



Personal Backgrounds and Differences in Urban Older Adults' Leisure Time Use

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Authors' contributions

This work was carried out in collaboration among all authors. Author MOC conducted the initial literature search, designed and coordinated the study and wrote the first draft of the manuscript. Author DK performed the initial statistical analysis and completed the initial and final manuscripts. Author AI updated the literature review, performed additional statistical analysis and contributed to later drafts. All authors read and approved the final manuscript.

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ABSTRACT

Aim: The study focused on healthy, urban-dwelling older adults. Its aims were to: (1) identify patterns and gaps in their allocation of time to leisure activities, and (2) assess how these patterns compared according to their personal background characteristics.

Study Design: A printed questionnaire collected data from volunteers aged 55+ on personal background factors and time spent on 20 types of activities during the past week.

Place and Duration of Study: Data were collected over three months in 2011 from volunteers at seniors' centres, malls, and through personal contacts in a western Canadian city.

Methodology: The study was guided by research questions about how choices of individual activities and activity categories compared according to background characteristics. Statistical

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analyses were conducted using IBM SPSS Statistics for Macintosh, version 19.

Results: Of the 343 surveys distributed, 86.9% were returned fully completed and usable. Respondents spent an average of 76.6 hours per week in leisure, with 63.2% in active activities. Respondents spent the most time, in descending order, in sub-categories passive leisure, cognitively active leisure, and socially active leisure. 94.2% of respondents' leisure time was spent on activities for themselves rather than for others. T-tests and ANOVAs identified differences with respect to background characteristics; time spent on particular leisure activities and activity categories differed significantly according to gender, age, work status, income, ethnic origin, marital status, living situation, education, and income ($P < .05$).

Conclusion: The study confirmed that time spent by healthy urban older adults time on particular leisure activities and categories of activities differed significantly with respect to personal background characteristics. The results suggest that while respondents were physically active, they preferred more solitary activities and might be missing opportunities for enhanced well-being from education, more social leisure time, and volunteer activities.

Keywords: Urban older adults; aging; leisure time use; leisure activity; personal background factors.

1. INTRODUCTION

Worldwide populations are aging quickly. By 2030 there will be more people worldwide over age 60 than under 10, and in Canada, close to 25% of the population will be over age 65 [1,2]. Life expectancies at ages 60 and 80 are steadily increasing in high-income countries [3], while retirement ages remain below 65 years [4-6]. With a mean life expectancy of 85.2 years [7,8], older adults in developed countries can thus be expected to live at least 20 years after retirement. This longevity can be a blessing, but it raises important questions about how older adults can experience these later years with good health, enjoyment, and satisfaction. Older adults' quality of life has become just as important as their quantity of life.

Aging and retirement from paid work bring increased leisure, defined by the Organisation for Economic Co-operation and Development (OECD) [9] in terms of time (time free from obligation), activities (those that we choose to do voluntarily), and state of mind (activities that bring enjoyment and pleasure). Leisure time for retired older adults is the great majority of time in daily life. Canadian men aged 65 to 74 spend almost eight hours per day in leisure, and women in this age group spend an average of 7.2 hours [10]. Canadian older adults spend their increased leisure time in both active and passive leisure. Hobbies, social activities, volunteer work, and home activities such as watching TV and reading books have been found to increase with age; women spend more time in social activities while men spend more time in sports-related activities [10-13]. Average household spending by Canadians aged 65 and over on culture and

recreational activities increased from about \$13,000 to over \$15,000 between 1997 and 2006 [14]. Education level has been found to predict older adults' participation in organizations in later life; Canadian seniors with a university degree are almost five times more involved in education, hobby and cultural organizations than those with less than a high school education [10]. In the UK, healthy older adults have been found to participate in a wide variety of leisure activities and to generally feel positive about doing so [15].

While there is no formula to suggest how to use leisure time most effectively, much recent research suggests that using leisure time in active cognitive, social, physical, and other-directed pursuits is associated with older adults' health and life satisfaction [16-18]. Good health facilitates active leisure activities such as social activities and generates life satisfaction [7,10]. Mental and physical leisure activities enhance physical and psychological health, and leisure activities have been found to be important ways of developing and nurturing health-promoting social relationships [19-23]. Volunteer work may result in positive feelings and has been shown to contribute to positive self-esteem and life satisfaction [24,25].

Living in an urban environment presents unique opportunities and challenges for older adults, with increased availability of health care, entertainment, and culture, together with lower neighbourhood safety, less social support, and higher costs [26,27]. Sixty-one percent of Canadian seniors lived in metropolitan areas in 2011 [28]. This means that about six of every ten seniors live in an urban center with at least 50,000 residents. Seniors prefer the largest

urban areas such as Toronto, Vancouver and Montreal, accounting for 11.1%, 12.1% and 13.0% of the population respectively; more than one-third of all seniors in Canada (36.2%) live in one of these three big cities [29]. Older adults in big cities have been found to differ from those in rural areas with regard to their activities, lifestyle, and use of leisure time [27]. Research is inconclusive, however, on whether living in an urban environment contributes to social isolation and loneliness; one study did find greater loneliness among urban older adults compared to those in a rural setting [30,31].

Since older adults are a heterogeneous group with varying personal background factors, they use their leisure time in varying ways [18,32]. Older adults are now entering their retirement years with different backgrounds than those in past studies, including greater experience with and comfort with technology [33], and it is useful to update past studies to determine how a current group of longer-lived adults is choosing to allocate their leisure time. Understanding their choices is a crucial foundation for effective support while they age.

The goal of this study was to produce a current picture of the leisure time use of generally healthy adults aged 55 and over in a Canadian metropolitan area. The purposes of the study were to: (1) identify patterns and gaps in their allocation of leisure time to leisure activities, and (2) assess how these patterns compared according to their personal background characteristics. The results are intended to suggest opportunities for educational and recreational interventions to enhance older adults' quality of life, while remaining compatible with their backgrounds and preferences about leisure time use. This work is an early part of a larger initiative to provide technology-based educational interventions for older adults to help maintain and support their cognitive capabilities and social engagement during the aging process [34,35].

2. METHODOLOGY

This study examined self-reported leisure time use among people aged 55 years and older in a western Canadian city. Prior to beginning the study, ethics approval was obtained from the Department of Research Ethics at the university conducting the study.

2.1 Research Questions

Hypothesizing that older adults' leisure time choices differ with their personal backgrounds, the study was guided by the following research questions: (1) What significant differences are there in urban older adults' allocation of their leisure time among individual leisure activities, according to their background characteristics? (2) What significant differences are there in urban older adults' allocation of their leisure time among active versus passive activities, according to their background characteristics? (3) What significant differences are there in urban older adults' allocation of their leisure time among cognitively active activities, socially active activities, physically active activities, and volunteer/ care work, according to their background characteristics? and (4) What significant differences are there in urban older adults' allocation of their leisure time among activities contributing to oneself or to others, according to their background characteristics?

2.2 Procedures

The study used a paper questionnaire. Between July 20 and October 31, 2011, envelopes containing an explanatory cover letter, a consent form, the anonymous respondent questionnaire, and a stamped return envelope were distributed by the researchers and by student volunteers to a convenience sample of older adults who agreed to participate before receiving the questionnaire. The volunteer participants were recruited through local seniors' centres (with the permission of the centre directors), public malls (with the permission of mall managers), and through the personal contacts of students in a gerontology class at the university where the study was conducted.

2.3 Questionnaire and Measures

The questionnaire, developed by the authors, asked about respondents' personal backgrounds and their leisure time use in 20 activity categories during the past seven days. Personal background factors included gender, age, ethnic background, marital status, health status, work status, education level, and category of current household income.

Data about leisure activities were collected in a self-report form. Respondents indicated on numerical scales the accumulated hours they

had spent during the past seven days. The list of possible activities was based on established Canadian and international time use surveys used by Brooker and Hyman [7] and OECD [9], which provide two broad leisure time categories (active/ passive leisure and personal/ social contribution), along with four sub-categories of active leisure time use: cognitive, social, physically active, and volunteer work. Construct validity for the questionnaire was assured by basing the questionnaire on these existing validated categories. Face validity was established by pilot testing the questionnaire with five seniors prior to starting the full study.

2.4 Sample

A total of 343 surveys were distributed and returned, resulting in a response rate of 100%. Two hundred ninety-eight of these (86.9%) were fully completed and usable; questionnaires were excluded for respondents who were under 55 years of age or engaged in full-time work. The 298 participants included 92 males and 206 females with ages ranging from 55 to 93 and a mean age of 68.6 ($SD=9.51$).

To compare age-related differences in leisure time use, the sample was divided into three groups. Age 65 was used for the first cutoff, since it has become institutionalized as retirement age in North America and has been used extensively as a proxy for retirement age in empirical research [6]. A second cutoff was established at age 75 to investigate whether age-related differences in leisure time use appeared more pronounced with advancing age. Respondents were grouped into the subgroups pre-seniors, aged 55 to 64 ($N=123$, $M=59.7$ years, $SD=3.1$), young seniors, aged 65 to 74 ($N=93$, $M=69.2$, $SD=2.9$), and older seniors, aged 75 to 93 ($N=82$, $M=81.3$, $SD=4.7$) [36].

2.5 Statistical Tests

Statistical tests were used to compare background characteristics as well as mean hours spent in individual activities and categories of activities with respect to personal background characteristics. Chi-square tests were used to compare background characteristics of the three age groups. T-tests were used to compare across gender and work status (retired or working part-time). One-way analyses of variance (ANOVAs) were used to compare mean hours across categories of age (pre-seniors,

young seniors, and older seniors), ethnic origin, marital status, living situation (living with spouse, children, relatives or alone), current health, education, and household income. All analysis was done using IBM SPSS Statistics for Macintosh, version 19.

3. RESULTS

3.1 Respondents' Background Characteristics

Table 1 summarizes the personal background characteristics of the 298 respondents. The majority (69.1%, $N=206$) of respondents were female. Caucasians comprised 59.9% ($N=178$) of respondents, and a large minority (36.4%, $N=108$) described themselves as Asian. Married or common-law status was reported by 59.4% percent ($N=177$). Fifty-seven percent ($N=170$) lived with their spouses, while 32.9% ($N=98$) lived alone. 76.5% were retired ($N=228$), with the remainder working part-time. Excellent, very good, or good health was reported by 84.9% of respondents ($N=253$). Respondents were moderately well-educated, with 70.4% ($N=210$) reporting at least some post-secondary study. Income was somewhat evenly distributed across all five categories, from less than \$20,000 to over \$60,000 per year, with slightly higher frequencies in the lowest and highest categories.

The largest age category was pre-seniors ($N=123$), with numbers decreasing to 93 young seniors and 82 older seniors. Mean ages (not shown in the table) were 59.7 for pre-seniors, 69.2 for young seniors ($SD=2.9$), and 81.3 ($SD=4.7$) for older seniors.

Chi-square tests identified significant differences across age categories in ethnic origin, marital status, living situation, work status, and education ($P<.01$) and in household income ($P<.05$). Older seniors were more likely to be Caucasian. The percentages of married or common-law respondents, and of those living with a spouse, decreased with age category, while the percentages of those widowed, and of respondents living alone, increased. Percentages of retired respondents increased with age category. Percentages of respondents that had not completed high school increased with age, as did percentages in lower income categories. There were no significant differences according to gender or current health, although slightly higher percentages reported poorer health as ages increased.

Table 1. Respondents' background characteristics

		All respondents N (%)	Pre-seniors N (%)	Young seniors N (%)	Older seniors N (%)	Chi- square
Gender	Male	92 (30.9)	40 (32.5)	24 (25.8)	28 (34.1)	.43
	Female	206 (69.1)	83 (67.5)	69 (74.2)	54 (65.9)	
	Total	298 (100.0)	123 (100.0)	93 (100.0)	82 (100.0)	
Ethnic origin	Caucasian	178 (59.9)	53 (43.1)	61 (66.3)	64 (78.0)	28.87**
	Asian	108 (36.4)	62 (50.4)	28 (30.4)	18 (22.0)	
	Hispanic	11 (3.7)	8 (6.5)	3 (3.3)	0 (0.0)	
	Total	297 (100.0)	123 (100.0)	92 (100.0)	82 (100.0)	
Marital status	Married or common-law	177 (59.4)	89 (72.4)	57 (61.3)	31 (37.8)	35.97**
	Divorced or separated	46 (15.4)	17 (13.8)	15 (16.1)	14 (17.1)	
	Widowed	52 (17.4)	10 (8.1)	12 (12.9)	30 (36.6)	
	Single	23 (7.7)	7 (5.7)	9 (9.7)	7 (8.5)	
	Total	298 (100.0)	123 (100.0)	93 (100.0)	82 (100.0)	
Live with	Spouse	170 (57.0)	84 (68.3)	56 (60.2)	30 (36.6)	27.55**
	Child(ren)	26 (8.7)	13 (10.6)	6 (6.5)	7 (8.5)	
	Relatives	4 (1.3)	2 (1.6)	1 (1.1)	1 (1.2)	
	Alone	98 (32.9)	24 (19.5)	30 (32.3)	44 (53.7)	
	Total	298 (100.0)	123 (100.0)	93 (100.0)	82 (100.0)	
Work status	Retired	228 (76.5)	70 (56.9)	80 (86.0)	78 (95.1)	46.78**
	Working part-time	70 (23.5)	53 (43.1)	13 (14.0)	4 (4.9)	
	Total	298 (100.0)	123 (100.0)	93 (100.0)	81 (100.0)	
Current health	Excellent or very good	156 (52.3)	69 (56.1)	50 (53.8)	37 (45.1)	5.88
	Good	97 (32.6)	35 (28.5)	34 (36.6)	28 (34.1)	
	Fair or poor	45 (15.1)	19 (15.4)	9 (9.7)	17 (20.7)	
	Total	298 (100.0)	123 (100.0)	93 (100.0)	82 (100.0)	
Education	Did not complete high school	39 (13.1)	6 (4.9)	11 (11.8)	22 (26.8)	28.15**
	High school graduation	49 (16.4)	27 (22.0)	13 (14.0)	9 (11.0)	
	Some post-secondary	102 (34.2)	37 (30.1)	38 (40.9)	27 (32.9)	
	Bachelor's degree	73 (24.5)	38 (30.9)	19 (20.4)	16 (19.5)	
	Master's degree and beyond	35 (11.7)	15 (12.2)	12 (12.9)	8 (9.8)	
	Total	298 (100.0)	123 (100.0)	93 (100.0)	82 (100.0)	
	Household income	Less than \$20,000	64 (21.5)	22 (17.9)	20 (21.5)	
\$20,000 - \$29,999		57 (19.1)	20 (16.3)	17 (18.3)	20 (24.4)	
\$30,000 - \$39,999		43 (14.4)	11 (8.9)	19 (20.4)	13 (15.9)	
\$40,000 - \$59,999		59 (19.8)	32 (26.0)	13 (14.0)	14 (17.1)	
\$60,000 or more		75 (25.2)	38 (30.9)	24 (25.8)	13 (15.9)	
Total		298 (100.0)	123 (100.0)	93 (100.0)	82 (100.0)	

* $P < .05$, ** $P < .01$

A chi-square test (not reported in the table) showed significant differences in household income according to work status ($P<.01$); 45.7% of non-retired respondents reported incomes greater than \$60,000, and 20.0% reported incomes less than \$30,000, compared to 18.9% and 46.9%, respectively, of retired respondents.

3.2 Respondents' Leisure Time Use

Table 2 presents respondents' allocation of their leisure time to individual activities. Overall, their mean leisure time hours were 76.6 hours per week, or more than 10 hours per day. Comparisons across background characteristics (not included in a table) showed significant differences with respect to age group and work status, with young seniors and older seniors, as

well as retired respondents, reporting significantly more total leisure hours ($P<.01$). (Pre-seniors were significantly less likely to be retired, as seen in Table 1) A comparison with household income also showed a significant difference, with the highest income category reporting the lowest total leisure time ($P<.05$). Differences in total leisure time across other characteristics were not significant.

Respondents averaged more time in active leisure than passive leisure activities. A separate paired-samples t-test was done to compare active leisure hours with passive leisure hours for all participants; the number of hours spent in active leisure ($M=47.4$ $SD=24.4$) was significantly greater ($P<.001$) than in passive leisure ($M=29.2$ $SD=21.8$).

Table 2. Leisure time use by type of activity

Category	Sub-category	Mean hours per week (% of mean total leisure hours)	Activity	Mean hours per week (% of mean total leisure hours)
Active leisure	Cognitively active	23.6 (31.0)	1. Reading (books/papers/magazines)	8.6 (11.0)
			2. Using a computer or the Internet	7.9 (10.7)
			3. Hobbies	3.1 (3.9)
			4. Attending educational activities	1.6 (2.2)
			5. Playing cards and board games	1.0 (1.4)
			6. Writing letters	.8 (1.2)
			7. Attending entertaining/ sports events	.5 (.7)
	Socially active	13.4 (18.2)	8. Socializing with friends, relatives	7.2 (9.4)
			9. Talking on the phone	3.1 (4.5)
			10. Social club, pub, restaurant	1.8 (2.4)
			11. Cinema, theatre, dance, parties	1.3 (1.9)
	Physically active	6.2 (8.2)	12. Exercising, walking, sports	6.2 (8.2)
	Volunteer/unpaid work	4.2 (5.8)	13. Volunteer work	2.1 (3.0)
			14. Child care	1.6 (2.1)
			15. Adult care	.5 (.7)
	Subtotal	47.4 (63.2)		
Passive leisure	Passive	29.2 (36.8)	16. Watching TV, video	13.1 (17.3)
			17. Relaxing	7.4 (8.8)
			18. Listening to the radio	5.6 (6.6)
			19. Listening to tapes, CDs	2.2 (2.9)
			20. Taking pleasure drives	.9 (1.2)
Total		76.6 (100.0%)		76.6 (100.0)

Mean hours spent on active activity subcategories were highest for cognitively active ($M=23.6$ hours) and socially active activities ($M=13.4$ hours). Five individual activities (watching television; reading books, newspapers, and magazines; using a computer and the Internet; relaxing; and socializing with friends and relatives) seemed to be habitual activities on which respondents spent an average of more than seven hours per week. Mean hours spent on physical activities were 6.2 hours per week, or nearly one hour per day.

The five Individual activities with the lowest mean hours spent per week were adult care, attending entertaining or sports events, writing letters, taking pleasure drives, and playing cards and board games. Educational activities occupied only a mean of 1.6 hours per week of respondents' leisure time use. A mean of 4.2 hours per week was spent on all volunteer and care activities, with only 2.1 hours per week spent on volunteer work.

3.3 Comparison of Specific Leisure Activities According to Personal Background Characteristics

Tables 3 through 7 compare mean hours of leisure time use on individual activities according to personal background variables. Among 20 activities, 16 were found to differ with respect to one or more background characteristics. The activities that showed no significant differences were playing cards and board games, adult care, listening to tapes and CDs, and taking pleasure drives.

With regard to gender (Table 3), women reported slightly more total leisure time than men (78.8 hours and 71.7 hours, respectively), but this difference was not statistically significant. Females spent significantly more time talking on the phone; attending events such as the cinema, theatre, dance, and parties; and listening to the radio ($P<.01$), and writing letters ($P<.05$). Males spent significantly more time visiting social clubs, pubs, and restaurants ($P<.05$).

With respect to age (Table 3), younger and older seniors reported significantly more total leisure time than did pre-seniors ($P<.01$). Time spent reading and listening to the radio increased with age category ($P<.01$), as did watching TV and relaxing ($P<.05$). Some activities with significant

differences with respect to age categories showed highest time use for young seniors; these included using a computer or the Internet and volunteer work ($P<.01$), as well as writing letters ($P<.05$).

Like older seniors, retired seniors (Table 3) reported significantly more total leisure time ($P<.01$). They spent significantly more time on reading; hobbies; attending social clubs, pubs and restaurants; exercising; child care; and relaxing ($P<.01$), along with listening to the radio ($P<.05$).

Significant differences with respect to ethnic origin (Table 4) included less time spent on educational activities by Asians ($P<.01$) and more time on volunteer work and listening to the radio by Caucasians ($P<.05$). Significant patterns of differences with respect to marital status (Table 4) were less clear but showed that single and married respondents allocated less time to cinema, theatre, dances, and parties ($P<.05$), while widowed and single respondents spent more time listening to the radio ($P<.05$). Comparisons with respect to living situation (Table 5) showed that those living with relatives were significantly more likely to write letters ($P<.01$) and attend entertaining and sports events ($P<.05$); these respondents were significantly less likely to listen to the radio ($P<.05$).

Comparisons with respect to education (Table 6) showed that participants with more education spent significantly more time on educational activities and in attending cinema, theatre, dance events, and parties ($P<.05$). Those with less educational attainment spent significantly more time on socializing with friends and relatives ($P<.01$) and on watching TV and video and relaxing ($P<.05$).

Respondents with higher incomes (Table 7) reported significantly less total leisure time than those with lower incomes ($P<.05$). They spent significantly less time on watching TV and video ($P<.05$) and on relaxing ($P<.01$); there were also significant ($P<.01$) but mixed patterns of participation in attending cinema, theatre, dance events, and parties; and in exercising, walking, and sports participation.

There were no significant differences with respect to health for any individual activity.

Table 3. Comparisons of hours spent on leisure activities according to personal background characteristics: significant differences with respect to gender, age group, and work status¹

Activity	Gender		<i>t</i> ²	Age group			<i>F</i> ³	Work status		<i>t</i> ²
	Male <i>M (SD)</i>	Female <i>M (SD)</i>		Pre-senior <i>M (SD)</i>	Young senior <i>M (SD)</i>	Older senior <i>M (SD)</i>		Working part-time <i>M (SD)</i>	Retired <i>M (SD)</i>	
	<i>N=92</i>	<i>N=206</i>		<i>N=123</i>	<i>N=93</i>	<i>N=82</i>		<i>N=70</i>	<i>N=228</i>	
1. Reading (books/papers/magazines)	7.4 (7.8)	9.2 (8.9)	1.62	6.7 (6.1)	8.5 (7.1)	11.8 (11.9)	9.40**	5.6 (4.5)	9.6 (9.3)	4.91**
2. Using a computer or the Internet	8.9 (11.6)	7.5 (9.1)	1.11	9.0 (9.8)	9.1 (11.2)	4.9 (7.8)	5.39**	7.9 (11.8)	7.9 (9.3)	.02
3. Hobbies	3.2 (5.4)	3.1 (4.8)	.23	2.9 (4.5)	3.2 (4.5)	3.4 (6.1)	.31	2.0 (3.1)	3.4 (5.4)	2.72**
6. Writing letters	.5 (1.0)	1.0 (2.1)	2.45*	.5 (1.2)	1.1 (2.5)	1.1 (1.7)	4.05*	.7 (2.1)	.9 (1.7)	.93
9. Talking on the phone	2.2 (2.5)	3.4 (3.6)	3.29**	3.0 (2.9)	3.3 (4.0)	2.9 (3.3)	.47	2.8 (2.9)	3.1 (3.5)	.67
10. Social club, pub, restaurant	2.3 (3.1)	1.6 (2.1)	2.03*	1.7 (2.2)	1.8 (2.7)	1.9 (2.6)	.12	1.2 (1.8)	2.0 (2.6)	2.93**
11. Cinema, theatre, dance, parties	.6 (1.5)	1.6 (3.0)	3.89**	1.1 (2.1)	1.3 (1.9)	1.7 (3.9)	1.42	1.1 (1.9)	1.4 (2.8)	.74
12. Exercising, walking, sports	6.8 (7.0)	5.9 (4.8)	1.29	5.3 (4.6)	6.8 (6.5)	6.7 (5.7)	2.40	4.4 (4.9)	6.7 (5.7)	3.11**
13. Volunteer work	1.7 (3.8)	2.3 (3.8)	1.32	1.4 (2.8)	3.1 (5.3)	2.2 (2.9)	5.03**	1.5 (3.3)	2.3 (4.0)	1.66
14. Child care	1.3 (4.0)	1.8 (6.3)	.77	1.4 (4.7)	2.6 (8.1)	.9 (2.9)	1.97	.5 (2.1)	2.0 (6.4)	2.90**
16. Watching TV, video	13.2 (11.0)	13.0 (10.9)	.16	10.9 (8.5)	14.9 (11.9)	14.3 (12.4)	4.44*	8.4 (6.9)	14.6 (11.5)	5.47**
17. Relaxing	7.3 (8.7)	7.5 (9.8)	.15	5.5 (5.9)	9.1 (12.1)	8.4 (9.9)	4.52*	5.3 (5.7)	8.0 (10.3)	2.85**
18. Listening to the radio	3.6 (4.5)	6.5 (10.6)	3.27**	4.8 (8.0)	4.4 (6.9)	8.3 (12.4)	4.89**	3.7 (6.8)	6.2 (9.8)	2.37*
Total leisure hours	71.7 (38.0)	78.8 (39.0)	1.46	67.4 (31.0)	84.0 (39.0)	82.1 (46.1)	6.21**	58.0 (31.7)	82.3 (39.1)	4.74**

¹Only activities with significant differences are shown. ²result of independent samples *t*-test across two categories. ³result of one-way ANOVA for test across more than two categories.

P*<.05, *P*<.01

Table 4. Comparisons of hours spent on leisure activities according to personal background characteristics: significant differences with respect to ethnic origin and marital status¹

Activity	Ethnic origin			F ²	Marital status				F ²
	Caucasian M (SD) N=178	Asian M (SD) N=108	Hispanic M (SD) N=11		Married or common- law M (SD) N=177	Divorced or separated M (SD) N=46	Widowed M (SD) N=52	Single N=23	
4. Attending educational activities	1.7 (4.2)	1.0 (2.5)	4.5 (4.1)	4.77**	1.4 (3.5)	2.4 (5.9)	1.4 (2.2)	1.3 (2.3)	.95
11. Cinema, theatre, dance, parties	1.4 (2.9)	1.2 (2.3)	1.0 (1.9)	.21	1.1 (2.1)	2.3 (4.5)	1.5 (2.5)	.9 (1.5)	3.24*
13. Volunteer work	2.6 (4.2)	1.4 (3.1)	1.5 (2.3)	4.11*	2.0 (3.9)	1.6 (2.5)	2.2 (3.1)	3.7 (6.3)	1.63
18. Listening to the radio	6.7 (10.9)	3.9 (5.3)	4.7 (8.5)	3.07*	4.4 (6.0)	6.5 (12.5)	7.9 (12.4)	7.9 (12.7)	2.66*
Total leisure hours	78.6 (40.1)	74.4 (37.5)	71.1 (30.5)	.51	74.4 (34.2)	82.0 (49.0)	78.6 (42.7)	78.4 (42.2)	.54

¹Only activities with significant differences are shown. ²result of one-way ANOVA for test across more than two categories. *P<.05, **P<.01

Table 5. Comparisons of hours spent on leisure activities according to personal background characteristics: Significant differences with respect to living situation¹

Activity	Live with				F ²
	Spouse M (SD) N=170	Child(ren) M (SD) N=26	Relatives M (SD) N=4	Alone M (SD) N=98	
6. Writing letters	.7 (1.8)	.8 (1.6)	3.8 (6.8)	.9 (1.5)	3.91**
7. Attending entertaining/ sports events	.5 (1.6)	.1 (.3)	2.5 (3.8)	.4 (1.3)	3.10*
18. Listening to the radio	4.5 (6.0)	6.5 (12.5)	.3 (.5)	2.8 (4.4)	2.95*
Total leisure hours	75.1 (34.5)	68.6 (38.2)	54.8 (31.5)	82.2 (45.4)	1.56

¹Only activities with significant differences are shown. ²result of one-way ANOVA for test across more than two categories. *P<.05, **P<.01

Table 6. Comparisons of hours spent on leisure activities according to personal background characteristics: significant differences with respect to education¹

Activity	Education					F ²
	Did not complete high school M (SD) N=39	High school graduation M (SD) N=49	Some post-secondary M (SD) N=102	Bachelor's degree M (SD) N=73	Master's degree and beyond M (SD) N=35	
4. Attending educational activities	.3 (.8)	.6 (1.4)	2.2 (5.4)	1.6 (2.4)	2.5 (3.8)	3.28*
8. Socializing with friends, relatives	10.9 (9.2)	6.2 (5.4)	7.6 (8.2)	5.6 (4.7)	6.4 (6.2)	4.13**
11. Cinema, theatre, dance, parties	.6 (1.2)	1.2 (2.7)	1.2 (3.2)	1.5 (2.1)	2.4 (2.6)	2.60*
16. Watching TV, video	16.8 (13.6)	15.1 (9.9)	13.5 (12.3)	10.4 (8.5)	10.7 (7.2)	3.17*
17. Relaxing	10.8 (11.9)	9.1 (11.9)	7.1 (9.8)	6.0 (6.0)	5.0 (5.8)	2.73*
Total leisure hours	82.8 (45.2)	77.3 (37.2)	80.7 (42.1)	67.6 (32.0)	75.7 (35.2)	1.53

¹Only activities with significant differences are shown. ²result of one-way ANOVA for test across more than two categories. *P<.05, **P<.01

Table 7. Comparisons of hours spent on leisure activities according to personal background characteristics: significant differences with respect to household income¹

Activity	Household income					F ²
	Less than \$20,000 M (SD) N=64	\$20,000–\$29,999 M (SD) N=57	\$30,000–\$39,999 M (SD) N=43	\$40,000–\$59,999 M (SD) N=59	\$60,000 or more M (SD) N=75	
11. Cinema, theatre, dance, parties	.9 (1.9)	.6 (1.3)	2.2 (4.7)	1.9 (2.7)	1.4 (2.0)	3.45**
12. Exercising, walking, sports	7.8 (7.8)	6.3 (4.9)	5.0 (3.7)	6.3 (5.7)	5.3 (4.3)	2.47*
16. Watching TV, video	15.2 (11.3)	14.1 (10.8)	13.7 (9.9)	13.8 (11.6)	9.7 (10.2)	2.73*
17. Relaxing	9.4 (12.6)	8.3 (8.3)	9.9 (10.8)	6.9 (9.2)	4.0 (4.4)	4.30**
Total leisure hours	81.3 (41.7)	77.9 (34.5)	84.2 (47.2)	81.4 (39.2)	63.5 (30.8)	3.13*

¹Only activities with significant differences are shown. ²result of one-way ANOVA for test across more than two categories. *P<.05, **P<.01

3.4 Comparisons of Active and Passive Leisure Time Use According to Personal Backgrounds

Grouping activities into broader “active” and “passive” categories reveals additional significant differences with respect to personal backgrounds (Table 8). Significantly more time was spent in active leisure activities by young seniors ($P<.05$), with passive leisure time use increasing with age ($P<.01$). Retired respondents spent significantly more time in both categories ($P<.01$). Those with better reported health status spent significantly more time in active activities ($P<.05$). Respondents with greater education spent significantly less time on passive activities ($P<.05$), as did those with higher incomes ($P<.01$).

Table 9 groups active leisure activities into categories that correspond to benefits for older adults, showing comparisons for cognitively active activities, socially active activities, physically active activities, and care/volunteer work.

Respondents were significantly more likely to engage in cognitively active leisure time use if they were retired ($P<.01$) or had better health or more education ($P<.05$). Respondents with less education used significantly more time for socially active leisure activities ($P<.01$). Time use in physically active leisure activities was significantly higher for retired respondents ($P<.01$) and for those in the lowest income group ($P<.05$). Young seniors and retirees were significantly more likely ($P<.05$) to engage in unpaid care or volunteer work.

Table 8. Comparisons of active and passive leisure time use according to personal backgrounds¹

Variable	Attribute	N	Active leisure time		Passive leisure time	
			Hours M (SD)	t ² /F ³	Hours M (SD)	t ² /F ³
Age group	Pre-senior	123	43.1 (22.0)	3.76*	24.3 (17.0)	5.53**
	Young senior	93	51.9 (24.1)		32.0 (22.6)	
	Older senior	82	48.8 (27.2)		33.3 (25.8)	
Work status	Retired	228	50.6 (24.0)	4.14**	31.7 (22.6)	4.38**
	Working part-time	70	37.1 (22.9)		20.9 (16.5)	
Current health	Excellent or very good	156	50.6 (25.6)	3.17*	29.4 (23.9)	.27
	Good	97	44.9 (23.4)		28.1 (19.8)	
	Fair or poor	45	41.7 (20.8)		30.8 (18.2)	
Education	Did not complete high school	39	47.2 (29.2)	1.23	35.6 (27.0)	2.79*
	High school graduation	49	43.7 (22.6)		33.6 (22.6)	
	Some post-secondary	102	51.0 (24.5)		29.6 (24.0)	
	Bachelor's degree	73	44.1 (22.6)		23.5 (14.9)	
	Master's degree and beyond	35	49.2 (23.8)		26.5 (16.8)	
Household income	Less than \$20,000	64	48.0 (27.8)	1.88	33.3 (23.0)	3.89**
	\$20,000-\$29,999	57	46.2 (21.3)		31.7 (19.7)	
	\$30,000-\$39,999	43	49.8 (25.2)		34.4 (28.4)	
	\$40,000-\$59,999	59	53.0 (26.7)		21.4 (18.6)	
	\$60,000 or more	75	42.0 (20.3)		29.2 (21.8)	

¹Only background characteristics with significant differences are shown. ²result of independent samples t-test across two categories. ³result of one-way ANOVA for test across more than two categories. * $P<.05$, ** $P<.01$

Table 9. Comparisons of subcategories of active leisure time use according to personal background characteristics¹

Variable	Attribute	N	Cognitively active activities		Socially active activities		Physically active activities		Unpaid care/ volunteer work	
			Hours M (SD)	t ² /F ³	Hours M (SD)	t ² /F ³	Hours M (SD)	t ² /F ³	Hours M (SD)	t ² /F ³
Age group	Pre-seniors	123	21.8 (15.1)	1.46	12.6 (9.0)	.64	5.3 (4.6)	2.40	3.3 (5.8)	3.51*
	Young seniors	93	25.3 (15.7)		14.0 (9.0)		6.8 (6.5)		5.8 (9.7)	
	Older seniors	82	24.5 (17.1)		13.9 (11.9)		6.7 (5.7)		3.8 (5.2)	
Work status	Retired	228	25.2 (15.7)	3.18**	13.9 (9.9)	1.53	6.7 (5.7)	3.11**	4.7 (7.8)	2.27*
	Working part-time	70	18.4 (15.5)		11.8 (9.9)		4.4 (4.9)		2.5 (4.4)	
Current health	Excellent or very good	156	26.0 (16.1)	3.76*	14.5 (10.8)	2.24	6.4 (5.8)	.25	3.7 (5.7)	2.53
	Good	97	21.4 (15.6)		12.0 (8.2)		5.9 (5.0)		5.5 (9.5)	
	Fair or poor	45	20.3 (14.6)		12.4 (9.8)		5.9 (6.2)		3.1 (5.5)	
Education	Did not complete high school	39	17.7 (15.3)	2.51*	18.2 (13.1)	3.50**	6.2 (6.6)	.13	5.1 (11.3)	.52
	High school graduation	49	21.9 (15.5)		12.8 (8.1)		5.7 (5.7)		3.3 (5.8)	
	Some post-secondary	102	26.6 (17.0)		13.4 (10.4)		6.4 (5.6)		4.6 (7.4)	
	Bachelor's degree	73	23.1 (15.1)		11.1 (7.4)		6.2 (5.7)		3.7 (5.9)	
	Master's degree and beyond	35	25.0 (13.9)		13.6 (9.7)		6.2 (4.1)		4.4 (4.7)	
Household income	Less than \$20,000	64	23.8 (17.0)	1.56	12.2 (10.7)	2.33	7.8 (7.8)	2.47*	4.2 (6.6)	.40
	\$20,000-\$29,999	57	22.2 (13.5)		14.4 (9.4)		6.3 (4.9)		3.4 (6.0)	
	\$30,000-\$39,999	43	26.4 (17.0)		14.6 (11.2)		5.0 (3.7)		3.9 (6.9)	
	\$40,000-\$59,999	59	26.5 (19.0)		15.7 (10.9)		6.3 (5.7)		4.6 (9.0)	
	\$60,000 or more	75	20.7 (12.7)		11.2 (7.3)		5.3 (4.3)		4.8 (7.2)	

¹Only background characteristics with significant differences are shown. ²result of independent samples t-test across two categories. ³result of one-way ANOVA for test across more than two categories. *P<.05, **P<.01

3.5 Comparisons of Leisure Activities for Oneself or for Others According to Personal Background Characteristics

As shown in Table 10, time use for other-oriented leisure activities was significantly greater for retired respondents ($P<.01$) and young seniors ($P<.05$); hours spent in leisure activities for oneself was also significantly greater for these groups ($P<.01$). Comparison with respect to household income categories showed significant but mixed results.

4. DISCUSSION

4.1 Leisure Time Use and Personal Background Factors

The respondents in this study were healthy, active older adults, many of whom visited seniors' centres that might not be accessible to people facing health or mobility challenges. The high proportion of Asians in the youngest age group is consistent with recent immigration patterns for the city where the study was done, while the increasing proportions of retired, widowed and those living alone would be expected for North American older adults. Education and income levels reflected greater possible challenges for older respondents, with nearly 38% having only a high school education and over 50% a household income less than \$30,000. Canada's public health care system, together with family support, probably mitigates these challenges, as indicated by the reported health across all categories. The sample, then, achieved the goal of focusing on healthy, older Canadian urban adults.

The study's 298 respondents engaged in many leisure activities and for longer-than-expected overall times; their reported mean of over 10 hours per day of leisure time exceeds by almost three hours the time reported from national surveys [10,37]. Also, nearly two-thirds (63.2%) of their time was spent on active leisure activities. In contrast to other studies [32,38], there was no significant decrease in active leisure time hours with advancing age, probably reflecting this sample's generally good health and relatively lower ages, since advancing old age and health challenges are a primary factor in reduced active leisure time use [38]. There was, however, some indication that health played a part, with significantly increased participation in active leisure activities and cognitively active ones by those reporting better health. Those with higher incomes participated significantly less in both active and passive leisure activities, consistent with their greater involvement in part-time work and less available leisure time.

Respondents' overall time use for leisure activities suggests that these urban older adults, while active, tended to spend more time on less-social pursuits. Four of the five activities in which they spent the most time, on average (watching TV, reading, using the computer and Internet, and relaxing) are often done alone, although online communications can be social activities. Also, three activities on which they spent little time (attending entertaining or sports events, playing cards and board games, and attending educational activities) are generally done in social groups.

Table 10. Comparisons of leisure time use for oneself or for others according to personal background characteristics¹

Variable	Attribute	N	Activities for oneself		Activities for others	
			Hours M (SD)	t ² /F ³	Hours M (SD)	t ² /F ³
Age group	Pre-seniors	123	64.0 (30.5)	5.12**	3.3 (5.8)	3.51*
	Young seniors	93	78.1 (39.1)		5.8 (9.7)	
	Older seniors	82	78.4 (45.4)		3.8 (5.2)	
Work status	Retired	228	77.6 (38.9)	4.34**	4.7 (7.8)	3.02**
	Working part-time	70	55.5 (30.9)		2.5 (4.4)	
Household income	Less than \$20,000	64	77.1 (42.1)	3.49**	4.2 (6.6)	.40
	\$20,000-\$29,999	57	74.6 (34.3)		3.4 (6.0)	
	\$30,000-\$39,999	43	80.4 (45.9)		3.9 (6.9)	
	\$40,000-\$59,999	59	76.9 (37.6)		4.6 (9.0)	
	\$60,000 or more	75	58.6 (30.2)		4.8 (7.2)	

¹Only background characteristics with significant differences are shown. ²result of independent samples t-test across two categories. ³result of one-way ANOVA for test across more than two categories. * $P<.05$, ** $P<.01$

While aloneness does not necessarily imply loneliness or social isolation [30,39], these results do point to possible concerns about these urban seniors' longer-term social support.

Participation in educational activities, although low, was significantly higher here for respondents with more education, as has been found in other studies [32]. Participation in all cognitively active activities, which was significantly greater for those who were retired, in better health, and with more education, included two of the highest-ranked activities (reading and using a computer or the Internet). This suggests that although formal educational activities are not widely pursued, other ways of using their leisure time to maintain their cognitive functions are more routinely used by these active urban seniors.

It is encouraging that the older adults in this study were somewhat physically active (averaging over six hours per week), with retirement allowing significantly more time for physical activity. Greater (although not statistically significant) participation in physical activities for the senior age groups apparently reflected their increased overall leisure time and did not show age-related declines in physical activity.

Volunteer and care work, also conceptualized here as activities that benefit others rather than oneself, are known to promote older adults' well-being. These occupied little of the respondents' leisure time, suggesting that these older adults might be missing opportunities for an enriched personal life. Volunteer work shares one's knowledge and skills with others, and caring for children and seniors use leisure time to provide another form of assistance; these activities may result in positive feelings and should contribute to positive self-esteem [24,40,41].

This study thus largely confirms previous results from comparing personal background variables with leisure time use. It indicates that for healthy older urban-dwelling adults similar to those in this sample, a range of background characteristics show significant differences when compared to the selection of categories of activities as well as specific activity choices.

It is important not to assume, without further research, that respondents' activity choices imply either positive or negative health effects or dissatisfaction with their quality of life. The patterns identified here do, however, indicate

possible concerns, and a need for further exploration, with respect to beneficial activities that are socially active, learning-related, and that benefit others.

4.2 Implications for Policy and Practice

The World Health Organization defines "active aging" as "the process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age" [42]. As part of a wide range of their recommended policy and program initiatives to support active aging, WHO recommends those that encourage older adults to build and maintain cognitive skills, social support, physical activity, and volunteer participation, with emphasis on lifelong education and learning opportunities. The results of this study suggest that Canada's healthy urban older adults could benefit particularly from programs to enhance their social support and volunteer participation. Although there are no standards for activity levels to be achieved, it is likely that they would also benefit from increased participation in active leisure activities, including additional physical activities. Some practical implications are outlined below.

First, feedback might be useful for helping older adults to use their leisure time in ways that promote successful aging. Newer activity-monitoring technologies might prove useful for analyzing, reporting, advising, and ultimately influencing how well older individuals are using their time; we already see examples in wearable devices for monitoring physical activity.

Second, new education and intervention programs, such as more engaging activities at senior centres, would be useful for helping to move older adults' leisure time use from passive to more active activities. While adults in this study were relatively active, they still spent more time watching TV than in any other leisure activity, and increasing computer and Internet use is likely to add to this issue in the future. Active activities targeting interests of less well-educated and less wealthy groups, together with effective private or public education and communication strategies, could pay public dividends in lessening the detrimental health and well-being effects of time spent in passive activities.

In terms of specific activities known to promote well-being, community efforts promoting social contact, educational activities, and volunteering in particular could bring benefits to the healthy, active older population. Technologies such as social networking and online learning are likely to offer new opportunities in these areas. Communities could provide learning opportunities for active aging and volunteer opportunities for older adults to share their knowledge and skills with others. Canada's New Horizons for Seniors Program [43], promoting active lives for older adults, is a good example. A key point here is that seniors can help other seniors to have better lives because they can understand each other well.

4.3 Limitations of the Study

Some limitations may affect the generalizability of these results. Subjects were selected from only one city and on a volunteer basis; the study did not capture results from other locations or from older adults who might be less healthy and less able to access senior centres and malls where most recruiting took place, or who might hesitate to complete the written questionnaire due to health or cognitive limitations. It was done in a city with a somewhat unique ethnic composition and culture, derived from its large Asian immigrant population, and so may not represent other urban areas in Canada or elsewhere. Its data were collected with an activity diary that relied on the accuracy of respondents' memory and reporting. The survey excluded religious activities, which are important to many older adults and could be considered leisure, as well as volunteer activities [44]. Finally, it did not assess respondents' levels of life satisfaction, social support, or perceived quality of life and so cannot relate their activity choices directly to quality of life outcomes.

4.4 Future Research

Future research studies are needed to overcome the above limitations and to develop a clearer understanding of the particular strengths of, challenges faced by, the urban older adult population in developed countries. Taking into account work by other researchers in this area, additional studies should: (1) extend the sample range and location to those who are older, less healthy, and living in other urban and rural areas; (2) include psychosocial factors that may be related to leisure time use, such as depression, loneliness, social engagement or isolation, and

social networks; (3) obtain a larger, more randomized sample and carry out more in-depth statistical analysis to determine a strong predictor model for leisure time use; (4) examine relationships of types of leisure time use and life satisfaction to identify evidence of causal connections.

5. CONCLUSION

For older adults, leisure time can be considered an opportunity to enhance one's life by participating in activities that promote health, enjoyment, and quality of life. Older adults are a heterogeneous group, and personal background factors are often important influences on their attitudes, lifestyles, and capacities for benefiting from leisure activities. This study confirmed that for the healthy Canadian urban adults in this study, their activity choices differed significantly with respect to background factors including gender, age, work status, income, ethnic origin, marital status, living situation, education, and income. These results should add to the very sparse literature on Canadian leisure time use and should help in targeting policy and program initiatives to encourage more active, and particularly social and volunteer-oriented, leisure participation to enhance urban older adults' health and well-being.

ETHICAL APPROVAL

This research was conducted in the Vancouver, Canada metropolitan area. The authors obtained ethical approval from the Department of Research Ethics, Simon Fraser University (file no. 2011s0361).

COMPETING INTERESTS

The authors have declared that no competing interests exist.

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