 items: Financial support, Traveling support, Mental support, and Advisory support	Gautam, Saito, and Kai (2007)
Satisfaction	Consists of 3 items: Physical satisfaction, Psychological satisfaction, and Place satisfaction	Watcharin Semamon (2014)
Benefit view	Consists of 5 items: Physical benefit, Life quality benefit, Psychological benefit, Stress-reduced benefit, and Life value benefit	Kim, Yamada, Heo, and Han (2014)

The researchers collected data from targeted samples during the 13th Sports Competition for the Elderly of Thailand, held in Phetchabun Province in May 2019. Data collection was done using convenient random sampling.

5.3 Research Statistics

This research is a quantitative study. The statistical analysis consisted of (1) the analysis of descriptive statistics including frequency, percentage, mean, standard deviation, skewness, and kurtosis, and (2) the inferential statistical analysis to test the hypothesis of the research including correlation analysis and regression analysis. The researcher used the evaluation criteria of the variable means that divided into five layers, details were shown in Table 2.

Table 2: The evaluation criteria of the variable means

Means	Evaluation criteria
4.21 – 5.00	Highest level
3.41 – 4.20	High level
2.61 – 3.40	Moderate level
1.81 – 2.60	Low level
1.00 – 1.80	Lowest level

6. Research Results

Analysis results shown in Table 3 found that there were a total of 394 respondents. Most of them were males (268 males, representing 68%). In term of the respondents' age, the result found that the large group was 325 people aged 61-70 years, accounting for 82.5%, with 164 people aged 66-70 years, accounting for 41.6%, while the respondents aged 76 years and over are only 7 people, accounting for 1.8% only. Besides, the analysis shows that most of the respondents have a bachelor's degree, which is 225 people, accounting for 57.1%, followed by having a lower education than a bachelor's degree, 103 people, representing 26.1%. Also, the analysis found that the large group has monthly incomes between 450 - 750 USD, which is 204 people, representing 51.8%, followed by monthly incomes below

450 USD, 109 people, accounting for 27.7%. The results of the analysis of recreational expenses per visit found that most of the respondents have the recreational expenditures per time is between 150 - 300 USD, 183 people, representing 46.4%, followed by recreation expenses per time between 301 - 450 USD, 92 people, representing 23.4%, recreational expenses per time is lower than 150 USD, 69 persons, equivalent to 17.5%, respectively. The respondents who have recreation expenses per time more than 750 USD, there is only one person, representing 0.3%.

Table 3: Descriptive statistics (n=394)

Variables	Frequencies	%
Gender		
Female	126	32.0
Male	268	68.0
Age		
61-65 years	161	40.9
66-70 years	164	41.6
71-75 years	62	15.7
>75 years	7	1.8
Education		
Below Bachelor Degree	103	26.1
Bachelor Degree	225	57.1
Above Bachelor Degree	66	16.8
Living status		
Owned house	216	54.8
Live with family	147	37.3
Live with relatives	20	5.1
Others	11	2.8
Income per month		
< 450 USD	109	27.7
450 - 750 USD	204	51.8
751 - 1,050 USD	51	12.9
1,051 - 1,350 USD	25	6.3
>1,350 USD	5	1.3
Payment for Recreational activities (USD per time)		
< 150	69	17.5
150 - 300	183	46.4
301 - 450	92	23.4
451 - 600	35	8.9
601 - 750	14	3.6
>750	1	0.3

The descriptive results of the important variables showed in Table 4, it found that the means of financial and traveling support variables were at a moderate level, those were at 3.04 and 3.37 respectively. Meanwhile, the means of mental and advisory support variables were at a high level, at 3.62 and 3.73 respectively. Besides, when considering the data distribution from the skewness and the kurtosis of mean values, it seems the data curves had the normality distribution.

Table 4: The supporting from families

Variables	Means	Standard Deviation	Skewness	Kurtosis
Financial support	3.04	1.24	0.06	-1.04
Traveling support	3.37	1.24	-0.20	-0.99
Mental support	3.62	1.25	-0.55	-0.79
Advisory support	3.73	1.18	-0.58	-0.61

Table 5 showed the descriptive statistics from the analysis of the satisfaction variables. It found that means of all aspects of satisfaction variables including the physical, psychological, and place satisfaction was at a high level, those were at 3.84 3.85 and 3.81 respectively. From skewness and kurtosis of the data, it showed that the data distribution curves were normality.

Table 5: The satisfaction of recreational activities

Variables	Means	Standard Deviation	Skewness	Kurtosis
Physical satisfaction	3.84	1.06	-0.84	0.29
Psychological satisfaction	3.85	1.05	-0.90	0.57
Place satisfaction	3.81	1.05	-0.70	0.09

When considering the descriptive statistics of benefit view variables in Table 6, it revealed that all aspects of benefit variables had the mean values at a high level, between 4.07 and 4.19. Also, the data curves of benefit view variables were normality distribution.

Table 6: The benefit views of recreational activities

Variables	Means	Standard Deviation	Skewness	Kurtosis
Physical benefits	4.14	0.84	-0.70	0.04
Quality of life	4.07	0.92	-0.74	0.14
Spiritual health benefits	4.06	0.93	-0.79	0.23
Stress and anxiety reduction	4.12	0.95	-1.07	0.94
Life value	4.19	0.87	-0.82	0.07

Table 7 showed the distribution of payment numbers for recreational activities between females and males. From this aspect, the researchers analyzed the gender differences in the payment of recreational activities. The result from the Pearson chi-square test showed the value was 9.678 and the asymptotic significance (2-sided) was 0.85. This showed that payment for recreational activities between females and males was not different.

Table 7: Gender differences in the payment for recreational activities

Variable		Payment for Recreational activities (USD per time)						Total
		< 150	150 to 300	301 to 450	451 to 600	601 to 750	> 750	
Gender	Female	31	57	24	9	4	1	126
	Male	38	126	68	26	10	0	268
Total		69	183	92	35	14	1	394

From the statistical result of the t-test in Table 8, it found the financial support from families in recreational activities between females and males was different significantly. Meanwhile, other aspects were not different between females and males. This information showed that Thai males had more supported by family in recreational activities than females.

Table 8 Gender differences in the supporting from family

Supporting	Gender	Means	Levene's Test for Equality of Variances		t-test for Equality of Means	
			F	Sig.	t	Sig. (2-tailed)
Financial	Female	2.73	0.672	0.413	-3.446	0.001**
	Male	3.19				
Traveling	Female	3.30	4.772	0.030	-0.725	0.469
	Male	3.40				

Supporting	Gender	Means	Levene's Test for Equality of Variances		t-test for Equality of Means	
			F	Sig.	t	Sig. (2-tailed)
Mental	Female	3.59	0.063	0.803	-0.319	0.750
	Male	3.63				
Advisory	Female	3.66	2.252	0.134	-1.046	0.296
	Male	3.77				

Note: ** = statistical significance at .01 level

When considering the satisfaction of recreational activities between females and males by t-test, the result showed in Table 9. It showed two aspects of the satisfaction variable were significantly different between females and males. Those were physical and psychological satisfaction. The information from Table 9 revealed that Thai males had more satisfaction both physical and psychological aspects than Thai females.

Table 9: Gender differences in the satisfaction of recreational activities

Satisfaction	Gender	Means	Levene's Test for Equality of Variances		t-test for Equality of Means	
			F	Sig.	t	Sig. (2-tailed)
Physical	Female	3.64	0.033	0.857	-2.482	0.013*
	Male	3.93				
Psychological	Female	3.65	2.972	0.086	-2.477	0.014*
	Male	3.94				
Place	Female	3.66	0.101	0.751	-1.969	0.050
	Male	3.88				

Note: * = statistical significance at .05 level

The analysis result of gender differences in the benefit views of recreation showed in Table 10. Only the benefit view in the quality of life was significantly different between females and males. It seems Thai males had more benefit views in the quality-of-life aspect than Thai females. Other aspects of benefit including physical, spiritual health, stress and anxiety reduction, and life value were different between females and males.

Table 10: Gender differences in the benefit views of recreational activities

Benefit Views	Gender	Means	Levene's Test for Equality of Variances		t-test for Equality of Means	
			F	Sig.	t	Sig. (2-tailed)
Physical	Female	4.11	1.550	0.214	-0.459	0.646
	Male	4.15				
Quality of life	Female	3.92	2.514	0.114	-2.281	0.023*
	Male	4.15				
Spiritual health benefits	Female	3.94	0.057	0.811	-1.794	0.074
	Male	4.12				
Stress and anxiety reduction	Female	4.02	1.072	0.301	-1.522	0.129
	Male	4.17				
Life value	Female	4.10	0.133	0.716	-1.454	0.147
	Male	4.23				

Note: * = statistical significance at .05 level

7. Summary and Discussion

This research studied gender differences in recreational activities among the elderly or retired people in Thailand focusing on key variables included recreational payment, support from family, and the satisfaction and benefit view of recreational activities. The research showed that most of the

respondents were males at 68%, aged 61-70 years at 82.5%, had a Bachelor's degree at 57.1%, had monthly income at between 450-750 USD at 51.8%, and paid recreational expenditures per time between 150-300 USD at 46.4%. The statistical result revealed the elderly people's payment for recreational activities between females and males was not different meanwhile the financial support from families in recreational activities between females and males was different significantly. The result showed that Thai males had more support from family than Thai females. Besides, the study found that two aspects of satisfaction variable including physical and psychological satisfaction were significantly different between females and males. It showed that Thai males had more satisfaction than females. Besides, when considering 5 benefit views of recreational activities, only the benefit view in the quality of life was significantly different between females and males. The result showed that Thai males had a more beneficial view of the quality-of-life aspect than Thai females. The results from the present study were consistent with many previous studies including the study of Punyakaew, et al. (2019) who found that gender attribution in active aging levels was significantly different between elderly females and males, the study of Sjogren and Stjernberg (2010) who found the difference between elderly females and males in physical activity due to many factors were different among them such as financial conditions, marital status, fear to falling. They pointed out that females were less engaged in outdoor recreational activity than males, and the study of Paillard-Borg, et al. (2009) who found that older females were lower engagement in leisure activities than males. Also, it was consistent with the study of Sniadek and Zajadacz (2010) who pointed out that demographic factor affected the participation of recreational activities in elderly people, and the study of Galenkamp, et al. (2016) who found there were many factors to encourage elderly people to participate in recreation or incentives for participation such as financial support, travel support, and psychological factor.

8. Recommendation

This research confirms that the gender differences affecting the participation of recreational activities in elderly people in Thailand. Males and Females will have different conditions for engagement in the activities. For example, they have a different view on the satisfaction and benefit view of recreational activities. It seems like Thai elderly males have more positive views than Thai females in the participation of recreational activities. Therefore, the Thai government should consider the different views between Thai females and males for planning the measures to improve the life quality of Thai elderly people. Also, the result of this study will benefit the private sector that needs to promote the business line of elderly people. For future research studies, it should consider the study of the key conditions or important factors that can influence the participation in recreational activities among elderly females and males like age, marital status, employment, and motivation factors, for example. This may reveal the new knowledge that is relating to gender differences for better planning or creating the policy in Thai elderly people's life quality.

References

- Cochran, W. G. (1963). *Sampling techniques*. 2nd ed. New York: John Wiley and Sons.
- Department of Older Persons, Ministry of Social Development and Human Security. (2019). *Measures to drive the national agenda on aging society (updated version)*. 2nd ed. Bangkok: Amarin printing and publishing. (In Thai)
- Department of Physical Education, Ministry of Tourism and Sports. (2014). *Manual for Recreation Leader*. 2nd ed. Bangkok: The War Veterans Organization of Thailand. (In Thai)
- Ethisan, P., Somrongthong, R., Ahmed, J., Kumar, R., & Chapman, R. S. (2017). Factors related to physical activity among the elderly population in rural Thailand. *Journal of Primary Care & Community Health*, 8(2), 71-76.
- Galenkamp, H., Gagliardi, C., Principi, A., Golinowska, S., Moreira, A., Schmidt, A. E., Winkelmann, J., Sowa, A., van der Pas, S., & Deeg, D. J. H. (2016). Predictors of social leisure activities in older Europeans with and without multimorbidity. *European Journal of Ageing*, 13, 129-143.

- Gautam, R., Saito, T., & Kai, I. (2007). Leisure and religious activity participation and mental health: Gender analysis of older adults in Nepal. *BMC Public Health*, 7(299), 1-11.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E., (2014). *Multivariate data analysis*. 7th ed. US: Pearson Education.
- Jittraporn Therawat & Thong Khamkerd. (2017). The creation of recreational activity patterns for Thai grouped traveling. *Journal of Social Communication Innovation*, 1(9), 83-99. (In Thai)
- Kim, J., Yamada, N., Heo, J., & Han, A. (2014). Health benefits of serious involvement in leisure activities among older Korean adults. *International Journal of Qualitative Studies on Health and Well-being*, 9, 1-9.
- Paillard-Borg, S., Wang, H. X., Winblad, B., & Fratiglioni, L. (2009). Pattern of participation in leisure activities among older people in relation to their health conditions and contextual factors: A survey in Swedish urban area. *Ageing & Society*, 29(5), 803-821.
- Patcharapan Kijpan. (2018). Thailand towards aging society. *Thai Food and Drug Journal*, September - December, 4-8. (In Thai)
- Punyakaew, A., Lersilp, S., & Putthinoi, S. (2019). Active ageing level and time use of elderly persons in a Thai suburban community. *Occupational Therapy International*, 1-8.
- Ritthiron Phumphokhai & Prasopchai Pasunon. (2017). *Factors of recreation model that affected a place for recreational activities of elderly people in Sam Phraya, Phetchaburi*. The 4th National Conference on Public Affairs Management. College of Local Administration, Khon Kaen University. 576-588. (In Thai)
- Singh, B. & Kiran, U. V. (2014). Recreational activities for senior citizens. *IOSR Journal of Humanities and Social Science*, 19(4), 24-30.
- Sjogren, K. & Stjernberg, L. (2010). A gender perspective on factors that influence outdoor recreational physical activity among the elderly. *BMC Geriatrics*, 10(34), 1-9.
- Sniadek, J. & Zajadacz, A. (2010). Senior citizens and their leisure activity: Understanding leisure behavior of elderly people in Poland. *Studies in Physical Culture and Tourism*, 17(2), 193-204.
- Sombat Kanchanakit. (2014). *Recreation and Tourism Industry*. 2nd ed. Bangkok: Chulalongkorn University Printing. (In Thai)
- Suwanna Techathirapreeda. (2014). The management of the elderly recreation in Sikiew municipal district, Sikiew district, Nakhon Ratchasima province. *Journal of Business Administration - The Association of Private Higher Education Institutions of Thailand*, 3(2), 89-100. (In Thai)
- Toepoel, V. (2013). Ageing, leisure, and social connectedness: How could leisure help reduce social isolation of older people? *Social Indicators Research*, 113, 355-372.
- Watcharin Semamon. (2014). *Study format recreational elderly Ayutthaya and Angthong*. Completed Research Report, National Research Council of Thailand. (In Thai)