APPENDIX 3

TIME USE & HEALTH

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1. The Tale of Two Communities: Time Use Survey Results from GPI Atlantic's Community Survey

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Abstract

Researchers, policy makers and academics have all come to recognize the virtually unlimited array of issues that can be better understood through the analysis of data describing how people use their time. In light of this, considerable effort has been devoted in recent years to developing and conducting national time use studies in many industrialized countries, including Canada. And while the focus is on conducting larger scale surveys that can provide data representative of a larger proportion of the population, smaller community level time use surveys have the potential of being able to explain community level experiences that might be overshadowed in national surveys. This paper presents the results of the time use survey conducted in Glace Bay and Kings County, Nova Scotia in 2002 by GPI Atlantic. The results presented here provide a basic picture of the ways people from Glace Bay and Kings County use their time. The results indicate that considerable differences exist in how men and women use their time. In addition, significant differences between the two communities and among different age groups are also apparent. This paper further discusses the results in terms of their ability to help paint a clearer picture of some of the most current policy issues including the struggle to balance work and family, the division of labor, the time spent caregiving in the household and the quality of people's leisure time.

Introduction

In 1999, Nova Scotia Citizens for Community Development Society, a community-based non-profit organization, approached GPI Atlantic to ask whether its provincial-level indicator work could be applied at the community level. GPI Atlantic with active interest also expressed by Kings County Economic Development Agency, the district health authority, and a wide range of community groups in Kings County, enlisted assistance from university partners to develop a workable community based model for Kings. The project was then extended to industrial Cape Breton, to allow valuable comparative analysis of two communities with completely different socio-economic profiles. Kings is a growing rural community with low unemployment in reasonable proximity to Halifax; Glace Bay is an urban community with very high unemployment in a region that has lost major industries (coal, steel, fishing) (GPI Atlantic, 2003).

At the heart of the model was a community level survey. This 78-page survey was developed to collect baseline data on several variables including values, employment

characteristics, income, livelihood security, and work schedules, population health and lifestyle risk factors, unpaid care-giving, voluntary work, safety and security, impact on environment (including energy use, transportation, and recycling), food consumption, education and other demographic characteristics, and time-use.

An important component of the model was a time-diary survey. This report presents the first results of that survey and shows hoe time use data can be useful in indicator development. This paper examines the time use section of the survey. First, the general nature of time use studies and their historical background in Canada and internationally is examined. Second, the usefulness of time use data is described by means of presenting example applications taken from other studies. The results from the time use survey conducted in Glace Bay and Kings County are then examined including comparisons among the two communities, among sexes and different employment status. Finally, some conclusions and recommendations for further examination of this data are made. The overall conclusion is that the Kings County and Glace Bay time use data provide a basic understanding of the time use of area residents and when combined with information collected in other parts of the GPI survey (e.g. employment characteristics, income, population health and lifestyle risk factors, unpaid care-giving, voluntary work, etc.) the data provide a basis for the analysis of the relationship between the physical/economic environment and time use.

The Time Diary

Respondents were asked to complete two 24-hour time diaries beginning 12am and ending 12am two days later (a sample diary is given Appendix III). The diaries, which were filled out by persons over the age of 15, collected information on primary activities as well as who the respondent was with and where the activity took place, at home or away from home. In addition, respondents were asked to provide information on secondary child and adult care (care activities occurring simultaneously with the respondents primary activities). Respondents recorded their activities throughout the day into 15-minute time slots using a pre-defined list of 30 activity categories (see Appendix II). A total of 3,444 fully completed time use diaries were obtained for 1, 721 respondents from Kings County and 3,253 fully completed time diaries were obtained for 1,623 respondents from Glace Bay. In total, 6,697 diaries were collected from 3,344 respondents from both communities.

The Communities

Kings County lies along the north shore of Nova Scotia in the Annapolis Valley. It is home to approximately 61,794 people, with a gender split of 49.3% males and 50.7% females. These results from the 2001 census reflect an increase in the population by approximately 4,456 people or 8% from 1991. Kings County's economy is primarily structured around the resource industry, in particular agriculture, which accounts for 10% of basic employment in Kings County. However, according to the most recent figures available from the 1996 census, 12% of the labour force is employed in manufacturing

and jobs related to the service industries are becoming more prevalent with 48% of the labour force employed in either finance, insurance, real estate, public administration or other service jobs. Today, the unemployment rate in Kings County is 9.1%, putting it slightly below the provincial average. The economy in Kings County, as measured by total average income falls slightly below the provincial average, at $24,140. Transfer payments, which denote payments made to individuals by federal or provincial governments or by organizations or institutions where individuals receive payments without providing goods or services in return, account for 15% of total average income. Persons with employment incomes earn on average $16,540 annually with males making almost double their female counterparts - $22,010 compared to $11,300. Thirty-six percent of the population aged 25 and over in Kings County have less than a High School diploma; 56% have either completed or have some post-secondary education.

Glace Bay is at the heart of industrial Cape Breton (Kiceniuk *et al*., 2003). Figures for the community of Glace Bay are not available, therefore, the following statistics represent the Electoral District of Glace Bay. According to the 2001 census, Glace Bay is home to 17,710 people, 52.4% of which are female. These figures show a decline in population by 2220 people or 11% from 1991. Of the 6,610 persons in the labour force in 1996 in Glace Bay, 12% were employed in the resource industry, and a growing number, as much as 46% were employed in the service industry. Only 6% were employed in the manufacturing industry and 7% in the construction industry. Today, the unemployment rate in Glace Bay is 19.4%, putting it far above the provincial average of 9.7%. Total average income in Glace Bay falls below the provincial average by $5,630, at $20,340, of which 31.7% comes in the form of transfer payments. Persons with employment incomes earn on average $10,860 annually with males making almost double their female counterparts - $13,980 compared to $7,990. Forty-nine percent of the population aged 25 and over in Glace Bay have less than a High School diploma; 56% have either completed or have some post-secondary education.

Time Use Research

What is time use research?

Numerous social inquiries collect data concerning activity participation and time use. These include the labour force survey, travel studies, readership surveys, and studies of general leisure time use and particular facets of it such as TV viewing habits. In general, these studies require the respondent to complete a checklist showing the extent of participation in defined activities. Other information concerning the activity may also be sought, such as satisfaction and preferences. Alternatively, a respondent may be asked to keep a log of specific activities such as TV viewing or travel. In this case, it is possible to get information on duration, sequence and various other dimensions for the activity being logged.

For researchers particularly interested in studying how people use their time (time use research), the preferred data collection method is through using a time diary. The time diary, by contrast, "is a log or diary of the sequence and duration of activities engaged in by an individual over a specified period, most typically a 24 hour day" (Converse, 1968). A time diary places activities in context. By its nature, it can permit and facilitate the recording of contextual dimensions attendant with each particular act. Through time diaries respondents take us step-by-step through a day, by describing what they were doing when their day began, the various things they did throughout the day, and then how they ended the day. Time diaries may also include where people spent their day, who they were with, and often what other activities they were doing to accompany main activities and how they felt about these activities (Robinson and Godbey, 1997).

Historical Developments in Time Use Research

Time use surveys grew out of early studies of living conditions of the working class in response to pressures generated by the rise of industrialization. These studies were concerned with the shares of activities such as paid work, housework, personal care, leisure, etc., in the daily, weekly or yearly time budget of the population. They were also interested in how the time budgets varied among population groups such as workers, students and housewives, and in what use was made of leisure time. Most often respondents were asked, through stylized questions, to estimate the amounts of time they allocated to various activities. The bulk of pre-World War II diaries originated in Great Britain, the former Soviet Union and the U.S. with a number of others in France and Germany.

The earliest sophisticated study was that of S.G. Strumlin in the Soviet Union in 1924, which was undertaken for use in governmental and communal planning[1]. In the early 1930's, the Westchester County survey of G.A. Lundberg launched a whole new era of studies of leisure. Later in the 1930's Sorokin and Berger in their *Time Budgets of Human Behavior* provided some fascinating insights into psychological and sociological motivations through an analysis of time diary data. Since the early 1960's, time diary studies have flourished. National time use studies have been conducted in all Eastern and Western European countries.

The most ambitious undertaking was the Multinational Time Use Study conducted in 12 different countries and 15 different survey sites under the direction of Alexander Szalai in the mid 1960's. That study still stands as a landmark in cross-national survey research.

Since 1985, central statistical agencies in over 15 of the more developed countries have carried out one or more, or are planning, national time use studies. Some of these countries have made sustained commitments to collecting time use data on a regular basis. Many countries including The Netherlands, Canada, Korea, Finland and Norway, conduct recurring studies every 5 to 10 years (Pentland *et al.*, 1999). Of particular note are the time use studies of the Nippon Hoso Kyokai (NHK) in Japan which have been

[1] His study was redone by a student of his, G.A. Prudensky, 35 years later on a similar sample.

carried out every five years since 1960. Several countries including the U.K, France, Finland, among others have recently completed time use studies. In January of 2003 the U.S. Bureau of Labour Statistics launched the first ever ongoing month to month, daily time diary study. About 2,000 one day diaries will be collected each month.

Interest in time use has been strong in Canada for many years and a number of Canadian studies have been undertaken. Several of these are outlined in Table 1. Canadian time use studies date at least from the mid-1960s to early 1970s. The first general population survey was undertaken in Halifax, Nova Scotia in 1970-71. The first nationwide time use study in Canada was conducted in 1981. Since then, Statistics Canada, as part of its General Social Survey program, collected diaries for approximately 10,000 Canadians in 1986, 1992 and 1998 (Pentland *et al.*, 1999). It plans its next study, with an enlarged sample size of 25,000, for 2005.

Uses of Time Use Data

Upgrading Economic Accounts

National economic accounts, measuring economic activity in a region, are the principal means of measuring growth in the economy over time. They have been under heavy criticism for many years for their failure to include non-market production. Traditional economic variables inaccurately measure total productive activity (Juster, 1973; Goldschmidt-Clermont, 1987). Failure to fully understand both the size and structure of an economy's total productive activity leads to the conception and implementation of, at best many useless policies, and at worst harmful policies (Berio, 1987). Non-market production has not been included in these accounts in part because there are conceptual and practical issues in measuring these activities. The measurement of time allocation however, provides a major data source for upgrading the accounts (Harvey and MacDonald, 1976). Time use data show the average daily allocation of time to productive activity defined in a more inclusive manner as both market and non-market production activities. Thus productive work includes, in addition to paid work, the only component included in the current national accounts, education as a student, domestic activity, child care and time allocated to shopping and services. All of these activities are fundamental to the provision of goods and services. Paid work time, when placed in this perspective, although the largest single component of total productive work time, is less than half of all productive activity. Exclusion of the other components of productive activity yields a faulty view of total production in the economy. Time-use data facilitates the inclusion of the missing components.

Table 1. Canadian Time Use Studies

	Canada 1971-72	Canada 1981	Canada 1986	Canada 1992	Canada 1998
Time of year	October – May	February - November	February – December	December	February 1998 – January 1999
Timing of diary	24 hours (midnight to midnight)	24 hours (4 a.m. to 4 a.m.)	24 hours (4 a.m. to 4 a.m.)	24 hours (4 a.m. to 4 a.m.)	24 hours (4 a.m. to 4 a.m.)
Number of days	1	1	1	1	1
Diary content	Primary activity Secondary activity Person present Where	Dual primary Dual secondary Person present Where	Primary activity Persons present Where	Primary activity Persons present Where	Primary activity Persons present Where
Sampling frame	Urban – extended Halifax Metropolitan area	National – 11urban, 3 rural	National	National	National
Sampling unit	Individuals within households with employed persons 18-65 years	Household, random member	Household	Household	Individual
Age of respondent	18-65	15-99	15-99	15-99	15+
Sample size	2,840 persons	2,682 persons	12,500 households 9,744 persons	12,675 households 8,996 persons	10,749 persons
Response rate	72.4%	-	-	77%	77.6%

Source: 24-hour society. Online: http://www.stmarys.ca/partners/iatur/24Final/24index.htm.

Improved Labour Force Analysis

Current labour force statistics are weak on two counts. First, they appear not to measure well, that which they purport to measure. It has been shown that the typical labour hours data collected does not truly reflect the reality of hours contributed to paid work (Stafford and Duncan, 1976; Niemi, 1983; Niemi, 1990). Secondly, focusing only on paid work activity they fail to account for all productive activity, and for constraints and opportunities related to the use of time. By focusing on all time use rather than simply employment time, time allocation studies give a far more complete picture of the use of labour resources. It is clearly insufficient to characterize persons as employed, unemployed, or not in the labour force. This reality emerges in a companion study to this one. Exploring discouraged workers, the study finds a myriad of forms of market attachments. It is equally necessary to be concerned with the use of time not identified as market production.

Evaluating Social Change

Time use data can be useful in implementing and evaluating change in such areas as working hours and patterns, shopping time, communications and advertising. How much, where, and when do people work? Increasingly, work is less tied to specific places and times. Traditional data on work hours fails to accurately reflect changes in the extent and pattern of work time. These are fully captured in time use data. Time use data help provide information on both the constraints and opportunities attendant with various work patterns, and thus can be used to evaluate the impacts of alternative schemes. How do individuals allocate their time with respect to the media? How much, when and where do they watch television, read papers, or listen to the radio? Again, such information is captured by time use data. As government develops policies to discourage people from spending time in certain activities (smoking) or to encourage them to participate in others (physical fitness programs), it is necessary to have evaluative measures.

Study of Women's Concerns

A number of general and specific concerns of women are directly addressable with time use data. In general terms, the issue of mis-measurement of economic activity is particularly relevant to women since women's activities overwhelmingly dominate the non- market and informal sector in both the more developed and developing countries.

Specific concerns include: domestic work (Vanek, 1974; Walker and Woods, l976; Press and Townsley,1998); child care (Stone, 1972; Michelson and Ziegler, 1982); the sexual division of labour (Meissner et al., 1975; Clark and Harvey, l976,); market vs. non-market activity (Stafford and Duncan, 1980); shopping behaviour (McDonald, 1994; Rubel, 1995); travel (Hanson, 1982; Jannelle and Goodchild, 1988); children's use of time (Timmer, Eccles and O'Brien, 1985; Gager et al., 1999). Knowledge of how time is allocated is indispensable in attempts to understand all the foregoing issues.

Improved Quality of Life

Growing concern with the quality of life has led to a search for valid, reliable and economical quality measures or social indicators. Time use data provide the opportunity to develop a large number of indicators covering many life domains, such areas as: a) health; b) education; c) working time; d) social interaction; e) leisure; and f) use of physical environment. Minimally, they provide indicators of involvement in a broad or complete range of activities engaged in by members of the subject group. Thus, for example, indicators of involvement in market oriented economic activity, housework and childcare, education, free time, can be developed.

Study of Leisure

The measurement of leisure has long been a fertile area of study addressed by time use research. Works (e.g., Ferge, 1972; Skorgynski, 1972) based on the Multinational Time Use Study (Szalai,1972) highlighted the utility of the time diary approach for studying leisure, and the work of Young and Willmott (1973) and the work of Shaw (1982) show both the utility and necessity of a time diary approach. They have shown that, contrary to the generally accepted approach of defining leisure in terms of selected "leisure like" activities, virtually any activity may be perceived as a leisure activity for some specific person or group or for a given individual under some conditions, but not under others. In short, subjectively, the concept of what is leisure varies from person to person and from time to time. While subjective detail was not obtained for episodes recorded in the time use module, it still provides a rich base for leisure analysis.

Time use information juxtaposes free time, work and personal time in a manner that provides considerably more information than does traditional pencil measures. They enable researchers to fit leisure into the life pattern both quantitatively and qualitatively. Similarly, they make it possible to fit the components of free time into aggregate leisure patterns. Based on the General Social Survey time use module, it would appear that Canadian men have slightly more free (6.0 hours) - measured in terms of residual non-work, non-personal activities - than Canadian women (5.6 hours) do. The additional time appears to accrue primarily from greater time allocated to media and other passive leisure – 2.9 hours for men and 2.6 hours for women, and active leisure – 1.1 hours for men and 0.8 hours for women (Statistics Canada, 1999).

Results from Glace Bay and Kings County

Demographic Structure of the Time Use Data

Major strengths of the time use data set are its size and the fact that it is truly representative of the communities. This study provides adequate sample sizes across a

wide range of demographic characteristics. Table 2 provides a demographic profile of the data set. In addition, Table 2 provides a comparison of the sample distribution by gender and age with the most recent census figures for Glace Bay and Kings County. Additionally it provides further demographic detail drawn from the community surveys, including marital status, employment status, education level and parental status (the presence of children).

Table 2. Sample Distribution by demographic characteristics compared to 2001 census figures

	Glace Bay		Kings County	
	Sample (unweighted)	Census figures	Sample (unweighted)	Census figures
Gender				
Females	56.9%	52.4%	54.2%	50.7%
Males	43.1%	47.6%	45.5%	49.3%
Age				
15-24	9.2%	14.0%	7.8%	13.3%
25-34	10.8%	10.7%	9.7%	12.5%
35-44	19.4%	30.4%	24.6%	32.4%
45-54	24.3%		22.9%	
55-64	16.3%	11.2%	16.4%	9.7%
64+	19.7%	16.9%	18.0%	13.2%
Marital Status				
Never married	19.9%	…	13.2%	…
Married/common-law	60.3%	…	74.1%	…
Separated/divorced	9.6%	…	7.4%	…
Widowed	9.9%	…	4.8%	…
Employment status				
Employed	34.7%	…	50.6%	…
Unemployed	11.2%	…	3.5%	…
Student	6.5%	…	6.3%	…
Homemaker	13.6%	…	12.4%	…
Retired	29.6%	…	23.5%	…
Other	4.1%	…	3.4%	…
Highest education level				
Primary-8	10.2%	…	5.2%	…
9-12	49.4%	…	36.4%	…
Community College	19.3%	…	21.5%	…
University degree	10.3%	…	18.2%	…
Other	9.6%	…	9.8%	…
Presence of children				
Yes	76.3%	…	75.9%	…
No	23.4%	…	23.6%	…

Typically, one is most interested in the behaviour or activity patterns of particular groups, defined in terms of several demographic dimensions. Time use data readily lends itself to such analysis. By means of hypercodes (Clark, Elliott and Harvey, 1972); it is possible to construct analytical variables which are combinations of significant demographic variables.

The Nature of Activities

The real focus of time use studies is what is being done, that is the activity, with all its attendant dimensions. In fact, the basic unit in a time use study is the episode, a single entry on the diary. However, while episodes are meaningful for analysis at one level they are less useful at another. While one may be interested in each episode of eating one is also interested in the overall daily allocation of time to eating, independent of such dimensions. It is thus necessary to aggregate individual episodes into higher level categories - activities - for more aggregated analysis. What are relevant activities? How are they organized? Activity organization is spelled out in the coding scheme.

At the most fundamental level interest centres on the actual amount of time allocated to specific activities such as paid work, housework, childcare, education, and other activities meaningful to the particular interests being examined.

The time use module provided for the identification of 30 different activities. Table 3 provides participation data and Tables 4 through 9 provide data on average durations, discussed below, for all coded activities. The 1998 Canadian Time Use Study allowed for the identification of more than 150 separate activities. The greater detail provides for an elaboration of activities such as the type of leisure activity, the household work, etc. While on the surface, more detail is better, this is only true if there are sufficient episodes of an identified activity for analysis. Thus, there is a trade-off between detail and usability.

Participation

Involvement in an activity, independent of the amount of time devoted to it, is defined in terms of participation. Participation in an activity is registered by any non-zero quantity of time recorded on a diary. Typically, it is presented as a participation rate per unit time for a given population group. Participation rates, reflected in time diaries, depend on two factors. First, it depends on whether or not an individual participates at all in a given activity. And then, if so, how frequently they participate.

There are certain activities that we would expect most if not all people would participate in – those which are required for the biological necessities of human existence. These include mainly sleeping, eating and grooming. These maintenance and care activities are referred to as “personal time”, implying that it is time that everyone needs in order to function effectively in society. According to Table 3, between 98.7% and 99.1% of

people (males or females) reported sleep in their diaries. Between 87.5% and 89.1% of Glace Bay residents, and between 90.4% and 91.5% of respondents from Kings County reported bathing and dressing in their diaries. Finally, between 90.5% and 90.9% of respondents from Glace Bay and between 88.7% and 89.0% of Kings County respondents reported eating home meals in their diaries. Note that this does not include eating out which is a separate activity and if combined would result in higher participation rates in food consumption activities.

It should be noted that personal time has considerable flexibility about it – that is, for example, humans can function adequately whether they wash their hair every day or only once a week. Thus, much personal care activity can have a discretionary quality about it, motivated by both pleasure-seeking and lifestyle (Robinson and Godbey, 1997). Given this fact and that respondents were asked only to complete two days of time diaries, help to explain why 100% of the respondents did not report participating in these activities. Additionally, if respondents failed to enter in all activities that they did throughout the day, including personal care activities, the resulting rates would be lower than we would expect.

While virtually everyone shops, they do not do it daily thus, diaries show on average between 20.9% and 22.2% for males and between 32.2% and 33.6% for females from Glace Bay and Kings County. This implies that men shop on average a day and a half a week and women, two days a week. Similar observations can be made regarding other activities that do not necessarily take place daily such as housekeeping and laundry, maintenance and repair, and leisure activities including socializing, movies and other entertainment and reading. Interestingly, a large percent of respondents reported watching TV, a leisure activity - as much as 83.4% for males in Glace Bay and 81.4% for females in Glace Bay. Participation rates are slightly lower for both males and females in Kings County, with males still showing higher participation in TV watching than females.

As noted above, differences in participation rates between males and females within a community exist. In addition, differences between the two communities in terms of participation in the 30 activities also exist. Most notable, females in both communities show higher participation rates in sleep, personal services, shopping and household work such as cooking and washing up, housekeeping and laundry, and primary child care. Males, in contrast, show higher participation rates in paid work (although the difference in Glace Bay is minimal), maintenance and repair, computer games and watching TV.

The issue of the double burden borne by employed women provides a good point of departure for illustrating the value of time use research. While men from both Glace Bay and Kings County have higher participation rates in paid work than women, the differences are not great (5.1% in Glace Bay and 19.3% in Kings County). In contrast, there continue to be significant differences in participation in domestic work. For example, the differences between females and males in terms of reported participation in housekeeping and laundry are as high as 33.2% in Glace Bay and 40.1% in Kings

County. Such an analysis, focusing on employed mothers would far more emphatically illustrate the double burden.

Table 3. Male and Female Participation rates, Glace Bay and Kings County, 2002.

	Male		Female	
	Glace Bay	Kings County	Glace Bay	Kings County
Sleep, rest	98.7%	98.7%	99.1%	99.1%
Bathing, dressing	87.5%	91.5%	89.1%	90.4%
Home meals	90.5%	89.0%	90.9%	88.7%
Personal services	17.0%	16.4%	20.4%	22.2%
Cooking and washing up	59.2%	52.5%	82.7%	79.2%
Shopping	20.9%	22.2%	32.2%	33.6%
Housekeeping and laundry	28.4%	20.1%	61.6%	60.2%
Maintenance and repair	25.9%	31.1%	5.7%	11.1%
Other household work	26.9%	22.2%	38.2%	38.5%
Paid work	27.9%	51.7%	22.8%	32.4%
Education	2.0%	5.2%	3.1%	9.0%
Looking for work	3.1%	0.2%	1.4%	1.1%
Eating out	15.7%	20.1%	12.0%	16.6%
Movies & other entertainment	11.1%	10.8%	11.5%	10.8%
Watching TV/VCR	83.4%	78.2%	81.4%	74.4%
Reading	31.1%	41.3%	35.5%	49.0%
Non-work computer games/Net	15.4%	16.8%	9.8%	14.3%
Spiritual/religious practice	5.4%	6.4%	9.1%	11.9%
Active sport or exercise	22.6%	24.9%	17.0%	29.7%
Socializing	44.2%	42.0%	46.0%	51.3%
Other leisure (specify)	15.4%	13.9%	16.3%	21.3%
Primary child care	7.0%	8.3%	12.2%	11.6%
Primary adult care	1.3%	0.8%	1.7%	2.1%
Other formal volunteer work	2.1%	3.1%	1.3%	4.4%
Other informal volunteer work	2.3%	2.2%	1.5%	5.4%
By car	55.5%	62.5%	52.1%	57.9%
By public transport	2.3%	3.0%	2.1%	2.3%
By walking or bicycling	14.0%	9.5%	11.3%	9.8%
Other travel	4.2%	11.1%	3.5%	13.9%
Other	25.2%	28.5%	26.4%	32.9%

Between the two communities, Glace Bay respondents, regardless of gender, report higher participation rates in cooking and washing up, housekeeping and laundry, movies and entertainment and watching TV. In addition, Glace Bay respondents participate less

in shopping, maintenance and repair, eating out, education, active sport and exercise, reading and significantly less in paid work.

Duration

Duration is the quantity of time devoted to activities. In traditional time allocation studies it refers to minutes or hours per day or week. Duration is typically considered the major temporal indicator for monitoring purposes. It serves to quantify an endless number of items. For example, depending on survey detail one can examine the duration of:

a. time spent in various activities, work, sleep, watching television, reading, doing housework, etc.;
b. time spent at various locations, e.g. at home or away from home
c. time spent in automobiles, on public transit, walking, etc.
d. time spent alone or with various persons, family, neighbours, social contacts, business contacts.

The range of factors that can be quantified in this manner is limited primarily by practical data collection considerations and available data. Duration provides a meter which can be used to relate information collected in disparate ways or at different times as long as the duration dimension has been accurately captured in each case.

Tables 4 and 5 show the average number of minutes that male and female respondents from the two communities allocate to the 30 different activity categories used in this survey. Among respondents from Glace Bay, both males and females allocate significantly more time to personal care activities (e.g. sleep, bathing and dressing, and home meals), to unpaid work (e.g. cooking and washing, housekeeping, and primary child care) and also to leisure activities such as watching TV and socializing. By contrast, male and female respondents in Kings County allocate significantly more time to paid work, education and formal volunteer work. In fact, males from Kings county on average spend 239 minutes per day in paid work compared to 135 minutes for respondents from Glace Bay and women in Kings County spend 138 minutes per day in paid work compared to 100 minutes per day by women from Glace Bay. The figures on time allocated to paid work also indicate that differences between males and females exist in their allocation of time, regardless of survey location. In both communities, men continue to show higher involvement in paid work outside the home and women devote more time to traditional home activities including cooking and washing up, housekeeping and laundry, other household work and primary child care, all unpaid work. Outside of work, both paid or unpaid, men tend to spend more time watching TV, playing computer games, and on maintenance and repair, while women spend more time on personal care activities such as bathing and dressing, and on shopping.

Table 4. Average daily duration in minutes of activities by males and females from Glace Bay and Kings County, 2002.

	Males		Females	
	Glace Bay	Kings County	Glace Bay	Kings County
Sleep, rest	517*	488	522*	499
Bathing, dressing	43*	36	48*	43
Home meals	73*	37	78*	69
Personal services	10	8	12	10
Cooking and washing up	43*	31	75*	67
Shopping	18	17	31	31
Housekeeping and laundry	24*	17	65*	53
Maintenance and repair	37	42	5	10*
Other household work	25*	18	38*	33
Paid work	135	239*	100	138*
Education	5	35*	8	27*
Looking for work	5*	2	2	2
Eating out	9	12*	8	11*
Movies and other entertainment	16	13	16	13
Watching TV/VCR	185*	133	159*	119
Reading	58	34*	31	41*
Non-work, computer games	17	21	9	11
Spiritual/Religious practice	5	6	7	8
Active sport or exercise	27	25	14	23*
Socializing	81*	55	74*	63
Other leisure	23	19	25	25
Primary child care	13*	7	23	26
Primary adult care	1	1	3	3
Other formal volunteer work	3	9*	2	6*
Other informal volunteer work	5	5	2	6*
Travel by car	42	42	34	40*
Travel by public transport	1	2*	1	1
Travel by walking or bicycle	12*	6	8*	6
Other travel	7	13*	4	12*
Other activities	35	38	36	46*

* Tests of significance are based on comparisons between survey locations. Results are significant at the 0.05 level of significance.

Table 5. Average daily duration in minutes of activities by survey location, males and females, 2002.

	Glace Bay		Kings County	
	Male	Female	Male	Female
Sleep, rest	517	522	488	499*
Bathing, dressing	43	48*	36	43*
Home meals	73	78*	67	69
Personal services	10	12	8	10*
Cooking and washing up	43	75*	31	67*
Shopping	18	31*	17	31*
Housekeeping and laundry	24	65*	17	53*
Maintenance and repair	37*	5	42*	10
Other household work	25	38*	18	33*
Paid work	135*	100	239*	138
Education	5	8	35*	27
Looking for work	5*	2	1	2
Eating out	9	8	12	11
Movies and other entertainment	16	16	13	13
Watching TV/VCR	185*	159	133*	119
Reading	25	31*	34	41*
Non-work, computer games	17*	9	21*	11
Spiritual/Religious practice	5	7*	6	8
Active sport or exercise	27*	14	25	23
Socializing	81	74	55	63*
Other leisure	23	25	19	25*
Primary child care	13	23*	7	26*
Primary adult care	1	3	1	3*
Other formal volunteer work	3	2	9*	6
Other informal volunteer work	5*	2	5	6
Travel by car	42*	34	42	40
Travel by public transport	1	1	2*	1
Travel by walking or bicycle	12*	8	6	6
Other travel	7	4	13	12
Other activities	35	36	38	46

* Tests of significance are based on comparisons between genders. Results are significant at the 0.05 level of significance.

Tables 6 and 7 depict the differences in time allocation in each of the survey locations based on employment status. In both locations, individuals who are either unemployed or out of the labour force spend more time in virtually all activity categories than employed individuals with the exception of paid work and time spent traveling by car. Employed individuals get significantly less sleep (e.g. 486 minutes compared to 531 minutes for

unemployed individuals and 535 minutes for those out of the labour force), spend less time in leisure activities such as watching TV and socializing, and also spend less time on unpaid work activities including cooking and washing up, and housekeeping and laundry. Interestingly, individuals who are out of the labour force allocate more time to spiritual or religious practice which might be explained by the fact that this employment category includes retired individuals and the older age groups, in particular, individuals over the age of 65 continue to devote significantly more time to religious practice than do people from younger generations (as can be seen in tables 5 and 6).

Differences in time according to employment status also exist between communities. Both employed people and those out of the labour force get more sleep, spend more time bathing and dressing, cooking and washing up, doing housekeeping and laundry and watching TV than do individuals in these same categories in Kings County. Employed persons and those out of the labour force from Kings County spend more time paid work, maintenance and repair and both formal and informal volunteer work. Few differences existed between unemployed individuals in either community.

Data on Nova Scotia collected by Statistics Canada as part of Cycle 12 of the General Social Survey (GSS) in 1998 provides a very real opportunity to relate findings in the community studies to existing data and a larger area. Table 8 provides a comparison of the time allocated to the different activities by respondents of the GPI survey compared to similar figures for Nova Scotia taken from the GSS.

There are a large number of significant differences in time allocation for both males and females among Nova Scotia, Glace Bay and King County. For only three activities, spiritual/religious practice, about 4-7 minutes per person per day (28-35 minutes per week) averaged over the whole population, other leisure and primary adult care, were there no significant differences among the three areas for either males or females.

Personal care activities, excluding sleep and rest, appear to be considerable squeezed in the Nova Scotia data relative to Kings and Glace Bay with both the latter registering significantly higher time allocation to all four personal activities listed.

Volunteering and auto travel were significantly greater in Nova Scotia as a whole for both males and females and relative to both study sites. Nova Scotian males showed a similar pattern for shopping, eating out and total travel. Nova Scotian females also spent significantly more time eating out when compared with the study area.

Bathing and dressing, home meals, and cooking and washing up were all significantly higher in Glace Bay than in Nova Scotia or Kings County. Additionally, for males, Glace Bay significantly dominated looking for work and socializing among the three areas.

Table 6. Average daily duration of activities in minutes by community and employment status, 2002[1].

	Glace Bay			Kings County		
	Employed (A)	Unemployed (B)	Not in Labour Force (C)	Employed (A)	Unemployed (B)	Not in Labour Force (C)
Sleep, rest	486	531^{A}	535^{A}	475	540^{AC}	511^{A}
Bathing, dressing	43	44	47^{A}	39	37	40
Home meals	60	75^{A}	85^{AB}	57	75^{A}	79^{A}
Personal services	9	11	13^{A}	7	6	12^{AB}
Cooking and washing up	47	60^{A}	68^{AB}	41	56^{A}	57^{A}
Shopping	18	25	29^{A}	20	23	29^{A}
Housekeeping and laundry	36	48^{A}	50^{A}	30	47^{A}	41^{A}
Maintenance and repair	17	36^{AC}	19	25	36	25
Other household work	23	35^{A}	36^{A}	20	24	31^{A}
Paid work	308^{BC}	10	21	339^{BC}	24	34
Education	3	2	11^{AB}	4	35^{A}	63^{AB}
Looking for work	1	18^{AC}	1	1	18^{AC}	1
Eating out	11^{BC}	6	7	12	7	11
Movies and other entertainment	16	20	16	13	10	14
Watching TV/VCR	127	211^{AC}	190^{A}	103	185^{AC}	143^{A}
Reading	19	25	35^{AB}	24	51^{A}	52^{A}
Non-work, computer games	13	19^{C}	11	13	30^{AC}	18^{A}
Spiritual/Religious practice	4	4	7^{A}	5	6	9^{A}
Active sport or exercise	17	17	22	21	13	29^{AB}
Socializing	54	90^{A}	91^{A}	47	84^{A}	71^{A}
Other leisure	18	24	28^{A}	19	11	26^{AB}
Primary child care	22^{C}	29^{C}	13	17	20	14
Primary adult care	1	3	3	1	0	4^{A}
Other formal volunteer work	1	6^{A}	3	5	10	10^{A}
Other informal volunteer work	2	7^{AC}	3	4	8	7^{A}
Travel by car	44^{BC}	33	35	48^{BC}	25	34
Travel by public transport	1	1	1	1	1	3^{A}
Travel by walking or bicycle	4	16^{A}	12^{A}	4	15^{AC}	7^{A}
Other travel	4	4	7	11	7	15^{A}
Other activities	31	30	40	36	37	49^{A}

[1] Tests of significance are based on comparisons based on employment status. Results are significant at the 0.05 level of significance.

Table 7. Average daily duration of activities in minutes by employment status and community, 2002[1].

	Employed		Unemployed		Not in Labour Force	
	Glace Bay (A)	Kings County (B)	Glace Bay (A)	Kings County (B)	Glace Bay (A)	Kings County (B)
Sleep, rest	486[B]	475	531	540	535[B]	511
Bathing, dressing	43[B]	39	44[B]	37	47[B]	40
Home meals	60	57	75	75	85[B]	79
Personal services	9	7	11	6	13	12
Cooking and washing up	47[B]	41	60	56	68[B]	57
Shopping	18	20	25	23	29	29
Housekeeping and laundry	36[B]	30	48	47	50[B]	41
Maintenance and repair	17	24[A]	36	36	19	25[A]
Other household work	23	20	35	24	36[B]	31
Paid work	308	339[A]	10	24	21	34[A]
Education	3	4	2	35[A]	11	63[A]
Looking for work	0	1	18	18	1	1
Eating out	11	12	6	7	7	11[A]
Movies and other entertainment	16	13	20	10	16	14
Watching TV/VCR	127[B]	103	211	185	190[B]	143
Reading	19	24[A]	25	51[A]	35	52[A]
Non-work, computer games	13	13	19	30	12	18[A]
Spiritual/Religious practice	4	5	4	6	7	9
Active sport or exercise	17	21	17	13	22	29[A]
Socializing	54	47	90	84	91[B]	71
Other leisure	18	19	24	11	28	26
Primary child care	22	17	29	20	13	14
Primary adult care	1	1	3	0	3	4
Other formal volunteer work	1	5[A]	6	10	3	10[A]
Other informal volunteer work	2	4[A]	7	8	3	7[A]
Travel by car	44	48	33	25	35	34
Travel by public transport	1	1	1	1	1	3[A]
Travel by walking or bicycle	4	4	16	15	12[B]	7
Other travel	4	11[A]	4	7	7	15[A]
Other activities	31	36	30	37	40	49

[1] Tests of significance are based on comparisons based on survey location. Results are significant at the 0.05 level of significance.

Table 8. Time Allocation, males and females: Nova Scotia, Glace Bay and Kings County[1].

	Male			Female		
	Nova Scotia (A)	Glace Bay (B)	Kings County (C)	Nova Scotia (A)	Glace Bay (B)	Kings County (C)
Sleep, rest	502	516[C]	489	524[C]	522[C]	500
Bathing, dressing	30	42[AC]	36[A]	41	48[AC]	43
Home meals	51	73[AC]	67[A]	51	78[AC]	69[A]
Personal services	1	10[A]	8[A]	2	12[A]	11[A]
Cooking and washing up	24	43[AC]	31[A]	57	75[AC]	67[A]
Shopping	27[BC]	18	17	35	31	31
Housekeeping and laundry	28[C]	24[C]	17	69[C]	65[C]	53
Maintenance and repair	18	37[A]	43[A]	8	5	10[B]
Other household work	30[C]	25[C]	18	23	38[A]	33[A]
Paid work	207[B]	137	236[B]	133[B]	101	136[B]
Education	19[B]	5	34[AB]	25[B]	8	26[B]
Looking for work	0	5[AC]	1	1	2	2
Eating out	37[BC]	9	12	35[BC]	8	11[B]
Movies & other entertainment	9	16[A]	13	6	16[A]	13[A]
Watching TV/VCR	171[C]	185[C]	133	146[C]	160[C]	119
Reading	28	25	35[B]	30	31	41[AB]
Non-work computer games/Net	7	17[A]	21[A]	4	9[A]	11[A]
Spiritual/religious practice	6	4	6	8	7	8
Active sport or exercise	36[C]	27	25	22[B]	14	23[B]
Socializing	57	80[AC]	55	70	74[C]	64
Other leisure (specify)	23	23	19	32	25	25
Primary child care	16[C]	13[C]	7	31	23	26
Primary adult care	0	1	1	1	3	3
Other formal volunteer work	16[BC]	3	9[B]	11[BC]	2	6[B]
Other informal volunteer work	13[BC]	5	5	12[BC]	2	6[B]
By car	81[BC]	42	42	60[BC]	34	40[B]
By walking or bicycling	7	12[C]	6	9[C]	8[C]	6
Other travel	1	7	13[AB]	2	4	12[AB]
Other	1	35[A]	38[A]	0	36[A]	46[AB]
TRAVEL	81[BC]	61	63	65[B]	46	58[B]

[1] Tests of significance are based on comparisons based on location. Results are significant at the 0.05 level of significance.

Kings County males made significantly higher time allocations to education and its females to reading with respect to the other two areas. Both made significantly higher allocations to other travel, quite possibly trucks give the county's economic structure.

Both Nova Scotia and Kings County allocated significantly more time to paid work than did either Glace Bay males or females. Glace Bay males averaged, over all males and all days of the week) just slightly over 2 hours per day (137 minutes) to paid work. In contrast, the similar figure for NS and Kings County was over three hours (207 and 236 minutes respectively). While Kings County appears higher than Nova Scotia the difference is not statistically significant. A similar pattern emerges for females with Nova Scotia and Kings County registering about 135 minutes and Glace Bay registering about 100 minutes per day to paid work.

Education time is very low in Glace Bay relative to both Nova Scotia and Kings County. Kings County males allocate significantly more time to education than do males in either Nova Scotia or Glace Bay while Kings County women allocating about the same amount of time as Nova Scotia also allocate more time to Glace Bay females do.

From a leisure perspective it is interesting to note that both Nova Scotia and Glace Bay, themselves not significantly different, allocate significantly more time to TV/media than does Kings County. Many other differences can be observed in Table 8.

Finally, Tables 9 and 10 show the allocation of time to the 30 activities by different age groups. In both Kings County and Glace Bay, younger people (15-24 years) allocated more time to education, computer games and socializing than all other age groups. In addition, younger people spent more time in active sport or exercise than any other age groups, particularly in Kings County where persons between 15 and 17 years old allocated more time to active sport or exercise than all others. Young people also tend to get significantly more sleep than most other age groups with the exception of individuals over 65 years.

Middle-aged individuals (25-44 years), who are typically trying to balance work and family, spent more time on primary child care and in paid work than all other age groups. In particular, people between the ages of 25-34 in Glace Bay allocated significantly more time than any other age group to child care and paid work. This result is somewhat similar in Kings County except that there is no significant difference in the time allocated to paid work among people between 20 and 54 years of age. People between 25-44 years of age also spend significantly more time on household work than younger individuals. Household work includes laundry and housekeeping, and cooking and washing up. However, the time allocated to these activities is the highest in individuals over 55 years.

Persons over 55 years spend more time than any other age group on home meals, cooking and washing up, watching TV and reading. In addition, individuals over 65 years allocate significantly more time to spiritual/religious practice than most other age groups.

Table 9. Average daily duration in minutes of activities by age, Kings County, 2002[1].

	15-17	18-19	20-24	25-34	35-44	45-54	55-64	65+
Sleep, rest	523	550	528	506	470	473	485	509
Bathing, dressing	38	32	45	37	39	38	41	40
Home meals	50	56	52	59	62	64	77	94
Personal services	5	5	5	6	8	8	11	16
Cooking and washing up	11	18	26	55	51	49	52	69
Shopping	9	13	15	25	23	25	30	29
Housekeeping and laundry	6	22	19	42	43	35	36	41
Maintenance and repair	3	7	9	15	27	31	41	33
Other household work	4	13	12	24	26	24	37	34
Paid work	21	150	277	242	277	276	150	15
Education	308	136	30	8	5	5	2	1
Looking for work	1	1	0	4	2	2	0	1
Eating out	6	19	7	11	11	13	14	10
Movies and other entertainment	28	10	21	15	12	9	9	12
Watching TV/VCR	98	111	110	130	109	112	129	172
Reading	23	18	48	19	26	35	48	70
Non-work, computer games	38	58	15	17	13	15	13	7
Spiritual/Religious practice	2	10	1	3	4	7	10	14
Active sport or exercise	48	15	22	20	21	23	25	24
Socializing	95	97	79	52	43	52	57	67
Other leisure	9	11	14	15	21	20	33	33
Primary child care	1	1	15	49	28	7	6	4
Primary adult care	0	3	0	0	1	4	2	3
Other formal volunteer work	3	0	5	4	6	5	15	11
Other informal volunteer work	2	4	0	7	3	4	14	6
Travel by car	19	39	38	40	50	47	42	32
Travel by public transport	12	8	1	1	1	0	0	1
Travel by walking or bicycle	12	6	7	3	6	3	6	9
Other travel	15	9	13	9	12	8	12	19
Other activities	50	17	29	20	41	42	12	19

[1] Results from tests of significance are not shown but are discussed in the text. Results are significant at the 0.05 level of significance.

Table 10. Average daily duration in minutes of activities by age, Glace Bay, 2002[1].

	15-17	18-19	20-24	25-34	35-44	45-54	55-64	65+
Sleep, rest	584	546	542	518	490	514	517	527
Bathing, dressing	52	56	47	47	45	43	44	45
Home meals	63	61	58	63	67	75	90	94
Personal services	5	15	6	7	10	12	11	17
Cooking and washing up	24	16	42	52	58	64	68	76
Shopping	10	17	20	20	21	24	27	36
Housekeeping and laundry	11	11	29	48	49	50	51	51
Maintenance and repair	3	0	2	18	20	33	32	19
Other household work	5	13	14	24	32	37	43	40
Paid work	44	119	129	217	200	139	66	4
Education	56	94	11	6	5	1	0	0
Looking for work	00	6	5	8	5	2	0	1
Eating out	8	12	11	11	8	7	8	6
Movies and other entertainment	29	33	31	16	14	17	12	9
Watching TV/VCR	154	86	161	144	145	173	173	224
Reading	18	17	16	17	20	29	39	44
Non-work, computer games	42	37	29	14	13	8	12	4
Spiritual/Religious practice	1	6	5	1	4	5	7	11
Active sport or exercise	36	45	30	10	16	23	26	14
Socializing	173	159	115	57	67	55	73	80
Other leisure	17	32	19	16	20	21	25	36
Primary child care	3	0	27	44	30	10	8	4
Primary adult care	0	0	1	1	1	3	4	4
Other formal volunteer work	1	0	3	2	4	3	1	4
Other informal volunteer work	1	0	1	1	5	4	6	2
Travel by car	21	30	39	38	41	40	40	34
Travel by public transport	2	0	1	1	1	1	0	0
Travel by walking or bicycle	12	7	11	10	9	10	9	9
Other travel	1	0	2	2	4	7	9	7
Other activities	65	22	33	28	36	29	40	39

[1] Results from tests of significance are not shown but are discussed in the text. Results are significant at the 0.05 level of significance.

Discussion

The purpose of this paper was two-fold: first, to provide a brief introduction to time use research and its applications and second, to provide a summary of the results of the time use survey conducted by GPI Atlantic. The results presented here provide a basic picture of the ways people from Glace Bay and Kings County use their time. Combined with other information collected from the GPI community survey, such as information on perceived health, we can determine the impacts of hours worked for example, on well-being. Alone however, the time use data can help to paint a clearer picture of some of the most current policy issues including the struggle to balance work and family, the division of labor, the time spent care giving in the household and the quality of people's leisure time in particular exploring the extent of active vs passive leisure.

A great deal of work is currently being done on the work-family balance. For example, a number of centres throughout the world are dedicated to the study of workplace trends and family-friendly policies, including The Centre for Work and Family Balance and the Alfred P. Sloan Centers on Working Families in the United States. In addition, a number of major studies have been conducted on the work-family balance including a recent Canadian report by Linda Duxbury entitled *Voices of Canadians: Seeking work-life balance*. This report and much of the current literature on this topic, support the feelings held by most if not all working people that it is becoming increasingly challenging to balance work and family life. The time use data presented in this paper hint at these challenges. In particular, as mentioned previously, persons between the ages of 25 and 34, are allocating significantly more time to paid work and child care than all other age groups, and significantly more time to household work than most age groups with the exception of individuals over 55 years. These individuals therefore have less free time, as illustrated in Tables 9 and 10. People between the ages of 25 and 34 spend significantly less time socializing, on active sport and exercise and on computer games than younger people.

Increased participation of women in the labor force, technological developments that changed household work, and changes in the roles of family members are among some of the developments over the last 50 years that have changed the face of work and in turn the division of labor, both in and outside the household. Women were traditionally homemakers who primarily cared for children and completed household work and men worked outside the home in paid employment. The time use data collected in the GPI study can be used to examine the current division of work, inside and outside the home, in both Glace Bay and Kings County. The tables showing participation rates by sex (Table 3) and activity durations by sex (Tables 4 and 5) help to illustrate the increased participation of women in the labor force and the increased participation of men in what were traditionally female jobs – household work and child care. Table 3 shows that women in both communities continue to show higher participation in household work, including cooking and washing up, housekeeping and laundry and other household work, and in child care compared to men. However, more than 50% of the time diaries completed by men in both communities reported cooking and washing activities. Men continue to show higher participation rates in paid work in both communities, however, this difference is small in Glace Bay where 22.8% of women reported participating in paid work and 27.9% of men reported participating in paid work. This may be the result of the higher

unemployment rates in Glace Bay meaning that a few women work but fewer men are able to find work than compared with Kings County. Tables 4 and 5 also indicate that women continue to spend more time on household activities and men, on paid work.

Conclusion

Comparing Glace Bay and Kings reveals a very interesting picture of productive time use consistent with expectations. First, paid work time is much higher in Kings and there is a reasonably large gap between men and women. In contrast, in Glace Bay, paid work time is very low and the gap between men and women, in average daily hours is minor. This appears to reflect adaptation to the labour market by women in cases where job opportunities may be in short supply for men. Additionally, the data show a much heavier time allocation to domestic work in Glace Bay. This reflects the shortage of income due to lack of employment and the additional time free.to look after children.

Increasingly, researchers and policy makers are recognizing the importance of time in understanding a broad range of issues including but not limited to those discussed in this paper. The time use data therefore, when combined with other information collected through the GPI community survey can be used to address an unlimited array of issues facing these two communities. The data collected in this survey appeared to compare well with the data collected for Nova Scotia in the 1998 GSS indicating that community based time use surveys can provide useful and valid data.

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Appendix I - Statistical Profile: Kings County, Glace Bay (Electoral District) and Nova Scotia[1]

	Kings County	Glace Bay[2]	**Nova Scotia**
Total population	61,794	17,710	942,691
Males	49.3%	47.6%	49.0%
Females	50.7%	52.4%	51.0%
Median age category	35-54	35-54	35-54
Labour force[3]	28,675	6,610	468,900
Unemployment rate[4]	9.1%	19.4%	9.7%
Education level			
Less than High School	36%	49%	37%
Some or completion of Post-Secondary	56%	40%	53%
Total average income[5]	$24,140	$20,340	$25,970

1. Source: Statistics Division, Nova Scotia Department of Finance: Internal surveys and modelling of Statistics Canada data.
2. Figures were not available for the community of Glace Bay. These figures reflect the Electoral District of Glace Bay.
3. Figures are based on the 1996 census.
4. Kiceniuk *et al.*, 2003.
5. Average income per Taxfiler, 2000 tax year.

Appendix II - List of Activity Categories

Act #	Act Label	Description
Act1	Sleep, rest	
Act2	Bathing, dressing	
Act3	Home meals	
Act4	Personal Services	
Act5	Cooking and washing up	
Act6	Shopping	Includes buying groceries, clothes, appliances, home furnishings, going to repair shops, post office, etc.
Act7	Housekeeping and laundry	Includes cleaning house, laundry, mending, ironing, arranging and straightening things, taking out garbage, etc.
Act8	Maintenance and repair	Includes work on house, yard and car.
Act9	Other household work	Includes household managing (e.g. planning, household accounts, paying bills, problem-solving, making transportation and other arrangements, etc.)
Act10	Paid work	
Act11	Education	Includes attending classes or lectures, training and correspondence courses, homework, etc.
Act12	Looking for work	
Act13	Eating out	
Act14	Movies and other entertainment	Includes movies, theatre, sports events, fairs, concerts, museums, and other entertainment outside the home.
Act15	Watching TV/VCR	
Act16	Reading	
Act17	Non-work computer games	Includes video games, surfing the net, chat sessions, and other leisure uses.

Act18	Spiritual/religious practice	Refers to actual prayer, meditation, church services or other spiritual practices.
Act19	Active sport or exercise	Includes both group sports and also individual jogging, hiking yoga, etc.
Act20	Socializing	Includes time spent enjoyably chatting with family and friends, as well as social phone conversations, visiting or dinner with friends, neighbours or relatives, parties, dances, visits to nightclubs or bars, etc.
Act21	Other leisure	Includes pleasure trips, hobbies, painting, playing music, etc.
Act22	Primary child care	Refers to time spent directly and exclusively relating to a child, while not engaged in any other activity. Includes changing diapers, washing, dressing, teaching, reading to and playing with children.
Act23	Primary adult care	Refers to time spent directly helping and caring (dressing, bathing, grooming, etc.) for a sick, elderly or disabled relative or other adult. Includes help given directly to these dependent adults with housekeeping tasks such as cleaning, laundry, shopping and meal preparation.
Act24	Other formal volunteer work	Refers to unpaid activity for social, youth, religious, professional, political, sporting, non-profit and other organizations like unions and service clubs.
Act25	Other informal volunteer work	Refers to unpaid activity that is not given through a formal organization (e.g. unpaid babysitting, etc.)
Act26	Travel by car	
Act27	Travel by public transport	
Act28	Travel by walking or bicycle	
Act29	Other Travel	Includes motor cycle, truck, plane, train, etc.
Act30	Other activities	Includes pet care, gardening, and other activities that do not fit into any of the other activity categories.

Appendix III - GPI Community Survey Time Use Diary

DAY 1 Morning: _____ Date: _____ (day) _____ (month), 2001

MAIN ACTIVITY	12 am	1 am	2 am	3 am	4 am	5 am	6 am	7 am	8 am	9 am	10 am	11 am
Personal												
Sleep, rest												
Bathing, dressing												
Home meals												
Personal services												
Household												
Cooking and washing up												
Shopping												
Housekeeping and laundry												
Maintenance and repair												
Other household work												
Work/Education												
Paid work												
Education												
Looking for work												
Free Time/Leisure												
Eating out												
Movies & other entertainment												
Watching TV/VCR												
Reading												
Non-work computer games/Net												
Spiritual/religious practice												
Active sport or exercise												
Socializing												
Other leisure (specify)												
Volunteer or Care Giving												
Primary child care												
Primary adult care												
Other formal volunteer work												
Other informal volunteer work												
Travel												
By car												
By public transport												
By walking or bicycling												
Other (specify)												
Other Activities (specify)												
CHILD AND ADULT CARE OCCURRING AT THE SAME TIME AS YOUR MAIN ACTIVITY												
Paid another for child care												
Secondary child care by you												
Secondary adult care by you												
LOCATION OF MAIN ACTIVITY (Each 15-minute time period should be marked)												
At home												
Away from home												

GPI Atlantic

DAY 1 Afternoon/evening: _____ Date: _____(day) _____(month), 2001

MAIN ACTIVITY	12 am	1 am	2 am	3 am	4 am	5 am	6 am	7 am	8 am	9 am	10 am	11 am
Personal												
Sleep, rest												
Bathing, dressing												
Home meals												
Personal services												
Household												
Cooking and washing up												
Shopping												
Housekeeping and laundry												
Maintenance and repair												
Other household work												
Work/Education												
Paid work												
Education												
Looking for work												
Free Time/Leisure												
Eating out												
Movies & other entertainment												
Watching TV/VCR												
Reading												
Non-work computer games/Net												
Spiritual/religious practice												
Active sport or exercise												
Socializing												
Other leisure (specify)												
Volunteer or Care Giving												
Primary child care												
Primary adult care												
Other formal volunteer work												
Other informal volunteer work												
Travel												
By car												
By public transport												
By walking or bicycling												
Other (specify)												
Other Activities (specify)												
CHILD AND ADULT CARE OCCURRING AT THE SAME TIME AS YOUR MAIN ACTIVITY												
Paid another for child care												
Secondary child care by you												
Secondary adult care by you												
LOCATION OF MAIN ACTIVITY (Each 15-minute time period should be marked)												
At home												
Away from home												

Total Amount paid for child care today: $ _____