

# Income and Expenditure Patterns in Recreation and Leisure in Costa Rica

## Patrones de ingresos y gastos en recreación y ocio en Costa Rica

Yamileth Chacón-Araya\* & Brian Crow\*\*

\*University of Costa Rica, \*\*Slippery Rock University, USA

**Abstract.** The purpose of the study was to analyze the income and expenditure patterns in recreation and leisure in Costa Rican households. The original sample consisted of 5.220 randomly selected households; and complete information was obtained from 4.231 homes. Variables of *per capita* total income and expenditure patterns were analyzed. Hypotheses testing based on the 95% confidence intervals indicated that at the national level 13.70% of the people in the lowest quintile spent more money on recreation and leisure than the money they earned. Lower expenses were reported as the number of family members living in the house increased, yet higher expenses were reported as the level of education of the home owner increased. In conclusion, the expenses in aspects related to recreation and leisure in Costa Rica has modestly increased for people in the lowest and higher income quintiles since 1988.

**Keywords:** recreation, culture, expenses, income, leisure, national survey, Costa Rica.

**Resumen.** El propósito del estudio fue analizar los patrones de ingresos y gastos en actividades recreativas y de ocio en los hogares costarricenses. La muestra original consistió de 5.220 hogares seleccionados al azar, y se obtuvo información completa de 4.231 hogares. Se analizaron las variables *per cápita* de los patrones de ingresos y gastos totales. Las pruebas de hipótesis basadas en los intervalos de confianza al 95% indicaron que a nivel nacional, el 13.70% de las personas en el quintil más bajo gastó más dinero en ocio y tiempo libre que el dinero que ganaban. Se reportaron menores gastos conforme aumentaba el número de miembros de la familia que viven en el hogar; sin embargo, se reportaron mayores gastos conforme el nivel de educación del dueño de la casa aumentaba. En conclusión, los gastos en los aspectos relacionados con la recreación y el ocio en Costa Rica ha aumentado modestamente para la gente en los quintiles de ingreso más bajos y en los quintiles de ingresos más altos desde 1988.

**Palabras claves.** recreación, cultura, gastos, ingresos, ocio, censo, Costa Rica.

### Introduction

Recreation and leisure are directly related to the development of a nation by promoting positive health habits, which in turn causes a direct impact in the economic development by improving labor performance and reducing the economic impact of sick-leave (Kool, de Bie, Oesch, Knüsel, Brandt, & Bachmann, 2004; Moncada-Jiménez, 2005). According to the United Nations Inter-Agency Task Force on Sport for Development and Peace (2005), in the United Kingdom, expenses for activities related to sport reached approximately 1.7% of the gross national product (GNP), a figure comparable to expenses in the automobile, goods and services, and food industries. Globally, it is estimated that the sport industry produces \$ 36 billion annually and the annual growth tendencies are of the order of the 3-5% (World Bank, 1999).

Although Costa Rica does not have a systematic methodology to determine expenditure patterns in recreation and leisure, it has been reported that ticket sales generated approximately US \$1 930 744 for the Major League of Soccer Tournament 2003-2004, (Moncada-Jiménez, 2005). In Costa Rica the total investment for education and health for 2003 was of 5.53% and 5.73% of the GNP, respectively (Observatory of the Development, University of Costa Rica, 2005), these ticket sales reported by the soccer teams contribute to less than the 0.01% of the GNP. This is an irrelevant figure for the economy of a developed country; however, this might not be the case for a developing country such as Costa Rica.

Unlike Costa Rica, in countries like the United States of America (USA), Canada and England (and the United Kingdom), household surveys on income and expenses date from the beginnings of the 19th century. For the U.S. Department of Labor the information about family income, expenses and patterns of consumption of goods and services is relevant to understand the economic and social conditions of the inhabitants of the country, from both urban and rural areas (Gallup, 2005; Jacobs and Shipp, 1990). These surveys are pertinent since they provide the bases to determine consumer prices for goods and services, as well as to study wage increments not only in the USA but also for worldwide comparison (Morris, Donkin, Wonderling, Wilkinson, & Dowler, 2000). From these surveys, several items are analyzed, including

expenditures for food, housing, transportation, health, recreation, entertainment, education, and culture. Whereas in the USA the expense pattern from the total income devoted to recreation and leisure has been known for more than 100 years, such a pattern is unknown in the Costa Rican population.

Expenditure surveys in Canada from 1982 and 1999 included 11 000 and 16 000 households, respectively. Recreation and leisure expenses broadly included tickets for shows and theater, recreation services, materials and devices for home entertainment, sporting goods, computers, vehicles, camping supplies, cable T.V., and tourism. When comparing these surveys, researchers found a 39% increase in expenses from 1982 to 1999 (Kremarik, 2002). Interestingly, the increase in expenditures in sporting goods and recreation services reached 8%, whereas an exaggerated increment in computers (515%) and cable T.V. (253%) was observed.

A mode to use the information provided by these types of surveys is given by Dardis, Soberon-Ferrer and Patro (1994). These authors created categories based on the items people tend to use to satisfy their needs: a) active relaxation; b) passive relaxation; and c) social entertainment. The investigators defined active relaxation like those activities that required some physical effort, for example jogging, running or riding a bicycle. Passive relaxation was understood as those activities that did not require physical effort, such as watching T.V., computer use, or listening to a radio. Finally, social entertainment consisted of activities like attending sport events, the cinema, theater and other forms of home entertainment.

Based on the previous definitions, Dardis et al. (1994), analyzed data from the 1988 and 1989 income and expenses survey made on 2,088 U.S. homes and found a mean household monthly expenditure of \$505, \$279 and \$190 for active, passive relaxation, and social entertainment, respectively. However, the greater expenses were in the passive relaxation category after correcting for family income. Therefore, the homes whose mean annual income was highest spent more money in passive activities, whereas when the mean annual income was in the medium range, the expenses were greater in active relaxation, and when income was lowest, the expenses were greater in social entertainment. Also a correlation between educational level and expenses in recreational activities was found. In households where the head of the home (i.e., male or female head) had a greater degree of education (i.e., beyond high-school diploma), the household spent more money in active relaxation, followed by passive relaxation and social entertainment (Dardis et al., 1994).

Information from these kinds of surveys also allows consumers and researchers to understand participation trends in different recreation and leisure activities. For instance, in the US, from 1995 to 1996 there was an increase in participation in sports like soccer (15.6%), and basketball (10.6%) compared to a reduction in golf (-8.8%) participation (Mullin, Hardy, and Sutton, 2000). These trends are related to changes in expenditure patterns of the population, which allowed for an increase of the 3.73% in the sales related to soccer and basketball. These data are supported by reports of the National Sporting Goods Association of the USA, which reported sales increases in sporting goods (National Sporting Goods Association, 2006).

This finding directly relates to the results of a study by Weagley and Huh (2004b), where these authors indicate that the leisure time of the American workers aged 18 to 64 has increased from 35 hours per week in 1965 to 40 hours per week in 1985. Therefore, workers had more time to spend their money in activities related to the recreation and leisure. This might explain why the percentage of expenses in home entertainment increased from 3.3% to 5.0% from 1960 to 1996.

The availability of such data is very limited in Costa Rica, and other Central American countries. In Costa Rica the last survey of «Income and Expenses» (also called «Family Budget Survey») was conducted in 1988 (ENIG-1988). However, in 2005, The National Institute of Statistics and Census (INEC), with support from the Central Bank of Costa Rica, created the 5<sup>th</sup> National Survey of Home Income and Expenses from 2004 and 2005 (ENIG-2004). Thus, the purpose of the study was to describe expenditure patterns in recreation and leisure in diverse segments of the Costa Rican population.

## Method

### Participants

The ENIG-2004 was based on a complex probabilistic sample, which was constituted by 5220 urban and rural houses in all of Costa Rica. The probabilistic sampling method was used to take into account different geographic areas (i.e., urban, rural), economic sector (i.e., high, medium, low-income), and phases. These phases consisted of two time-points when data was going to be collected, second semester of 2004 and first semester of 2005 (INEC, 2006).

### Procedures

Several trained groups interviewed the selected households during 2004 and 2005. Later, the information was coded and tabulated by members of INEC. Data was converted to SPSS® (Statistical Package for the Social Sciences®) for further analyses.

For this study, variables related to income and expenses were selected and described as follows.

*Variables related to the house and economic sector.* Geographic area was defined as either rural or urban. It was hypothesized that people from urban areas would spend a higher percentage of their income in recreation and leisure than their rural area counterparts. The variable «house ownership» was defined as 8 categories: 1) own house, paid in-full; 2) own, yet still being paid; 3) own, given as a gift or donated; 4) rented; 5) loaned or provided by a company; 6) loaned or provided by a relative, friend or others; 7) shelter (precarious); and 8) other. It was hypothesized that home owners would spend more money in recreation and leisure than those families who did not own a house.

The variable «number of members living in the house» was selected, with the purpose to determine whether significant relationship existed, if any, between recreation and leisure expenses and the number of people within the family nucleus. Accordingly, it was hypothesized that large families would spend less money in recreation and leisure than small families. Finally, the variable «level of education» of the family head was analyzed to determine whether some relationship in recreation and leisure expenses and levels of education existed. The level of education was defined as the last approved degree of the formal education. It was hypothesized that education would have a positive impact in recreation and leisure expenditure.

*Income.* Total household income was defined as all the income earned by the different family members over a period of time. These wages included paid labor and/or wired money coming from renting properties, and bank transfers among others.

For the analysis and comparison with the data of the ENIG-1988, the variables related to the gross income of the household *per capita* were selected. The current income of the household refers to all periodic and regular income such as wages, rent, interests from bank accounts, and dividends from trust funds whose final destiny is expenditure. On the other hand, the household *per capita* income is defined as the total household income divided by the number of members of the household.

*Consumption expenses.* These expenses were defined as those related directly to the goods and services used for need satisfaction. These expenses found in ENIG-2004 were categorized according to the Classification of Personal Expenses (CPE), which is an internationally recognized measure. In table 1 are described some of the more than 700 types of consumption expenses taken into consideration for the present analysis.

### Statistical analysis

The Statistical Package for Social Sciences (SPSS®), version 20.0 for Windows® was used to conduct all the statistical analyses. Descriptive statistics and the standard error of the estimation were obtained. Based on this information, logical groups of analysis based on income were formed; for which the corresponding quintiles were obtained. In the present study, the quintile 1 (Q1) represents the 20% of the poorest (lowest income) households, and the quintile 5 (Q5) the 20% of the richest (highest income) households (INEC, 2006).

Hypotheses testing were conducted based on the 95% confidence intervals. This interval includes the average of the estimations of all the possible samples with a probability of 95%. This interval has a lower and upper limit, within which the population value is expected to fall with a 95% confidence level.

Table 1.  
Examples of expenses in recreation and leisure (INEC, 2006)

Type of Expense	Examples of goods and services
Audio-visual, photographic equipment and of processing of information	Video and photograph cameras, tripods, developing service. Musical instruments like guitars, piano, drums, harmonica and other instruments, including loudspeakers and microphones for karaoke. Repair of photographic and cinematographic equipment. Repair and tuning of musical instruments.
Other articles and domestic equipment for recreation, gardens and animals	Food for domestic animals, eyeglasses, floaters and cap for swimming, fiber glass swimming pools, surfboards, diving gear, cleats for soccer, balls and other sporting goods, billiards tables, tents. Medications for domestic animals, lodging for domestic animals, Christmas trees, "piñatas", trees (natural and artificial), turf for patio, haircut, marbles, cars, trains, bicycles, Nintendo games, and other toys.
Recreation and cultural services	Rent of shoes for sports and recreation (e.g., skids, shoes of golf), rent of films (for VHS and DVD), skating, fitness centers, night games, swimming pools, private clubs, dancing, theater, opera house, cinema, art galleries, circus, bullfight, amusement park. Horse rent, boats or ships. Membership fees in fitness centers, personal trainer, gambling, bingo, casinos, lottery, other games and drawings.
Newspapers, books and paper and office supplies	Text books (academic); scholastic equipment; sport magazines, spectacles, subscription to weekly magazine, musical article catalogues, guides and scores, posters, calendars, the Bible, maps, encyclopedias.
Tourist services	Service of lodging in cabins, hotels, boarding schools, motels, universities or other training centers, service of lodging for camping, tourist payment of quotas of club for trips overseas.

## Results

In the survey, only single-family houses were considered sampling units; therefore, collective houses (i.e., nursing homes, jail) were excluded from the analyses. The response rate was 85%. Thus, information from 4 231 homes was obtained, from which 2 530 (59.8%) were of urban and 1 701 (40.2%) from rural geographic areas.

For a better understanding of the results in a global scope, figures of Costa Rican currency (Colón, ₡) were converted to United States dollars (US\$) using an exchange ratio of US \$ 0.001931 for each Costa Rican colón (CRC₡). Thus, for the population, the total expenses were approximately \$541 350 450.55, from which 7.87%, or approximately \$42 183 152.41 was spent in recreation and leisure. This amount locates recreation and leisure expenses above goods and services (7.38%), clothing and footwear (6.90%), health (4.70%), communications (4.68%), and education (3.55%); and below groceries including food and drinks (21.89%), transportation (14.79%), housing (10.59%), furniture and

home accessories (8.93%), and eating and dining out (8.73%).

Based on the descriptive statistics and in order to properly describe the expenditure patterns of the population, quintiles based on the *per capita* income were created (Table 2). Then, expenditure patterns in recreation and leisure in general and by specific component were obtained.

At the national level, the people of the poorest quintile (i.e. Q1) spent more money 13.70% than they earned. This situation, together with a low education and income level possibly causes indebtedness in all the other goods and services (i.e., food, transportation, etc.), which will contribute to perpetuate the circle of poverty. The people in the upper *per capita* quintiles (i.e., Q4, Q5) spend more money in recreation and leisure that the national average. While the national average for recreation and leisure was 7.87%, people of the mid and upper socioeconomic status spent 7.07% and 9.63%, respectively. These figures differ in 4.1% with the people located in the lowest quintile (Table 2).

Table 2.  
Mean *per capita* income and *per capita* expenses by income quintile

	Country total	Per capita income quintile				
		1	2	3	4	5
General income and expenses (US\$)						
a. <i>Per capita</i> income	183.44	35.24	75.397	123.02	205.238	612.601
b. <i>Per capita</i> expenses	144.78	40.06	72.632	106.48	169.783	434.219
Difference (a-b)	38.66	-4.82	2.7643	16.532	35.4549	178.383
Percentage of general expenses (%)	78.94	113.7	96.33	86.57	82.73	70.88
Specific expenses (US\$)						
Monthly <i>per capita</i> expenses	126.81	38.34	67.62	95.75	146.69	360.84
Recreation and leisure	9.99	2.12	3.83	6.37	10.36	34.76
Audiovisual and photographic equipment	2.44	0.53	1.04	1.71	2.79	7.85
Other recreation equipment	1.91	0.45	0.83	1.48	2.16	5.88
Recreation services	2.43	0.15	0.60	1.22	2.32	10.16
Books, newspapers, other	2.47	0.97	1.31	1.74	2.54	7.24
Tourist services	0.73	0.01	0.05	0.24	0.56	3.65
Percentage of expenditures (%)	7.87	5.53	5.66	6.66	7.07	9.63

Note: Quintile's n were as follows: Q1= 77994; Q2= 78068; Q3= 77821; Q4= 77773; Q5= 77709

As far as the specific expenses of the factors composing the area of recreation and leisure, it was observed that people, independently of the *per capita* income quintile, spent more than 20% in audio-visual and photographic equipment. This area includes not only the acquisition of electronic devices like radios, DVD players, and television sets, but also cameras and developing services. People in the lowest *per capita* quintile did not spend a considerable amount in tourist services compared to people in the highest quintile (i.e., Q5) (Table 2).

In table 3 are presented the *per capita* income and expenditures by geographic area for recreation and leisure. *Per capita* income in the urban area is greater than in the rural and the national average.

However, the Gini's coefficient indicates that the income is similar in both geographic areas. This coefficient is an inequality measure used to quantify the inequality in the income distribution. This figure assumes values between 0 and 1; where 0 corresponds to a perfect equality (i.e., everybody has the same income) and 1 corresponds to perfect inequality (i.e., a person has all the income and the others none). Similarly, expenses in recreation and leisure were smaller in rural areas, where differences

Table 3.  
Per capita income and expense by geographic area

	Country total	Area	
		Urban	Rural
<i>Per capita</i> income (US\$)	183.48	225.47	118.65
Gini's coefficient	0.46	0.43	0.44
<i>Per capita</i> general expenses (US\$)	144.84	180.15	93.85
<i>Per capita</i> specific expenses (US\$)	126.81	154.84	83.54
Recreation and leisure (US\$)	9.99	12.71	5.77
Percentage of expenses (%)	7.87	8.21	6.91

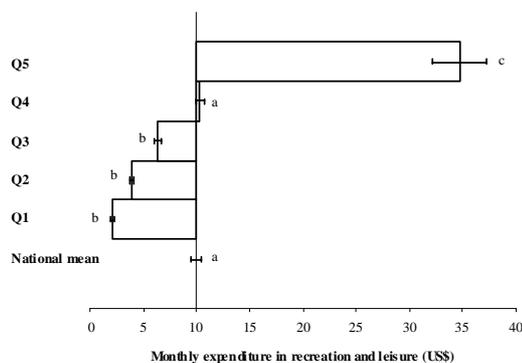
Table 4.  
Per capita income and expenses in recreation and leisure by per capita income quintile by geographic area

	Country total	Per capita income quintile				
		1	2	3	4	5
<i>Per capita</i> income (US\$)						
Urban	225.47	48.18	99.33	152.90	257.28	719.53
Rural	118.65	25.72	50.97	81.58	131.47	391.23
Difference	106.82	22.46	48.35	71.32	125.81	328.29
<i>Per capita</i> expenses (US\$)						
Urban	180.15	51.20	93.72	131.03	209.40	520.17
Rural	93.85	31.86	49.76	76.69	110.25	254.57
Difference	86.29	19.34	43.96	54.34	99.15	265.60
Percentage of expenses (%)						
Urban	106.70	141.91	125.99	114.44	108.69	96.54
Rural	105.63	165.39	130.34	125.54	111.99	86.89
Difference	1.07	-23.48	-4.34	-11.10	-3.30	9.64

were observed of 1.3% of the total expenses with respect to the urban area and 0.96% with respect to the national average (Table 3).

Table 4 shows the *per capita* income and expenditure in recreation and leisure by *per capita* income quintile by geographic area. In general, for quintiles 2, 3, and 4, people of rural areas spent a higher percentage of their income than their counterparts of urban area. People in the lowest quintile (i.e., Q1) from both, urban and rural areas spent more money *per capita* than they earn. The difference of 17.57% with respect to the people of the urban area possibly causes a negative balance in their checkbooks, since it is evident that they spend more money than they earn. Only in the quintile of the highest income people (i.e., Q5), the people of urban zone spend more money than those of the rural area (Table 4).

Variability in the estimations in *per capita* monthly expenditure in recreation and leisure is presented in table 5. According to the 95% confidence interval (CI<sub>95%</sub>) analyses, it was found that at the national level, the monthly expenditure in recreation and leisure is different in all *per capita* income quintiles independently of the geographic area ( $p < 0.05$ ) (Figure 1). When analyzing the *per capita* income quintiles by geographic zone and comparing them to the national income, we found significant differences by zone. Thus, while the urban area is well-above the upper limit of the CI<sub>95%</sub>, the rural area is well-below the CI<sub>95%</sub> at the national level (Figure 2).



$p < 0.05$  among CI95% with different letters

Figure 1. Monthly *per capita* expenses in recreation and leisure by per capita income quintile (Error bars are CI<sub>95%</sub>).

When comparing the monthly expenditure in recreation and leisure based on house ownership we found differences between the categories. A detailed analysis indicated that the differences were between those who own a house and yet are still paying for it with the rest of the categories ( $p < 0.05$ ).

Table 6 shows a trend at the national level for a smaller amount (i.e., relative and absolute values) in recreation and leisure expenditures as the number of members of the household increases. This trend also is obtained for urban area homes but not for rural areas. Table 7 shows a national trend for higher expenses according to the level of education of the family head. This tendency also is demonstrated for urban and rural households.

When comparing expenses in recreation and leisure, we found significant differences in quintiles 3, 4 and 5 in 1988 and 2004. Differences in quintiles 1 and 2 were not found. For people in quintile 1, the percentage of *per capita* expenses was 2.3% in 1988 and 5.9% in 2004; for people in the 5<sup>th</sup> quintile, it was 5.0% in 1988 and 12.4% in 2004.

## Discussion

When analyzing the data of the ENIG-2004, we wanted to determine whether a significant association existed between income (ordered by *per capita* income quintiles) and monthly expenditure in recreation and leisure by urban and rural households. Consumers of rural areas from quintiles 2, 3 and 4 spent proportionally more money than the consumers of the urban area. Unfortunately, consumers in the lowest

Table 5.  
Monthly per capita expenses (US\$) in recreation and culture by per capita income quintile

	Per capita income quintile					
	Total	1	2	3	4	5
National	9.99	2.12	3.83	6.37	10.36	34.76
Standard Error	0.48	0.13	0.21	0.27	0.44	2.59
CI <sub>95%</sub>	9.04-10.92	1.87-2.38	3.39-4.26	5.84-6.90	9.49-11.23	29.66-39.85
Urban	12.71	2.67	5.25	7.64	13.71	43.35
Standard Error	0.76	0.24	0.33	0.45	1.15	3.82
CI <sub>95%</sub>	11.19-14.22	2.19-3.15	4.59-5.90	6.73-8.53	11.44-15.97	35.83-50.87
Rural	5.77	1.68	2.75	4.62	5.90	17.71
Standard Error	0.44	0.16	0.21	0.41	0.41	1.79
CI <sub>95%</sub>	4.89-6.65	1.36-1.99	2.31-3.18	3.81-5.42	5.09-6.72	14.17-21.23

Note: CI<sub>95%</sub>: 95% confidence interval (lower limit- upper limit).

Table 6.  
Mean expenditure (US\$) in recreation and leisure by family size

	Family size (# people)					
	Total	1	2	3	4	=5
National	469.51	204.38	373.27	489.68	505.01	651.09
Mean expenditure	36.96	30.26	30.01	36.86	44.55	37.24
Urban	560.37	367.49	461.29	527.30	672.67	624.34
Mean expenditure	46.00	41.01	36.98	45.14	55.27	46.53
Rural	320.71	170.04	241.04	354.62	337.10	366.59
Mean expenditure	22.15	11.50	17.04	21.98	26.73	24.41

income quintile spent more money than they earned.

These results agree, at least for the highest income quintile, with previous research that showed people in urban areas spend more money than people in rural areas (Dardis et al., 1994; Wilcox, Castro, King, Housemann, & Brownson, 2000).

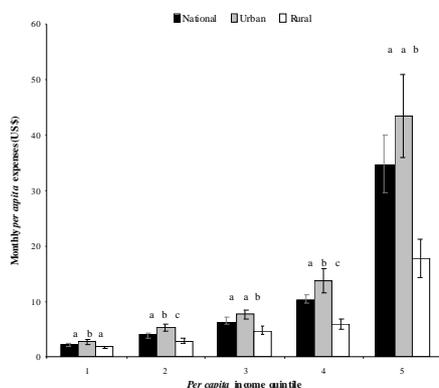


Figure 2. Monthly per capita expenditures in recreation and leisure by per capita income quintile and geographic area. (Error bars are CI<sub>95%</sub>). p < 0.05; among different letters in each quintile.

In a large-scale survey made in Finland by the National Institute of Public Health, information of 9 324 men and 10 658 women was collected to determine the relationship between income and health habits. The Finnish investigators found that there were no significant differences in the habits of physical activity based on the per capita income quintiles and by home. In other words, the degree of physical activity was equal independently of the economic income. This finding suggests that in the Finnish culture it really does not matter economic income since physical activity and recreation are already an integral part of their culture (Laaksonen, Prättälä, Helasoja, Uutela, & Lahelma, 2003).

One of the reasons by which people would not spend their money in recreation and leisure might be that they prefer to use it to cover (other) basic needs; for instance, groceries, housing and clothing. In the ENIG-2004, recreation and leisure expenses was ranked in 6<sup>th</sup> place of importance, below groceries and beverages, transportation, housing, furniture and home accessories, and going out for dining. However, recreation and leisure ranked above goods and other services, clothing and shoes, health, communications, and education.

With the data of the ENIG-2004, we also found a significant

Table 7.  
Mean expenditure (US\$) in recreation and leisure by educational level of household head

	Educational level of household head				
	Total	None	Elementary	High-school	College
National	469.51	212.40	311.48	478.37	1002.47
Mean expenditure	36.96	12.73	18.68	36.59	98.71
Urban	560.37	233.52	353.56	497.57	1039.68
Mean expenditure	46.00	13.87	21.25	38.79	102.09
Rural	320.71	201.73	267.80	418.25	788.54
Mean expenditure	22.15	12.14	16.00	29.69	79.31

difference in the monthly expenditure in recreation and leisure based on house ownership. Indeed, we hypothesized that families who totally had paid their own house could spend more money in recreation and leisure. However, the statistical analyses showed otherwise, since people who had their own house, yet were still paying on it, spent more money in recreation and leisure than people who totally had paid their own house. As expected, people who live in precarious shelters are those who spent the smallest amount of money in recreation and leisure.

Another factor that could influence spending on recreation and leisure can be the family size. Therefore, we determined whether a significant relationship between expenditure and number of members of the household existed. This hypothesis was based on the assumption that a larger number of family members would require satisfying basic needs instead of «secondary» needs (i.e., sporting goods) and therefore would spend more money in groceries, tuition, housing, and clothing). The results obtained in the present study agree with those by Dardis et al. (1994), who indicated indeed that households with a larger number of children spent less money in recreation and leisure. In the Canadian surveys described previously (Kremarik, 2002), it was found that recreation expenses from 1982 to 1999 increased significantly regardless of the family composition. Thus, four-member families increased their expenses in recreation by 50%, families with only one parent present increased their expenses by 57%, couples with no children increased spending by 36%, and singles increased spending by 17% (Kremarik, 2002). Therefore, small-size families also spend less money than large-size families.

In the ENIG-2004, a national trend on expenditure in recreation and leisure was found as it increased with the level of instruction or education of the household head. This trend is also true for urban and rural homes. In the US, Duly, Janini, Keil, Paszkiewicz, Paulin, and Tseng (2003), found that the people with lower education (60.5%) spent more money on entertainment than people with a complete university education (39.5%). In spite of the agreement between these two surveys, in another study made in 1986 and 1987, it was found that the entertainment, recreation and sports expenses could be predicted by age and not necessarily explained by the degree of education or occupation (Cage, 1989).

Data by Jacobs and Shipp (1990) from surveys carried out in the US in which recreation, reading and entertainment are taken into account, it is reported that these represented 4.9% of household expenses between 1960 and 1961. That percentage increased between 1972-1973 and 1966-1967 by 5.5% and 6.0%, respectively. Recent data presented by Toossi (2002), indicate a percentage change in the consumption of goods and services in recreation, entertainment and sports of +6.2% in the decade from 1980 to 1990; then it declines to 4.6% in the decade from 1990 to the 2000; and a projection was estimated of an increase of 6.0% for the years 2000 to 2010.

When the change in the pattern of per capita consumption of the year 1988 and 2004 by per capita income quintile in Costa Rica is analyzed, it was found that expenditures were lower in 1988 in comparison to 2004 based on the data shown by quintiles 1 (2.3% vs. 5.95%) and 5 (5.0% vs. 12.4%). Thus, in general, the net change in recreation and leisure was 3.65% from 1988 to 2004 for people located in the lowest income (i.e., poorest) quintile, and 7.4% from 1988 to 2004 for people of the highest income (i.e., richest) quintile.

The annual growth in expenses for people in the quintile 1 was 0.23%, whereas for the people in the quintile 5 was 0.46%. In a similar period of time in Canada, the growth was approximately 40%, in other words, a mean annual growth of 2.35% (Kremarik, 2002).

In the USA and Canada, and probably in Costa Rica, this trend in expenses as it relates to income might be a reflection of an increase in leisure time and family income. This could allow families to have more time to travel, to play or to participate in different sports, to go to the movies, to concerts, the theater and sport events, among other recreation and leisure activities. Nevertheless, another tangible aspect that can influence this expenditure pattern is the aging of the population. It has been shown that in the US, elderly citizens spent approximately 8.3%

of their income in recreation and leisure activities in 1995 (Weagley & Huh, 2004a).

In Costa Rica, on the other hand, and based on data from INEC and the Central American Center of Population Studies of the University of Costa Rica, it is estimated that there will be 2.5 million elderly people (i.e., > 60 years age) by year 2050, which could suppose a change in the pattern of expenses in issues related to recreation, sports, physical activity and culture similar to countries like Japan (Manzenreiter & Horne, 2006; Varela, 2006). Aside from this, it has been estimated that by the year 2050 there will be relatively young people (50-60 years) enjoying from their retirement due to a National ordering in the retirement regime. In this retirement plan, citizens are forced by the Government to save part of their income in state owned banks. By doing so, there will be enough budget to cover their retirement at the age of 50 or 60.

In Costa Rica, it is possible that the small proportional and gradual increase in expenses in recreation and leisure activities from 1988 to 2004 has not had positive impact in the health of the Costa Ricans; at least not as seen by the increased number of overweight, obese and sedentary children and adolescents aged 8 to 17 years. In these groups we found a prevalence of overweight of Costa Rican students in the range of 15% to 23% and of obesity from 2.2% to 9.8% (Fernandez, Pearson, Moncada, Salas, & González, 1998; Fernandez, González, Moncada, Pearson, Picado, & Salas, 2001; Fernandez-Ramirez & Moncada-Jiménez, 2003). These figures are alarming since long term health care costs (e.g., medication, surgery, rehabilitation), for these groups will increase (Moncada-Jiménez, 2005).

Recent data by Johnson and Lino (2000) indicate that adolescents (i.e., 14 to 17 years) also comprise an important consumer group of goods and services. Based on data from the Survey of Consumer Expenses of 1997-1998, researchers found that working adolescents spent 6.2% of their total expenses in entertainment, recreation and sports. However, the most relevant expenses for this age-group were housing (33.8%), transportation (24%), and foods (13.6%).

Future studies in Costa Rica would need to be conducted to determine how the consumer spend money and to compare it to international surveys. For instance, it has been determined that Dutch citizens spend more money in subscriptions to Spas and fitness centers than British consumers (Jones, 1990). Other surveys indicate that females spend less money in recreation and leisure than males, and that the elderly spend less money than younger consumers (Dardis et al., 1994).

Also, it is necessary to analyze how these types of surveys change over time as far as income and expenses matter in order to determine consumer price index. In USA, for example, it was found a variation of 126% in the pattern of expenses in entertainment, recreation, sports and culture over a 10 year period (1972-1973 to 1982-1983) (Gieseman and Rogers, 1986).

In summary, in Costa Rica is necessary to design specific surveys about the patterns of income and expenditure in aspects related to sports recreation and leisure. These analyses will allow more accurately considering the relationship between physical activities with other key elements of human development, for example, physical health, satisfaction, self-esteem, body image and general well-being. From the economic point of view, this information will be useful to establish or to regulate prices of goods and services for the consumers and will serve to establish public policies for health promotion based on scientific, valid, and reliable data.

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