

Article

The Role of a Community-Based Leisure Program for Older Adults' Leisure-Time Physical Activity: A Focus on the Social–Ecological Model

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Abstract: Objective: The purpose of this study was to identify how a community-based leisure program (CBLP) interacted with older adults' leisure-time physical activity (LTPA) based on the social–ecological model. Method: Individual semi-structured interviews were completed with 19 older adults who participated in the Tennessee senior games (TSGs). Results: As a type of CBLP and an organizational factor, the TSGs were highly intertwined with intrapersonal factors, interpersonal factors, and community factors that enabled the older adults to easily access and enhance their LTPA. Intrapersonal factors, socioeconomic status, perceived functional ability, and three main motivation factors (i.e., physical health, positive feelings, and competition) emerged for TSG participation. As interpersonal factors, the majority of the older adults encountered the TSGs for the first time through their family, friends, coaches, doctors, or team colleagues. Conclusion: Participants were encouraged to maintain LTPA by interactions with other TSG participants. Community factors provided places and volunteers for a successful CBLP with advertisements (i.e., TV, board at gym).

Keywords: social–ecological model; leisure-time physical activity; older adults; sports event; community-based leisure program



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1. Introduction

Numerous studies have supported the important role that LTPA plays in the aging population with its positive benefits [1,2], as in later life, LTPA has a highly positive relationship with well-being and successful aging. For instance, in later life, LTPA provides an active and healthy life, an affirmative attitude toward life, and the evasion of stress and helplessness through subjective well-being [3]. Furthermore, recent studies revealed that LTPA helps older adults mitigate the risk of dementia, depression, and disability, as well as the manifestation of any frailty-related characteristics [2,4–6]. Although older adults recognize that LTPA has been positively related to a healthy life and successful aging and has been negatively associated with physical and psychological geriatric diseases, many of them rarely participate in LTPA [7,8]. For instance, Śniadek and Zajadacz [9] examined the leisure behavior of elderly people in Poland and found that most of the older adults spent their time watching TV. They also found that the barriers preventing older adults from engaging in LTPA were not only personal issues (e.g., bad health, lack of money, lack of time, household duties), but also environmental issues (e.g., nobody to organize physical activities, lack of access to sports and recreational facilities). Age-appropriate programs are critically important for older adults' continuous LTPA, since these programs provide various benefits, such as comradeship, competition, enjoyment, and personal health [10,11]. As environmental factors are entangled with individual LTPA behavior, although individual LTPA is a personal area, knowing both individual and environmental

factors is helpful for understanding older adults' continuous LTPA for healthy aging, since many individuals quit their LTPA a short time after they start [11,12]. Although LTPA has been studied extensively in aging populations, surprisingly few attempts have been made to examine the role of an age-appropriate program as an organizational factor and how this intervention interacts with other personal and environmental factors for older adults' LTPA. As age-appropriate programs, community-based leisure programs (CBLPs) provide both physical and psychological benefits to older adults [13] and play a meaningful role in maintaining their LTPA with other environmental factors [1,10,14]; this study focuses on the role of CBLPs in older adults' LTPA.

To figure out the important role of CBLP, the social–ecological model (SEM) was used, since it is a reliable and comprehensive theoretical framework for understanding and clarifying the complexity of older adults' LTPA, as it emphasizes individuals' interactions with social systems and provides an overarching framework for understanding the interrelations among diverse personal and environmental factors of human health and wellness [15,16]. In addition, an SEM approach might be helpful in mitigating individual barriers to LTPA and understanding individual LTPA behaviors through multiple levels of environmental approaches, since the SEM extends traditional individual LTPA by analyzing components such as intrapersonal, interpersonal, community, and organizational resources at the same time [17].

To fill this research gap, the purposes of the current research are twofold: (1) identifying meaningful antecedents of LTPA for older adults and (2) examining the applicability of the SEM to the understanding of the role of CBLPs in enhancing the LTPA of older adults.

2. Literature Review

2.1. Older Adults and LTPA

LTPA influences health for positive outcomes, improves cognitive function, and decreases symptoms of depression in senior adults [18,19]. Popa and colleagues [19] examined beneficial outcomes for disability through cognitive-performance-mediated effects among both white and African American older adults. The study results revealed that improved cognitive performance through LTPA may delay the development of disability and play a meaningful role in having independence in daily life [19]. Nelson et al. [20] contended that LTPA in older adults needs to highlight moderate-intensity aerobic activity, reductions in sedentary behavior, muscle-strengthening activity, and individual risk management.

2.2. The Role of CBLPs in Older Adults' LTPA and the Social–Ecological Model (SEM)

The theoretical underpinning of the study is based on the SEM. The SEM consists of multiple levels of influences (i.e., interpersonal, community, organizational), and its reciprocal interactions have better explanations for individual health behaviors [21]. As evidenced in prior research and theories [22,23], an individual's behavior and/or behavioral decisions are not the sole products of that person. People process diverse factors when implementing a certain action; they take intrapersonal, interpersonal, and external (socio-ecological) factors into account when making a decision [24,25]. The SEM argues that the reasoning behind this is the fact that people live in a nested circle surrounded by various systems [25,26]. As society is becoming more complex and environmental factors are becoming intertwined with individual behaviors, knowing environmental influences is critical for encouraging individuals' LTPA, as behavioral changes can be elucidated by the SEM. For instance, Fleury and Lee [15] examined African American women's physical activity and found that the SEM was able to provide a comprehensive understanding to explain their physical activity.

2.3. Intrapersonal Factors and LTPA

Intrapersonal factors are the center of the SEM, and these are mainly composed of individual physical and psychological states, such as socioeconomic status (SES), perceived functional ability, and motivational variables. First, SES is normally described as one's

education, income, and occupation, and these factors are highly associated with individual LTPA behavior [15]. Sanderson et al. [27] revealed that high-income-level households have a more positive relationship with higher activity than lower-income-level households. Furthermore, people with low levels of education were prone to being less physically active [19,28]. Cardenas et al. [14] revealed North Carolina Senior Games participants' perceived health, and more than two-thirds rated their health as very good to excellent, while less than half of the older adults in North Carolina who did not participate in the Senior Games rated their health as very good to excellent. Lastly, the motivational function is also critical for maintaining individual LTPA [15]. Grant [29] examined 15 participants in the Masters' Games who were about 70 years of age; these older adults participated in the games because of socialization with new people and personal satisfaction. Cardenas et al. [14] found that older adults mainly participated in senior games because of fun, friendship, and competition. According to previous research, older adults mainly participate in LTPA to maintain a good state of emotion and physical fitness, have fun, engage in social interaction, and promote well-being.

2.4. Interpersonal Factors and LTPA

According to Fleury and Lee [15], "interpersonal resources include culturally relevant social support as well as social norms that may facilitate behavioral capacity and health behavior change" (p. 133). This social support is normally associated with advice from significant others or help offered to an individual in order to facilitate a behavior. Eyler, Brownson, Donatelle, King, Brown, and Sallis [30] surveyed 2912 Black, Hispanic, American Indian/Alaskan Native, and White women aged 40 years and older and used the physical activity social support (PASS) scale to find out which interpersonal factors impacted them more between friends and relatives. According to the results, support of both family and friends for facilitating and maintaining their LTPA was important to older adults. Lyons and Dionigi [11] interviewed 110 Australian Masters' Games participants and found when older adults shared their interests with other senior adults, they built comradery through continued LTPA, reinforced a feeling of relevance and life purpose, and gave back their talent by volunteering or coaching other senior adults or family members. Lastly, social support can motivate an individual while they provide encouragement or reinforcement for learning a new activity or skill. Therefore, interpersonal factors also need to be considered as a critical part of LTPA [30].

2.5. Community and Organizational Factors and LTPA

The majority of older adults have limited information and access related to health programs, and a lack of opportunities to experience things within the community has made older adults more disengaged from society [10]. In addition, many older adults have difficulty finding their LTPA because of a lack of facilities or professional experts [9]. Nagel, Carlson, Bosworth, and Michael [31] found that commercial settings in local neighborhoods had an impact on the promotion of higher LTPA in older adults. Humpel, Owen, and Leslie [32] found that aesthetic qualities, opportunities for physical activity, and access to sports facilities were positively associated with continuous physical activity. Therefore, community and organizational factors such as health programs and sports complexes can play an important role in the conservation and development of successful aging in long-term care designs [33].

2.6. Senior Games as a CBLP and Organizational Factor

As one type of CBLP for older adults and an organizational factor, senior games are held annually during the summer, and anyone who is over 50 years old can participate in them. Senior games are held in most of the states in the United States, and qualified older adults who have recorded good scores at the state-level senior games can compete in the National Senior Games (NSGs), which are held every two years. The senior games are categorized according to age strata of five years for adequate competition based on age

level. However, for more active games, participants can compete in a younger age division. As senior games are interrelated with many other factors (i.e., intrapersonal, interpersonal, community), older adults' LTPA behavior through participation in senior games can be explained by the SEM.

3. Method

3.1. Research Design

This study focused on how environmental factors such as CBLPs interact with older adults' LTPA. Due to the paucity of information on the interrelationship between CBLPs and LTPA within the theoretical framework of the SEM in this field, this study employed snowball sampling to recruit an appropriate sample of older athletes who introduced others who had participated in a senior game and who were willing to engage in conversation about it. For better recruitment and understanding of the samples, the first author volunteered during the games in a peripheral membership role to observe and interact with the older athletes more closely and naturally. This allowed the researchers to have easier access to older adults in the games for informal interviews. After obtaining verbal consent from the participants, individual interviews were randomly implemented on a voluntary basis. Interviews with participants were held at various locations, since each game was in a different place, and they lasted an average of 15–30 min. All interviews were audio-recorded to facilitate the ensuing transcription and content analysis. To compensate their time, a dollar-value bookmark was gifted to the older adults after completing the interviews.

Semi-structured interviews were conducted with the TSG participants to collect their interview responses. Based on the guidelines from Stokols' [16] pioneering study, we followed Fleury and Lee [15] to derive the interview questions related to intrapersonal, interpersonal, community-level, and organizational-level dimensions. All interview questions were reviewed by two professional gerontologists before conducting the interviews to refine them. The questionnaire was prepared based on the SEM framework. Besides questions on demographic information, some exemplary interview questions were 'How did you hear about the games?', 'What made you want to participate in the games?', 'How does leisure activity (sport) impact your daily life?', 'Why did you pick this activity (sport) as your leisure activity?', 'Why do you compete in the senior games rather than just enjoy your activity as recreation?', 'When did you begin your leisure activity to participate in the senior games?', 'What is the meaning of the senior games to you?', 'What is different about your leisure activity before and after participating in the senior games?', 'Normally, how much time do you spend doing your leisure activity on a weekly basis?', 'Do you spend more time doing your leisure activity while preparing to participate in the senior games?', 'Do you play any other sports besides your current activity?', and, lastly, 'Are you pursuing participation in the National Senior Games?' During the interview, the entire conversation was transcribed to extract meaningful keywords and contents related to the senior game(s) in which they participated.

An Institutional Review Board (IRB: 1405129271) approved this study. The study site for this research was the Tennessee Senior Games (TSGs) in 2014. The TSGs offered the following games: archery, badminton, basketball, volleyball, bowling, cycling, field (i.e., high jump, javelin, triple jump), golf, pickleball, racquetball, road races (i.e., 5 k, 10 k), softball, shuffleboard, swimming, table tennis, tennis, and track (i.e., 500 m run, 1500 m run).

3.2. Demographic Information

A summary of the demographic characteristics of this sample of TSG participants and the information on the individual participants are included in Tables 1 and 2. A total of 19 older adults from the TSGs were interviewed. A little more than half ($n = 10$) were female, and nine were male ($n = 9$). Of all interviewees, four were from cycling games, four were from softball, seven were from track and field, two were from archery, and two were from

volleyball. The mean age of the interviewees was 64.95 years ($SD = 7.7$), and one sample was over 80 years old. Almost 90% of the respondents were Caucasian ($n = 17$), and less than 10% were African American ($n = 2$). About 47.4% of the participants were employed, and the rest (52.6%) were retired from work. The proportion of married/partnered people (68.4%) was almost double the single/divorced/widowed proportion (31.6%). The average number of times participating in the annual state games was 3.4 times.

Table 1. Demographic information of the participants ($N = 19$).

Characteristics	N	%
Age		
51–60	6	31.6%
61–70	10	52.7%
71–80	2	10.6%
81–90	1	5.3%
Gender		
Male	9	47.4%
Female	10	52.6%
Race		
Caucasian	17	89.5%
African American	2	10.5%
Sport games		
Individual games	13	68.4%
Group games	6	31.6%
Education		
High School	1	5.3%
College	11	57.9%
Graduate School	7	36.8%
Employment		
Employed	9	47.4%
Retired	10	52.6%
Marital status		
Married/Partnered	13	68.4%
Other (single, divorced, widowed)	6	31.6%
Household income 2013		
\$30,000–\$49,999	6	31.6%
\$50,000–\$74,999	5	26.3%
\$75,000 or More	8	42.1%
State (National) games participation		
One time	5 (3)	26.3% (50%)
Two times	2 (1)	10.5% (16.7%)
More than three times	12 (2)	63.2% (33.3%)
Perceived health status		
Good	4	21.1%
Very Good	8	42.1%
Excellent	7	36.8%

Table 2. Information on the individual participants ($N = 19$).

N	Gender	Age	Games	Marital Status	Ethnicity/ Race	Employment Status	Number of Times Participating in the TSGs
1	Male	67	Cycling	Married	Caucasian	Retired	3
2	Male	68	Cycling	Married	Caucasian	Retired	4
3	Female	69	Cycling	Single/ widowed	Caucasian	Retired	1
4	Female	61	Cycling	Married	Caucasian	Retired	1
5	Female	62	Soft ball	Married	Caucasian	Employed	2

Table 2. Cont.

N	Gender	Age	Games	Marital Status	Ethnicity/ Race	Employment Status	Number of Times Participating in the TSGs
6	Female	60	Soft ball	Married	Caucasian	Retired	10
7	Female	62	Soft ball	Single/ widowed	Caucasian	Employed	8
8	Female	56	Soft ball	Single/ widowed	Caucasian		3
9	Male	60	Track and Field	Married	African American	Employed	1
10	Male	79	Track and Field	Married	Caucasian	Retired	3
11	Male	65	Track and Field	Married	Caucasian	Employed	1
12	Male	72	Track and Field	Married	Caucasian	Employed	2
13	Female	60	Track and Field	Married	Caucasian	Retired	4
14	Male	87	Track and Field	Single/ widowed	Caucasian	Retired	6
15	Female	59	Track and Field	Single/ widowed	African American	Employed	6
16	Male	58	Archery	Married	Caucasian	Employed	6
17	Female	61	Archery	Married	Caucasian	Employed	1
18	Female	61	Volleyball	Single/ widowed	Caucasian	Employed	10
19	Male	67	Volleyball	Married	Caucasian	Retired	12

4. Results

4.1. Intrapersonal Factors and LTPA with TSG Participation

First, socioeconomic status (SES) was retrieved from the interview data. This study showed that most of the TSG participants were Caucasian and had higher education levels and incomes: About 95% of the respondents had a higher education level with either a college degree (57.9%) or graduate degree (36.8%). In 2013, about 68% of the interviewees earned more than \$50,000 as their total income. As other research proved the importance of SES for LTPA [27,28], these outcomes also supported how SES was important for TSG participation. Although ethnicity is not a part of SES, Caucasian was the predominate ethnicity in the senior games. However, this huge gap in participation according to ethnicity can be difficult to generalize for the entire sample, since it can be differentiated by living area and type of LTPA. For example, many older adults who played table tennis were mostly of Asian descent, and certain sports games (i.e., basketball) had more African American participants.

Regarding perceived functional ability, the meaningful results for TSG participation showed that older adults gained more positive perceived health conditions. One female cycling athlete who was 69 years old mentioned that the TSGs made her healthier and made her feel better about her health when asked what the difference was after participating in the senior games.

“Before TSG participation I sat on the couch more and watched TV, but now have become more active”.

Another female cycling athlete who was 61 years old cited similar positive health conditions as the outcome of participating in the TSGs.

“The (senior) game keeps people active, makes people get out, and lets them know they are still young”.

These responses evidence that the older adults became more active after TSG participation and gained higher perceived functional abilities.

Lastly, three main motivations emerged from the data analysis that described TSG participation: (1) physical health through being active, (2) positive feelings (i.e., fun, enjoyment, accomplishment, challenge), and (3) competition. First, regarding physical health, most of the interviewees expressed that they gained better physical health through an active lifestyle while they prepared for and participated in the TSGs. For instance, one male athlete in track and field who was 79 years old mentioned that TSG participation made him go back to being active and prevented him from having a sedentary life. Another two athletes in track and field enjoyed the TSGs because they kept them active and in good health. One 67-year-old male cyclist stated that he participated in the TSGs because they kept him in shape. Another 69-year-old female cyclist mentioned that she spent most of her leisure time watching TV before TSG participation. However, she became healthier and more active through TSG participation.

“Since I joined this game, I feel like younger now. I don’t feel like my age. It’s like getting healthier physically and mentally”.

Regarding positive feelings, while older adults enjoyed the games, they also liked to compete with other older athletes. In more detail, one 62-year-old female softball player mentioned that she had fun when socializing and traveling. The TSGs also provided older adults with a challenge and motivation through competition. A 58-year-old archery male athlete insisted on the importance of TSG participation, as it allowed him to have fun while overcoming challenges. A 61-year-old female cyclist stated that she wanted to participate in the TSGs because she liked challenges and competition with others. Through TSG participation, the older adults acquired favorable feelings and were motivated to continue their LTPA. Some quotes are shown below.

“I get to socialize and travel and see other old friends. It is fun to have a game with them and this is a new experience”.

“... enjoy life no matter how old we are. Not giving up and there are lots of fun things to do that are challenging”.

“I like to challenge myself and like competing”.

The older adults also expressed a high level of perceived accomplishment through TSG participation while they competed with other similar age groups and improved their skills. For instance, a 72-year-old male track and field interviewee related TSG participation to “accomplishment, to do something and do it well and feels good when you do something well”. A female 61-year-old volleyball player meaningfully stated the reason for participating in the senior games rather than just enjoying LTPA individually: “To compete with others in the same competition group, you should develop a higher level of skill. It is always fun to win. Accomplishment, progress, and improvement of my skills are all about personal achievement at this age”. Another female 62-year-old volleyball athlete also expressed the following about TSG participation: “I look forward to coming up here and you look forward to coming home and bragging about still being able to play ball. It gives me a sense of accomplishment”. Unlike engaging in LTPA individually, through TSG participation, the older adults could be more social with other older adults and feel accomplishment through competition.

Lastly, the older adults wanted to participate in the TSGs to enjoy the competition. A 72-year-old male track and field athlete wanted to participate in the TSGs because he enjoyed competition with other participants. Another 87-year-old male track and field participant mentioned that he wanted to participate in the TSGs because of the “opportunity to compete with a similar age group”. A 67-year-old male cyclist said, “I do enjoy recreation, but the competition makes me push harder and focus more because I want to be a competitor”. As competition was one of the important factors for continuing LTPA

through TSG participation, this result showed that organizing age-appropriate programs with competitions is important.

4.2. Interpersonal Factors and LTPA with TSG Participation

In this research, interpersonal factors also played a critically important role in encountering and participating in the TSGs for continuous LTPA. First, more than two-thirds of interviewees said that they could engage in the TSGs because of their family members, friends, exercise coaches, and patients. One softball athlete who was 62 years old said, "I've played softball my whole life, but I quit after my husband died. My friends knew I needed to get back into life and called to come and play". So far, she participated in the TSGs eight times, and she also mentioned, "You get to socialize and travel with friends. You get to see old friends". Another 67-year-old volleyball player could participate in the TSGs because "I was told by someone who was currently playing in the games that I would be able to play in the senior games". After his first participation, he joined the TSGs twelve times because "It is a lot of good comradeship between people. There is a bond with very nice and educated people. These guys are really smart, and I learn from them a lot". For some older adults, the TSGs mainly contributed to being more socially engaged, such as by meeting other active older athletes.

Second, the older adults wanted to make friends in order to share comradeship while they participate in the TSGs. A 79-year-old male track and field athlete stated about TSG participation, "I enjoy competition, enjoy a meeting new people, learning about other people, where they live, and what they do. It is interesting how connections are made between people from other places, it's social". A 68-year-old male retired cycling athlete mentioned: "It is more social. When you retire, you don't have to work. So we don't have social activity. It is a fun thing to meet other people". A 60-year-old softball player who participated in the TSGs ten times expressed: "I like the competitiveness and comradeship. We have a good time. The feeling is good of just being around other people".

Third, the TSGs also provided the opportunity to meet other older adults who had similar behavior of LTPA and were more social. A 58-year-old male archer mainly participated in the TSG because "it is hard to find in my area this many people who are interested in archery". A 68-year-old male cyclist also cited the reason for TSG participation as "TSG participation is a fun thing to meet other people". Therefore, interpersonal factors were a motivation for participation in the TSGs and maintaining and facilitating LTPA, since older adults can have a chance to meet other older athletes who want to compete and share comradeship through TSG participation.

4.3. Community Factors and LTPA with TSG Participation

In terms of community factors, some of the most important factors for older adults' LTPA are access to sports facilities and the need for professional help [9,32]. Since not all areas are equipped with good facilities, such as for track and field, the TSGs provide good opportunities to use community facilities, which are difficult to access individually. A 79-year-old athlete explained why TSG participation is important for continuous LTPA: "In my town, it is hard to find high jumping equipment, so I usually do running normally. TSG gives me a chance to do high jump under safe conditions". Therefore, the TSGs provide an arena for older adults to engage in LTPA. Regarding professional help, sports facilities provide older adults with the opportunity to choose games based on their preferences, while individual athletes who want to compete in group sports have no teams. Older adults can be matched with a team through the community, as many older adults experienced in the TSGs use community sports complexes.

Community factors also played an important role in providing information for older adults' TSG participation. One-third of the interviewees mentioned that they heard about the TSGs from a sports complex newsletter, posters at a senior citizen center, local news, Nashville public television, and newspapers. Like interpersonal factors, advertisements in communities aroused action for TSG participation. Lastly, safety issues are also critical for

TSG participation for older adults. Since the community and TSGs provide professional game staff, volunteers, EMS, and equipment, older adults can just focus on the games. Although these services are not directly related to the operation of the TSGs, community support is critical for successful TSGs.

4.4. TSGs as an Organizational Factor and LTPA

To find out the important role of TSGs, one question was asked: “What is different about your LTPA before and after participating in the TSGs?” First, regarding physical health and an active lifestyle, one female softball athlete who was 60 years old said that she was “very active for several months before the games”. Another female track and field athlete who was 60 years old and participated in the TSGs four times mentioned, “I am more active, I participate in a diversity of things. It also has introduced me to some new activities”. This means that TSG participation enabled her to find other new activities. She also mentioned that the TSGs provided her with the chance to travel more and compete with other older athletes. Secondly, as social benefits, one male cycling athlete who was 68 years old said, “When you retire you don’t have to work. So, we don’t have social activity. It is a fun thing to meet other people”. This showed that the TSGs provide an opportunity to be social with other older adults. Therefore, older adults can be more physically active and social through the TSGs. These results support the findings of Cardenas et al. [14], who examined how the North Carolina Senior Games (NCSGs) played an important role in maintaining older adults’ physical and social lives.

Two questions were asked to find out how the TSGs impacted individuals’ LTPA: (1) “Normally, how much time do you spend doing your LTPA on a weekly basis?” and (2) “Do you spend more time in LTPA while you are preparing to participate in the TSGs?” According to a recommendation from the Centers for Disease Control and Prevention [CDC] [34], older adults need more than 30 min of moderate physical activity five or more days per week. This is about 2 and a half hours per week based on sessions of 30 min. One female cyclist who was 69 years old normally rode 10 h per week and increased this by 5 h to prepare for the games. An 87-year-old male track and field athlete participated in LTPA for about 6 h per week, and for the TSGs, he said that he spent more time doing so. There was one 61-year-old female volleyball athlete who participated in the TSGs 10 times and the NSGs 5 times, and she also mentioned that she normally spent 6 to 7 h on LTPA and a little bit more to prepare for the games. Two exceptional cases were also found; even though they spent more than the average time recommended by the CDC, they could not increase their LTPA for TSG participation because of their jobs. However, they mentioned that they would spend more time on LTPA when they retire from work. Therefore, although most interviewees already engaged in LTPA for more than the average time recommended by the CDC, they spent even more time on LTPA to participate in the TSGs. Therefore, the TSGs can play an important mediating role in increasing individuals’ LTPA time.

5. Conclusions

5.1. Discussion

The purpose of this research was to identify how, as a CBLP, the TSGs interact with older adults’ LTPA based on the SEM approach. The results from the qualitative study showed that the TSGs play an important role in enhancing older adults’ continuous LTPA, as they present a ground for various factors to synthetically affect older adults’ LTPA. Specifically, the TSGs are highly interrelated with other social–ecological factors such as intrapersonal factors (i.e., SES, motivation), interpersonal factors (i.e., friends, family), community factors (i.e., local sport complex), and individual benefits (i.e., physical health, social relationship, increased time spent on LTPA).

As for intrapersonal factors, SES, perceived health condition, and motivation were prominent in the relationship between older adults’ LTPA and TSG participation. First, the results of the current research revealed that most of the TSG participants possessed comparatively higher education and income in their age groups, as related research on

other senior games showed that older adults who participated in senior games were mostly Caucasian and had a higher education level and high income [1,14]. Although the current research setting was restricted, the study still implied that SES can play a meaningful role in differentiating the level of LTPA [15]. Therefore, CBLP organizers might need to make more effort to entice older adults with a comparatively lower education and income to participate in CBLPs with various benefits, such as discounted participation fees. Second, TSG participants mostly had good perceived health, and they were able to elevate their perceived health through TSG participation. As Cardenas et al. [14] found in the North Carolina State Games, this study also had similar results, as all of the interviewees mentioned that their perceived health was from good to great. Third, three main motivations for TSG participation were extracted from the individual interviews: physical health, positive feelings (i.e., fun, enjoyment, accomplishment), and competition. The interviewees mentioned physical health and positive feelings, such as fun and enjoyment, when talking about LTPA, and they added competition in relation to TSG participation. Although competitiveness and competition do not match the traditional stereotypical image of older adults as non-athletic and non-competitive [35], this study showed that older adults also liked to be competitive, and the prejudice about older adults being static and still can be changed through CBLP participation. This result supports other studies that have reported that competitive sports games for older adults encourage high levels of competition [14,36,37].

Interpersonal factors are especially important for older adults' LTPA, since many older adults are isolated from society and others in their age groups because of retirement and mortality issues. According to the results, older adults mostly started their participation in the TSGs with support from family, friends, and other LTPA colleagues. In addition, older adults continued their TSG participation for comradeship. Therefore, interpersonal factors play a crucial role in encouraging and continuing TSG participation.

Community factors also closely interacted with TSG participation, since most of the older adults who were enrolled in community sports complex heard about the TSGs for the first time because the complexes advertised the TSGs. In addition, local newspapers, billboards, and TV were also important resources for engaging in TSG participation. In the TSG venue, the community provided locations for the TSGs with professional staff, volunteers, and EMS. These factors gave intangible support for successful events. Lastly, TSG participation made older adults more social and active. In addition, older adults spent more time on LTPA to participate in the TSGs.

5.2. Implications

According to the findings, our research suggests some implications for CBLP organizers. First, CBLP organizers should consider increasing their communication and promotion efforts for older adults. Providing more information to experienced older adults and advertising more in sports complexes and on billboards can be helpful for bringing about more participation in the TSGs, since many older adults encounter the TSGs for the first time through either current CBLP participants or community advertisements. Secondly, building a stronger bond through community support is one of the key factors. Professional staff for TSG operation, volunteers, and EMS can provide an influence on participants' impressions, and satisfied athletes can bring more potential TSG participants. Third, a decent pricing strategy could be more effective for older adults than for other people. Although it is not directly related to the TSGs, cooperation with local restaurants and accommodation and discounted prices or a good quality of services can draw more participants. Regarding socioeconomic information, mostly older adults who have a stable and high income participate in the TSGs. Due to the SES of the research sample, the aforementioned result is only applicable to people with a similar SES. Third, making networks between older adults and social support can play an important role in maintaining LTPA and participating in CBLPs.

5.3. Limitations and Suggestions for Future Research

Although this study comprehensively explained older adults' LTPA and their TSG participation, there are several limitations that can be linked to future research suggestions. First, this study only examined personal interviews with a few samples and was skewed toward mostly white participants with higher education and stable incomes. To generalize this conception, more research in other areas and different types of activities are needed. Secondly, it is difficult to generalize only older adults who participate in CBLPs and are pursuing healthy and successful aging. Since many other older adults who have not participated in the TSGs also actively engage in LTPA regardless of their CBLP participation, research in other areas, such as among non-competitive older adults who actively engage in the use of parks, can be a good research model. Third, although the SEM provides a comprehensive approach to individual health behavior, it might be difficult to distinguish which factors have the most interaction. There are still many things that are needed to explore the relationships between LTPA and participation in CBLPs and other activities for older adults. In conclusion, there is no doubt that a social–ecological approach can explain individual behavior from various perspectives.

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