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ORIGINAL PAPER

Sociodemographic Determinants of Leisure Participation Among Elderly in Malaysia

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Abstract Leisure participation has been proven to be beneficial and has a positive link to successful ageing. This study aims to explore the sociodemographic determinants of leisure participation among the Malaysian elderly. A cross-sectional study was conducted among persons aged 60 years and above, purposively selected from eight health clinics in the state of Selangor. Leisure participation was measured using a validated Leisure Participation Questionnaire specific for Malaysian elderly, consisting of 25 activities, categorized into 4 categories, namely recreational (physical), cognitive, social and productive. Frequency of such participation was measured on a 6-point scale. Its association with sociodemographic variables was examined using inferential and regression analysis. 268 participants were involved in this study (response rate = 100%). The most common daily leisure activities were having conversations while relaxing (78.7%), watching television (74.6%) and reading (63.4%). The least frequently done leisure activities were from the recreational and cognitive categories. The activities were weakly correlated to each other, reflecting the lack of diversity of leisure activities among respondents. Education was the main predictor for leisure participation among elderly, with higher educational level is associated with high RAS (B = 1.020, $P < 0.05$), CAS (B = 1.580, $P < 0.05$) and SAS (B = 1.276, $P < 0.05$). Education level, marital status and locality were important determinants of leisure participation among elderly, with education being the main predictor. Further studies exploring the effective method of educating the ageing society are recommended.

Keywords Leisure participation · Elderly · Sociodemographic · Malaysia

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Introduction

Malaysia is experiencing a considerably rapid growth of elderly population and is expected to achieve the status of an ageing country by 2035, in which 14% of the total population will be individuals aged 60 years and above [1]. A projection by the United Nations reported that the proportion of elderly in Malaysia will increase to 22% or 8.7 million in 2050 [2]. This phenomenon, which is affecting countries globally has led into making active ageing as a central feature for developing ageing policies.

Various measures were taken in order to deal with the challenges and implications of ageing population. These include developing an active and successful ageing society who continues to be a productive member of the community. Individual who continue to be productive in the society and contribute to the economy and contribute to the economy will have better health, live longer and have a higher quality of life [2].

Being active has proven to associate with successful aging. Involvement in any types of enjoyable and constructive activity in later life is also an important and beneficial element for better quality of life (QOL) besides successful aging [3, 4]. They are also reported to have better well being and life satisfaction. Elderly who participated more in cognitive and social activities were found to have better health-related QOL. Whereas, more solitary activities, such as reading, may have more psychological

benefits by providing a sense of engagement with life [4]. These findings highlight the importance of engaging in different types of activities and its contribution to successful ageing.

Leisure Activity

The definition of leisure activity is often considered vague and difficult to define. There is no common definition agreed upon by Gerontologists in any gerontology literature. Different definitions may be used in different studies, despite referring to the same type of activity. According to Edginton et al. (2002), leisure time refers to free time or spare time, the time when people do not need to study, work or to do domestic work [5]. Whereas, leisure implies time to do something without obligation or duty, time to relax and play, and time to do what you desire and the value of leisure is enriched by participating in a particular activity [6].

On the other hand activity can be part of daily work which was done unconsciously or deliberately. Verghese et al. [7], defined leisure activities as activities in which individuals engage for enjoyment or well-being that are independent of work or the activities of daily living. Different classifications of leisure activities have been used in different studies. The significance of a classification of leisure activity lies in the need to communicate among researchers and also to convey messages to the individuals in the community [8].

The importance of engaging in leisure activities in order to develop a more healthy ageing society has increasingly attracted the attention of researchers. Studies have shown, elderly who actively involved in certain type of activity during their leisure time obtain various benefits. These include the positive impact on longevity [10], general well-being, life satisfaction [4] and quality of life [6]. These benefits can also be gained either from doing solitary or non-social or even non-physical activity.

Sociodemographic Factors and Leisure Participation Among Elderly Population

Activities performed by the elderly are diverse and is influenced by various factors such as sociodemographic characteristics. Sociodemographic factors were also found to shape the pattern of leisure participation among them. Elderly who are male, married and living in an urban area were more likely to be involved in different type of activities compared to female, single and living in the urban locality. Other proven determinants were religious beliefs, educational level, cognitive skills, instrumental daily activity, depression, personal and environmental constraints [9].

A study conducted by Dodge et al. [10] among Japanese elderly reported that those elderly in the old–old category, aged 85 years and above, were least likely to engage in leisure activities, whether physical, social or non-physical hobbies. The reduction occurs regardless of gender Strain et al. [11] and more pronounced for physical activity [12]. Younger elderly are also shown to involve in more frequently involve in diversified leisure activities [13].

Compared to elderly women, the male elderly are more frequently involve in leisure. Elderly women are less likely to do any activities during their leisure time, particularly physical activities. They are homebound and more involved in doing domestic and housework compared to men [2]. However, equal level of participation between male and female elderly for family activities [13]. Gender also plays an important role in shaping the leisure participation among the very old elderly [14].

Pattern and level of leisure participation among elderly is also varying according to ethnicity. A study of Asian population with different races showed that, the Chinese elderly is less likely involve in domestic and household activities [15]. Whereas, the Malays elderly were found to have the highest overall involvement in physical activity [15].

Socioeconomic status of elderly is also an important determining factor of their leisure participation. Those who have higher education level are more likely to participate in leisure activities and demonstrate a better cognitive function. On the other hand the presence of spouse may act as a motivating factor or catalyst towards leisure participation [16]. While, those with higher income were found to have similar leisure participation to those of higher educational level [13].

Leisure participation of elderly is also shaped by the localities. Mobily et al. [17] had suggested that the elderly who live in rural environments are more actively engage in leisure activity and have a positive attitude compared to those in the urban environments. However, Wilcox et al. [18] reported a contrary finding, in which there is no significant rural and urban difference among those who are actively involved in leisure. This finding indicates the role played by other factor such as strong interest to engage in certain activity despite the presence of constraints.

Since this aspect has never been explored among the increasing Malaysian elderly, such study is a necessity. The results obtained should be utilized in the development and planning of elderly related programs. This paper aims to report part of the findings from a study on factors influencing leisure participation among elderly in Selangor, Malaysia and the association between their participation and quality of life.

Methods

Study Setting

Data for this cross-sectional study was collected in eight health clinics in 4 districts in Selangor, namely Petaling, Klang, Hulu Langat and Kuala Langat. The districts were purposively selected based on the highest proportion of older people from the urban and rural localities in Selangor for the year 2009.

Study Population

Elderly population aged 60 years and above who came to the designated health clinics was selected purposively. Only elderly with normal score for cognitive function and depression were included. These were measured using the Elderly Cognitive Assessment Questionnaire (ECAQ) and the Geriatric Depression Scale (GDS). A total of 335 elderly people were screened initially. But only 268 people were found to have normal cognitive function and depression scale.

Questionnaire

A standardized pre-tested questionnaire was used to identify the sociodemographic factors of respondents. A 6-point Likert-scale questionnaire containing 25 activities to measure leisure participation was validated for the purpose of this study. Activities are categorized into four categories, namely recreational, cognitive, social and productive activity. Most of the definitions used for each category are based from a study done by Cheung et al. [6]. Recreational activity refers to physical form of recreational activity such as walking, running, cycling and any form of sports. Meanwhile, cognitive activity refers to activity that involves active information processing as a central component. Social activity refers to activity that promotes interpersonal interactions, developed social identity and regulated emotions. Productive activity involves organising and performing the required tasks, providing services, or generating products. The scale of frequency used for each activity were everyday (5), almost everyday (4), once a week (3), once a month (2), once in few month (1) and never (0).

Statistical Analysis

Descriptive statistics were performed on all variables. Pearson's correlation was used to assess the association between activities. The association between the sociodemographic factors and leisure activities were assessed using independent *t* test. Multiple linear regression analysis was carried out to determine the sociodemographic determinants of leisure activities. The data were analysed using Statistical Package for Social Sciences (SPSS) version 19.0. For the purpose of inferential and multivariable analyses, the variables were only grouped into two categories. The level of significance was set at 0.05.

Results

The sociodemographic characteristics of the 268 elderly who agreed to participate and eligible for this study are shown in Table 1. The mean age of this sample was 67.65 years (range, 61–73 years). Majority of the respondents were in the young-old (84.7%) group, slightly more female (51.5%) compared to male (48.5%), were Malays (71.6%), living with others (91.4%), were married (67.9%) and only received primary education (60.8%). Half of them have no fixed income and lives in rural or urban area.

The distribution of leisure activity done by elderly is reported in Table 2. The most frequent daily done activities were having conversations while relaxing (78.7%), watching television (74.6%), and reading (63.4%). While the least common activities were playing golf (99.6%), performing musical instruments (98.9%), playing sports (98.1%) and playing cards, mahjong and others (96.6%) which are mainly from recreational and cognitive activity.

The findings also reflect the poor involvement of the Malaysian elderly towards constructive and stimulating activities such as playing musical instruments, playing cards, chess or mah-jong, using a computer or browsing the internet, writing or drawing for fun and also teaching, which is likely more often done by higher educated elderly. The results also showed that the elderly were more likely to involve in passive and sedentary activities compared to physical activities.

Table 3 shows the correlation between each category of leisure activity. The results of the analysis showed no significant association between recreational and social activity ($r = 0.114$, $P = 0.063$). Although there were significant associations between other categories, the correlations were weak with r values of less than 0.3, indicating lack of diversity in the activities performed by them.

The association between sociodemographic characteristics and leisure activities were shown in Table 4. The results showed significant statistical association between marital status, education level and locality with most of the activity categories. Income was the only factor which does not show a significant association with any of the categories.

Table 5 shows the regression analysis to assess the significant predictor of leisure activities. Education level was shown to be the most important predictor, especially

Table 1 Socio-demographic characteristics of respondents (n = 268)

Socio-demographic characteristics	f	%
Age (years)		
Young-old (60–74)	227	84.7
Old-old (≥75)	41	15.3
Gender		
Male	130	48.5
Female	138	51.5
Ethnic		
Malay	192	71.6
Chinese	42	15.7
Indian	32	11.9
Others	2	0.7
Agama		
Islam	193	72
Buddha	31	11.6
Hindu	25	9.3
Others	19	7.1
Marital status		
Single	5	1.9
Married	182	67.9
Divorcee/widower/widow	81	30.2
Education level		
None	20	7.5
Primary school	163	60.8
Secondary school	75	28
College/University	10	3.7
Income		
None	134	50
<RM720	23	8.6
RM721–RM1000	61	22.8
RM1001–RM2000	44	16.4
>RM2000	6	2.2
Living arrangement		
Living alone	22	8.2
Living with others	245	91.4
Locality/environment		
Urban	134	50
Rural	134	50

for recreational, cognitive and social activities, followed by ethnicity. Ethnicity of elderly was a significant predictor for social and productive activities. Below are the discussions for each activity category in detail.

Recreational (Physical) Activity

Factors that show a significant association with recreational activity are gender, marital status, education level and locality or environment. Male elderly ($t = 2.866$, $P = 0.005$), those who are still married ($t = 3.018$, $P = 0.003$), higher education level, who received at least secondary education ($t = 2.826$, $P = 0.005$) and those living in the urban area ($t = 3.429$, $P = 0.001$) have higher mean scores for recreational activity (Table 3). The overall mean score for recreational activity was 2.38 ± 2.94, which was the lowest compared to other categories of leisure activities. However, the significant association only involved exercise (RA1) and playing sports (RA3).

The regression analysis showed a significant linear relationship between recreational activity and gender ($B = 0.833$, $P < 0.05$), locality ($B = 0.809$, $P < 0.05$) and also education level ($B = 1.020$, $P < 0.05$) (Table 5). Higher RAS is associated with male gender, urban area and higher education elderly. In other words, those who are male, from urban area and have higher education will have 0.80, 1.00 and 0.81 points higher for RAS. However the model only explains 8.4% of the variation in the recreational activity.

Cognitive Activity

Meanwhile age, marital status and education level were found to have significant association with cognitive activity (Table 3). Those who are younger ($t = 3.247$, $P = 0.001$), still married ($t = 2.583$, $P = 0.01$) and have higher educational level ($t = 3.511$, $P = 0.001$) showed higher mean scores for cognitive activity. The overall mean score for cognitive activity was 12.50 ± 3.65.

However, the regression analysis only showed age ($B = -0.108$, $P < 0.05$) and education level ($B = 1.580$, $P < 0.05$) as the main significant predictors for cognitive activity (Table 5). The findings indicate that those 10 years younger have higher CAS, and those with higher education will have 1.58 points higher CAS. The findings also showed that reading (CA1) is the only cognitive activity influenced by all three factors mentioned above. The model only explains 8.7% of the variation in the level of participation in cognitive activity.

Social Activity

Elderly who are Malays, Muslims, still married, higher education, living with others and living in the rural area were shown to have higher score for social activity (Table 3). The overall mean score for social activity was 13.12 ± 4.31, which is the highest among other categories. SA2 (Community activities) was the only social activity shown to have significant association with all the factors mentioned. However, only ethnicity ($B = -3.458$, $P < 0.05$), marital status ($B = 1.681$, $P < 0.05$) and education level ($B = 1.276$, $P < 0.05$) were the significant predictors for social activity (Table 5), indicating that

Table 2 Leisure participation among respondents (n = 268)

Leisure activity	n (%)						Mean ± SD
	Everyday (5)	Almost everyday (4)	At least once a week (3)	At least once a month (2)	Once in several months (1)	Never (0)	
Recreational Activity (RA)							
1. Exercise (tai-chi, jogging, walking, cycling etc.)	46 (17.2)	27 (10.2)	8 (3)	8 (3)	3 (1.1)	176 (65.7)	1.42 ± 2.07
2. Going for walks (in the park etc.)	17 (6.3)	22 (8.2)	11 (4.1)	13 (4.9)	8 (3)	197 (73.5)	0.90 ± 1.64
3. Playing sports (badminton, tennis etc.)	1 (0.4)	1 (0.4)	1 (0.4)	1(0.4)	1 (0.4)	263 (98.1)	0.06 ± 0.45
4. Playing golf	–	–	–	1 (0.4)	–	267 (99.6)	0.01 ± 0.12
Cognitive activity (CA)							
1. Reading (books/quran/bible etc.)	170(63.4)	44 (16.4)	15 (5.6)	20 (7.5)	8 (3.0)	11 (4.1)	4.18 ± 1.38
2. Playing cards, chess, mahjong etc.	1 (0.4)	2 (0.7)	4 (1.5)	1 (0.4)	1 (0.4)	259 (96.6)	0.10 ± 0.60
3. Using computer/Browsing internet	3 (1.1)	6 (2.2)	–	4 (01.5)	1 (0.4)	254 (94.8)	0.18 ± 0.82
4. Performing musical instruments	–	1 (0.4)	2 (0.7)	–	–	265 (98.9)	0.04 ± 0.36
5. Writing or drawing for pleasure	4 (1.5)	4 (1.5)	1 (0.4)	2 (0.7)	2 (0.7)	255 (95.1)	0.17 ± 0.81
6. Teaching (tuition/Quran classes)	6 (2.2)	6 (2.2)	1 (0.4)	4 (1.5)	–	251 (93.7)	0.24 ± 0.98
7. Watching TV	200(74.6)	47 (17.5)	9 (3.4)	11 (4.1)	1 (0.4)	–	4.62 ± 0.77
8. Listening to radio/music	94 (35.1)	30 (11.2)	11 (4.1)	27 (10.1)	25 (9.3)	81 (30.2)	2.62 ± 2.14
9. Attending exhibition, cultural show, performances etc.	–	–	–	29 (10.8)	42 (15.7)	197 (73.5)	0.37 ± 0.67
Social activity (SA)							
1. Meeting or visiting friends or other family members	29 (10.8)	26 (9.7)	35 (13.1)	70 (26.1)	53 (19.8)	55 (20.5)	2.04 ± 1.59
2. Involve in community activities (volunteers, association, politics etc.)	1 (0.4)	6 (2.2)	17 (6.3)	29 (10.8)	17 (6.3)	198 (73.9)	0.58 ± 1.09
3. Window shopping	1 (0.4)	1 (0.4)	7 (2.6)	23 (8.6)	17 (6.3)	219 (81.7)	0.35 ± 0.82
4. Religious activity (going to mosque, marhaban class etc.)	58 (21.6)	38 (14.2)	50 (18.7)	31 (11.6)	14 (5.2)	77 (28.7)	2.49 ± 1.92
5. Having conversations while relaxing	211(78.7)	28 (10.4)	7 (2.6)	5 (1.9)	13 (4.9)	4 (1.5)	4.52 ± 1.14
6. Spending time with grandchildren	114(42.5)	20 (7.5)	48 (17.9)	20 (7.5)	11 (4.1)	55 (20.5)	3.15 ± 1.96
Productive activity (PA)							
1. Cooking/Baking for pleasure	6 (2.2)	16 (6.0)	11 (4.1)	22 (8.2)	5 (1.9)	208 (77.6)	0.66 ± 1.34
2. Rearing or taking care of pets or domestic animals	30 (11.2)	6 (2.2)	–	2 (0.7)	–	230 (85.8)	0.66 ± 1.66
3. Gardening	113(42.2)	25 (9.3)	5 (1.9)	6 (2.2)	1 (0.4)	118 (44.0)	2.59 ± 2.37
4. Making handicrafts (sewing, knitting etc.)	5 (1.9)	2 (0.7)	6 (2.2)	24 (9.0)	10 (3.7)	221 (82.5)	0.41 ± 1.01
5. Cleaning/decorating housing area	31 (11.6)	17 (6.3)	6 (2.2)	9 (3.4)	4 (1.5)	201 (75.0)	0.98 ± 1.82
6. Fishing	–	3 (1.1)	1 (0.4)	6 (2.2)	3 (1.1)	255 (95.1)	0.11 ± 0.55

those who are non-Malays, married and have higher education will have 3.46, 1.68 and 1.28 higher score for SAS. The model only explains 16.5% of the variation in social activity participation.

Productive Activity

Productive activity involvement among elderly was influenced by age, ethnicity, religion and locality (Table 3). Those who are younger, Malays, Muslims and from the rural area, noted to have higher score for productive activity.PA3 (Gardening) is the only productive activity significantly influenced by all these factors. However, the regression analysis only showed ethnicity ($B = -2.654$, $P < 0.05$) as the significant predictor (Table 5). Elderly who are non-Malays will have 2.65 higher score for PAS. The model only explains 6.5% of the variation in social activity.

Table 3 Correlation between different categories of leisure activities (n = 268)

Variables	Recreational activity score (RAS) (r,p)	Cognitive activity score (CAS) (r,p)	Social activity score (SAS) (r,p)	Productive activity score (PAS) (r,p)
RAS	–	0.261, 0.000*	0.114, 0.063	0.168, 0.006
CAS	–	–	0.186, 0.002	0.208, 0.001
SAS	–	–	–	0.280, 0.000*

*$P < 0.05$

Discussion

A study done by Sharifah Norazizan and Tengku Aizan [2] reported a low prevalence of leisure participation among Malaysian elderly, with only 7.5% was doing it as part of their daily activities. However, many activities such as gardening and housework were not included as part of leisure, that may contributed to the lower prevalence. This study showed that Malaysian elderly were more likely to involve in social activity. A higher level of participation in having conversations while relaxing (SA5) among the respondents indirectly reflects the preference of Malaysian elderly towards sedentary and passive activity, which may be harmful to their health.

Furthermore, the second most common leisure activity among them was watching television, which is also a passive and sedentary activity. The findings also showed that recreational physical activity was the most unpopular leisure activity among the elderly. These will put them at even higher risk to their health. These data directly strengthen the notion that the elderly in Malaysia were inactive, which probably explains the increase in the prevalence of obesity and chronic illnesses among them. For the sake of their health, the elderly population should be encouraged to adopt more active leisure participation, such as physical activity, that have been proven to contribute to greater health-related quality of life [19].

However, the social interaction involved in doing social activity is believed to have a positive impact on the general well-being and mental health of the elderly. Even a simple social interaction such as shaking hands or simple greetings may be beneficial. According to Adams et al. [20], informal social interaction is the most evident activity influencing the general well-being of an individual.

On the other hand, the weak correlations between the different categories and also between most of the activities indicate the lack of diversity of activities done by elderly. Although different activity may have different benefits [4], the benefits and importance of involvement in diversified leisure activities have been reported by Karp et al. [21] and Ng and Tengku Aizan [22]. According to Siegenthaler (1996), individuals who are more involved in variety of leisure activities will have a better physical well-being [5]. Although there is a decline in the amount and frequency of leisure participation among the elderly, they still obtain a better life satisfaction compared to those who are idle.

The findings from this study also showed that only income did not have any significant relationship with any of the activities. Whereas, education, marital status and locality were the main sociodemographic determinants of most of the categories of leisure activities studied. This finding reflects the importance of considering the existence of a life partner, rural or urban locality and level of education of the elderly while promoting certain type of leisure activity. However, the most important predictor of leisure participation among elderly was educational level which has demonstrated a significant positive linear relationship with recreational, cognitive and social activities.

A similar finding was also reported in earlier studies. A study by Chen and Fu [23] found that education level and rural or urban residence were among the significant contributing factors to older adults' leisure participation and enjoyment. Meanwhile, Utz et al. [24] found a contrary

Table 4 Leisure participation according to socio-demographic characteristics of respondents (n = 268)

Factors	Recreational activity (t,p)	Cognitive activity (t,p)	Social activity (t,p)	Productive activity (t,p)
Age	0.495, 0.621	3.247, 0.001*	1.935, 0.054	2.782, 0.006*
Gender	2.866, 0.005*	0.285, 0.776	0.858, 0.392	0.767, 0.444
Ethnicity	1.527, 0.128	0.138, 0.891	5.536, 0.000*	4.313, 0.000*
Religion	1.411, 0.160	0.231, 0.817	5.743, 0.000*	4.159, 0.000*
Marital status	3.018, 0.003*	2.583, 0.010*	2.711, 0.007*	0.959, 0.338
Education level	2.826, 0.005*	3.511, 0.001*	2.172, 0.031*	0.644, 0.520
Income	−1.382, 0.168	−1.501, 0.135	−1.231, 0.219	0.716, 0.475
Living arrangement	0.571, 0.568	1.277, 0.203	2.474, 0.014*	0.636, 0.525
Locality	3.429, 0.001*	1.492, 0.137	3.410, 0.001*	3.098, 0.002*

*$P < 0.05$

Table 5 Predictors of leisure participation (n = 268)

Factor	B	t	p
Recreational activity score (RAS)			
Gender	0.833	2.367	0.019*
Locality	1.02	2.897	0.004*
Education	0.809	2.109	0.036*
Cognitive activity score (CAS)			
Age	−0.108	−2.877	0.004*
Education	1.58	3.343	0.001*
Social activity score (SAS)			
Ethnicity	−3.458	−6.353	0.000*
Marital status	1.681	3.15	0.002*
Education	1.276	2.387	0.018*
Productive activity score (PAS)			
Ethnicity	−2.654	−4.313	0.000*

*$P < 0.05$

result in their study. They concluded that non-widowed older adults had lower level of informal social participation, which was reduced significantly before the death of their spouse, which was primarily related to poor spousal health. However, their social participation was found to be elevated following the loss, because of increased support from friends and relatives.

The importance of education level in influencing leisure participation among elderly was also proven by other studies such as by Li et al. [9], Chen and Fu [23], Chou et al. [25], and Ross and Zhang [26]. According to Ross and Zhang [26], better-educated elderly have lower levels of distress than their less well-educated counterparts. This is because, they were found to have better economic circumstances and more likely to engage in cognitively stimulating and physical activities.

The findings of this study indicate the importance of exploring and identifying an effective and elderly-friendly method of educating the elderly population in order to ensure messages being delivered effectively and perceived correctly. The small variation of leisure participation explained by education level of the elderly indicates the presence of other important and significant determinants such as health status, physical function, social support and their interest and participation in similar activity when young.

Limitation and Suggestion

The main limitation of this study is the selection of sample from the health clinics that do not purely represents the community-dwelling elders. In addition, elderly who comes to the clinics tend to have good physical function and are more likely to be healthier than some patients who are bed ridden, contributes to the information and selection bias in the study.

Moreover, other factors such as the physical function, social support and barriers for leisure participation should also be measured or controlled in order to obtain a better view on factors that influence leisure participation among the senior citizens. As measuring leisure participation should adopt a more holistic approach, qualitative study should also be considered to assess individual perception, acceptance, barriers and values placed on leisure participation.

Additionally, the small sample size and is dominated by Malay respondents may also influence the outcome of the study. Further studies with a larger sample are recommended for future consideration to refine and consolidate our findings.

Conclusion

A higher involvement of Malaysian elderly in social interaction activity, indirectly contradict the notion that most of the Malaysian elderly were lonely, marginalized and having poor social support. However, the possible good social support received by them was channeled more on sedentary and passive activities compared to physical activities, which may put them at risk of various health problems related to poor or low level of physical activity.

The low level of leisure participation in recreational physical activity indicates the possibility of low level of health awareness and the ineffective promotion of healthy lifestyle in Malaysia especially among the senior citizens. The important role played by educational level as the main predictor of leisure participation among them, indicates the need to educate them on the importance, values and benefits of leisure. Additionally, healthcare providers should also identify the most elderly-friendly method of educating the elderly, in order to deliver the related information successfully and effectively. An easy-to-understand and comprehensive method of education in simpler terms is of particular importance to older persons, especially those with lower education levels or mild cognitive impairment.

Promotion of active participation in diversified leisure activities should also be emphasized in view of the possibility of greater benefits gained from its involvement. Further studies are recommended to also measure other correlates and predictors of leisure participation such as health status, physical function, interest and social support of the elderly.

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