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Time use research in Canada – History, critique, perspectives

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Abstract

The article examines methodological and substantial problems faced by Canadian time use research. It assesses the gains and the limitations of this research from a historical and comparative perspectives.

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1 Introduction

The following article is an indirect tribute to Andy Harvey and his contribution to time use research in Canada and internationally. There are different qualities that we admire in researchers – breadth of interests, statistical sophistication, policy relevance, but one quality is less frequently mentioned, yet is no less important for the advances of social sciences – endurance and ability to create a stimulating family-like research environment. Andy has all of these qualities, but for me he is foremost the "demiurge" of IATUR, a person who was able to create a family of time use researchers, close-knit yet open and marked by true camaraderie. These qualities persevered even after Andy stepped down as the president of IATUR, and that is another unmatched accomplishment. Stay the course, Andy!

2 Time use research in Canada – 1965 - 2005

In the 1960s, and particularly the 1970s, statistical agencies in many countries began collecting systematic information about their population's involvement in leisure activities and overall patterns of daily life as reflected in the use of time. Canada was no exception to this trend.

The interest in time use (or time-budgets as they were originally called) owes a lot to the trend-setting comparative study of time use in 12 countries directed by Alexander Szalai and launched in 1965 under the auspices of UNESCO (Szalai, 1972). In Canada, surveys of leisure and cultural participation were initially spearheaded by the Education, Science and Culture Division of Statistics Canada under the direction of Yvon Ferland. Time use surveys, on the other hand, were first conducted by researchers working in the university environment. Three names personify Canada's early time use research efforts – Martin Meissner, William Michelson and Andrew Harvey. These three researchers embraced Canada's time use research terrain, literally from coast to coast. Martin Meissner used time use data collected in 1965 from 206 workers in an industrial community on Vancouver Island to examine the effects of job constraints on workers' time use and leisure participation (Meissner, 1971). This same researcher used data from a 1971 study of social, temporal, and spatial ecology of urban dwellers in Greater Vancouver to examine gender inequalities in the distribution of time, in particular time allocated to domestic work (Meissner et al., 1975). Meissner's articles "The Long Arm of the Job" and "No exit for wives: Sexual division of labour and the cumulation of household demands" foreshadowed by almost a decade research interests that drew increasing attention in the 1980s and 1990s.

Michelson used time budgets to measure objective behaviour in relation to housing preferences and intentions. His data was collected from approximately 600 families changing housing type and location in the Toronto area. Starting in 1969, data was collected in four phases

over a period of about 5 years extending from before the move, to about four years after (Michelson, 1977).

On the other side of Canada in Halifax, Nova Scotia, a team of researchers at The Institute of Public Affairs, Dalhousie University, under the direction of Andrew Harvey, conducted the *Halifax Time-Budget Survey* in 1970-1971. The design of this survey was similar to the Multi-National Time Budget Survey and it provided one of the first glimpses of time use by a representative sample of urban Canadians (*N* = 2,002). It also included detailed information about respondents' location during their various daily activities. The Halifax survey served as an impulse and a benchmark for time use studies initiated a decade later by Statistics Canada, and its findings were reported in numerous publications (Elliott et al., 1976; Clark and Harvey, 1976; Harvey, 1978; Kinsley and O'Donnell, 1983)

In 1981-1982, Sue Shaw conducted a time use survey of 60 couples (N = 120) also in Halifax. This survey attempted to distinguish between traditional *activity* and alternative *experiential* measurements of leisure. It asked respondents to indicate for each performed activity whether they perceived it as leisure, work or a combination of both. The findings of the survey pointed to methodological problems associated with the use of traditional activity measures of leisure. The study showed that respondents attributed leisure qualities not only to typical free time activities but also to activities traditionally seen as non-leisure (studying, paid work, housework). Free time activities were, on the other hand, often perceived (not surprisingly more so by women than by men) as lacking leisure qualities (Shaw, 1986).

In 1980, Bill Michelson collected data on time use of married and single employed mothers in Toronto (N = 545 families). The main instrument of the survey was a time diary completed by each member of the family above the age of 10. This time diary required respondents to list in detail what they did on the day in question. In addition to time diary data, the survey included respondents' subjective evaluation of activities they performed and covered issues such as mental health and time pressure in the lives of employed mothers (Michelson, 1985).

Approximately at the same time, the Research Group on Leisure and Cultural Development at the University of Waterloo conducted a survey of time use among elderly citizens in the Kitchener-Waterloo area (*N* = 117). This survey collected time diary information on two weekdays and one day off. It included a number of questions about respondents' health and a generalised measurement of life satisfaction based on the Life Satisfaction Index (LSI) of Neugarten, Havighurst, and Tobin (see Zuzanek and Box, 1988).

In the mid 1970s, it became clear that further advancement of systematic and representative time use research required involvement of a national statistical agency that had access to considerably greater resources than were available to individual researchers or university research teams. To enlist such support the Department of the Secretary of State and the Dalhousie University Institute of Public Affairs organised in 1976 an International Conference on Time-Budgets in Tatamagouche, Nova Scotia. A pioneering spirit typical of this fermenting period dominated this informal and open-ended conference which brought together major players of Canadian and international time use research – Andy Harvey (the initiator of the conference),

John Robinson, Phil Stone, and others. For a variety of reasons, of which funding may have been one, the attempt to launch a large scale time use survey proposed at the conference did not materialise, but the seeds of the subsequent involvement of Canadian government and Statistics Canada in the study of time use were planted here. These seeds came to fruition in 1981 when the first Canadian National Time Use Pilot Study was launched, thanks to a concerted effort of the federal Department of Communications, Canada Employment and Immigration Commission, Statistics Canada, Peat, Marwick and Partners, and the Dalhousie University Institute of Public Affairs.

The *National Time-Use Pilot Study* was conducted in September and October of 1981 by telephone in 11 urban centres and three rural counties across Canada (N = 2,685). It collected detailed information from respondents aged 15 and older about their time use during the day before the survey as well as their participation in selected leisure activities during the preceding year. Seizing the data collection opportunity, in addition to a random sample of 496 respondents in Halifax, 450 of the 1971 Halifax respondents were re-interviewed in 1981 on a comparable month and day (Harvey and Elliott, 1983).

In 1986 (October to December), Statistics Canada administered, for the first time, a full-scale national time-use study within the framework of *General Social Surveys* (GSS). Telephone interviews were conducted with respondents 15 years and older from randomly selected households about time-use for 24 hours of the day preceding the interview (N = 9,946). The interview gathered information on the primary activity in which the respondent was involved, the total duration of each activity involvement (reported in minutes), where the activity took place, and with whom the respondent was involved. Activities were classified into 99 categories, which were subsequently grouped in general classes such as work for pay, domestic work, personal care, free time, etc. The survey also contained several labour force participation questions (estimated length of weekly working hours, etc.), and questions about respondents' health and satisfaction with various aspects of life, including the use of non-working time.

Beginning in the early 1990s, Statistics Canada conducted time use surveys within the General Social Surveys framework repeatedly in approximately six-year intervals. The 1992 *GSS* was similar in design and sampling to that of 1986, but time-use data were collected over the entire year rather than a two-month period (N = 8,996). In addition to the duration, location (where) and context (with whom) of the activities, respondents were asked questions about child care, frequency of participation in selected leisure, cultural and sporting activities during the year preceding the survey, volunteer activities during the month preceding the survey, most enjoyed activities and, for the first time, subjective feelings of time pressure (feeling rushed).

The 1998 *GSS* followed the format of the 1992 survey, but added questions about respondents' perceived attachment to their communities, satisfaction with work-family balance, and perceived level of psychological stress (N = 10,749). The survey repeated, as well, questions about life and domain satisfactions asked in the 1986 *GSS*.

The 2005 *GSS* doubled the sample of the surveyed population (*N* = 19,597), but retained most structural components of previous time use surveys. In addition to questions about physical health, the survey for the first time attempted to monitor respondents' mental dispositions (closeness to and trust in people).

Time use data collected by Statistics Canada became the subject of intensive secondary analyses and produced an array of publications addressing various aspects of daily life, work-leisure relationship, changing uses of time, child care, gender and social time use inequalities, social capital, and well-being. A partial account of these publications can be found in Pentland et al. (1999), Zuzanek (2000), and Michelson (2005).

Most recently (2005-2008) Andrew Harvey was principal investigator of the Space Time Activity Research (STAR) project, a GPS augmented time-use study of approximately 2000 households in the Halifax Regional Municipality (HRM). This study developed an integrated tracking and interviewing system to capture temporal-spatial data comparable to the 1971-72 Halifax data.

3 Canada´s time use research – The gains

The title of this article suggests that its main goal is to identify critical issues facing time use research in Canada and to offer some suggestions about future directions of this research. Before doing this it may be appropriate, however, to briefly mention some of the gains of time use research. Understanding of a number of social trends and issues in Canada could not have been achieved, in my opinion, without a systematic study of the use of time. What follows is by no means a comprehensive list of all the gains but rather a sample of findings that attracted serious research and policy attention.

3.1 Social trends

One of the questions often asked in the past was whether shortening of working hours provided more leisure for people in industrial societies. The opinions on this issue varied (Dumazedier, 1967; Linder, 1970; Schor, 1991; Gershuny, 1992; Robinson and Godbey, 1997). Some authors have argued that the amount of free time available to an average citizen has increased over the past two or three decades (Robinson and Godbey, 1997). Others have pointed to the fact that, subjectively, respondents in these same countries appear more pressed for time than ever before (Linder, 1970; Schor, 1991). Analyses of Canadian *GSS* time use data reveal that statistical means computed for combined working and non-working populations have concealed important time use divergences. These analyses showed that from 1981 to 1998 the amount of free time available to *all* Canadians increased by 15 minutes per day, but for the *employed population* it increased by only 8 minutes, and for employed respondents on days when they worked it declined by 14 minutes, while their total work load on these days increased by 30 minutes (Zuzanek, 2004).

These figures tell us that in 1998, proportionately fewer Canadians were in the labour force, those who were employed worked fewer days per annum, and on days when they worked their working hours were longer than in 1986. While some population groups (the elderly) grew in size and gained leisure time, others (self-employed, professionals, managers) seemed to have lost it. Consequently, the question of whether people in modern societies have gained or lost free time may be the wrong question to ask; instead, we should be asking *who* in modern societies is gaining and who is losing free time. The above observation has, of course, serious policy and methodological implications. In the presence of divergent trends, statistics of central tendency averaging time use of the entire population may be obscuring widening real-life time use gaps.

Historical analyses of time use changes disclose a number of other trends that have serious life-style, health, and policy implications. The amount of time spent eating at home, reported in national time use surveys, has steadily declined since 1981. It was almost 30% shorter in 2005 than at the beginning of the 1980s. Other activities that have shown a steady decline are reading and adult education. Reading declined first at the expense of watching television and videos, and in the 1990s at the expense of computer use / Internet surfing, when the latter cut into both reading and TV viewing time.

Educators, physicians, and researchers have been alarmed by teens' short hours of sleep. Medical specialists believe that adolescents need 9.2 hours of sleep to remain healthy and function effectively (Carscadon, 1990), yet in 1998, 24% of Canadian high school students slept less than 7 hours on school days. According to the 2003 Ontario Time Use Survey of adolescents, 27% of 15 to 19 year old Ontario students slept fewer than 7 hours on school days.[1] In 1981 the corresponding figure was only 18%. Unlike in the 1980s, later bedtimes in the late 1990s were associated primarily with Internet surfing (Zuzanek, 2005). Not surprisingly, some schools began considering postponement of class start-up time.

The trends discussed above, obviously, prognosticate arduous life style, educational and health challenges for Canada's population.

3.2 Social and demographic cleavages

Time use research has also mustered tangible evidence about social cleavages affecting time use of different groups of Canadian population.

3.3 Gender gap

Time-use data show that women in general, and particularly employed mothers with small children, are disadvantaged in their access to leisure time compared to men. Employed women interviewed in the 1971-72 time-use survey in Halifax, reported having an average of 4.0 hours of free time per day, compared to men's 4.9 hours (Elliott et al., 1976). According

[1] For more information about the Ontario Time Use Survey of Adolescents (OATUS), see Zuzanek and Mannell, 2005; Zuzanek, 2005; Mannell et al., 2005.

to the 1971 time-budget study in Greater Vancouver, employed married women with children had only 1.8 hours of free time per day, compared to 3.4 hours for the analogous category of men (Meissner et al, 1975).

The gender gap in accessing free time began narrowing in the late 1980s and 1990s, but despite this narrowing it persisted, albeit in a somewhat different form. In 1998, the combined daily load of paid and unpaid work of employed mothers with a child under the age of 18 narrowed to 11 minutes compared to 24 minutes in 1986. Minute per minute, employed fathers seemed to be putting approximately the same amount of time into the combined pool of paid and unpaid work as employed mothers. This seemingly symmetrical distribution of men's and women's total workloads hides, however, a very different composition of paid and unpaid work. In 1998, employed mothers' combined daily workloads, prorated for the entire week, consisted of 5.6 hours of paid work and 4.7 hours of unpaid work, totalling 10.3 hours per day (including work-related travel). Employed fathers' daily workloads contained 7.1 hours of paid work and 3.0 hours of unpaid work, totalling 10.2 hours. Thus, *quantitatively* the "gender gap" in the distribution of family's total workload may have narrowed, but *qualitatively* it remained rather wide. Put simply, employed mothers traded 1.6 hours of paid work for 1.7 hours of domestic chores and family care (Zuzanek, 2000; see also Clark and Harvey, 1976; Michelson, 1985; Shaw, 1986; Hilbrecht, 2009).

3.4 Ageing and life-cycle

Early studies of time-use suggested that relationships between age and access to *free time* resembled a 'bipolar curve,' with the largest amounts of free time reported by the youngest and the oldest respondents and the lowest amounts by middle-aged groups. This situation did not change much over the years. In 2005, 15 to 19 year old teenagers reported on average 6.5 hours of free time per day. The figure for the 30 to 49 year olds was 4.5 hours, and for the 60 to 69 year olds, 7.5 hours. The same pattern applies to participation in physically active leisure that drops radically after the age of 20. In 1981, the 20 to 29 year olds allocated to these activities less than half the time of the 15 to 19 year olds. The good news is that the declining slope of physical activity somewhat flattened in the last decade and in 2005 physically active leisure of respondents in their twenties was only (!) 30% lower than of the 15 to 19 year olds. Obviously, age groupings serve as a substitute for *life-cycle* transitions and the 'time crunch' in the middle of the life course results from a cumulative pressure of multiple career, employment, family and status roles rather than biological age *per se.*

3.5 Social-occupational and educational differences

Social-economic status (SES) represents an important determinant of time-use and leisure behaviour (Wilensky, 1963; Ennis, 1968; Wippler, 1970; Zuzanek, 1978). Analyses of all GSS data show that respondents with the highest SES have less free time than respondents with lower economic status. Managers interviewed in the 1998 *GSS* reported having 4.7 hours of free time per day, compared to 5.1 hours for clerical employees and 5.7 hours for blue-

collar workers. Higher occupational status was also associated with elevated levels of perceived time pressure and feelings of stress (Zuzanek, 2005).

Higher education is not associated with lower amounts of free time, but rather with a different structure of its use. Respondents with a higher level of education spend a greater proportion of their free time than lower educated respondents in physically active leisure, reading and attending cultural events, and less time watching television.

4 Time use, social policy and well-being

Time use surveys contributed significantly to the better understanding of numerous social policy and well-being issues facing Canada. Time use data substantiated interest in the economic significance of non-market work (Harvey, 2001). Analyses of the effects of different work schedules on respondents' well-being provided important insights about the feasibility and effects of flexible and non-traditional work arrangements (Michelson, 1999; Zuzanek and Wenger, 2002; Hilbrecht, 2009). Time use data helped to resolve the controversy about changing levels of parental child care, showing that while the overall amount of time allocated by parents to the care of children has risen over the past two decades (Bianchi et al., 2006) this was due primarily to greater attention to toddlers, while contacts with teen-age children have declined, resulting in a "generation gap" that worries parents as well as policy makers (Zuzanek, 2005).

Time use surveys generated, as well, interesting insights about relationships between time use, well-being, and health. It was traditionally assumed that long hours of work have direct negative effects on respondents' health (Harrington, 2001). Time use data show, however, that this negative impact may be indirect. Self-assessed health of respondents working 45 to 49 hours in 1998 and 2005 was higher than of employees working shorter hours, but so were their levels of perceived time pressure and stress, harbouring dangers of a delayed "time bomb" explosion. Analyses of the social context of time use (with whom) showed that levels of happiness correlate negatively with the amount of time spent by respondents alone (Harvey and Pentland, 1999), that infrequent communication between spouses is an important predictor of possible family dissolution (Hill, 1983), and that social capital of volunteering and social networking contributes to happy and successful life careers (Zuzanek, 2000; Ravanera et al., 2003).

Perhaps somewhat unexpectedly time diary surveys also showed that greater amounts of leisure do not necessarily correlate with elevated levels of happiness and life satisfaction. It is the balance of work and leisure rather than an exponential growth of leisure that contributes to higher levels of subjectively perceived well-being (Robinson, 1977; Zuzanek, 2007).

One could extend the list of findings that exemplify contributions of time use research to the understanding of social processes and issues confronting modern societies, but this may be the

subject of another article. So let us now turn our attention to some of the pitfalls encountered by time use research.

5 Canada´s time use surveys – Limitations and gaps

There are, of course, limitations to what time use research can do. As any research instrument, time use surveys cannot provide answers to all questions that interest us. One of the limitations is that time use surveys are not the best instrument to measure participation in infrequent leisure activities, and attempts to use sophisticated statistical procedures (e.g., tobit regression) to circumvent this limitations are, in my opinion, problematic, particularly in view of the fact that there are other simpler methods (frequency of participation surveys) for obtaining the desired information.

It has been suggested, likewise, that time use surveys are descriptive and do not provide vital information about the meaning and motivation of human behaviour. Time use studies, allegedly, do not tell us why people engage in various activities and what meaning they attach to what they are doing. This may have been true of the early time use studies, but surveys of today usually contain, apart from traditional time-diaries, questions eliciting information about respondents' well-being, feelings of time pressure, most enjoyed activities, life satisfaction, health, etc. It is nevertheless true, that time diaries do not allow researchers to monitor experiential dimensions of human behaviour at the time when this behaviour takes place, something that Experience Sampling Method (ESM) surveys can do.[2]

In addition to these inherent limitations, Canada's time use research missed a few opportunities – things that could have been accomplished but for a variety of reasons have been overlooked or bypassed. It is some of these shortcomings that we will address in the following section.

5.1 One or more diary days?

As previously mentioned, Canadian time use surveys collect information allowing to examine the relationships between what people do, how much time they allocate to various activities, and their well-being. This requires, however, a qualification. One of the problems associated with the analyses of the relationship between time use and well-being in Canadian GSS surveys is that time diary data are collected for one day only. This is a shortcut. While the value

[2] The experiential sampling method, initiated in early 1970s by M. Csikszentmihalyi and associated at the University of Chicago uses pagers or wrist-watches randomly activated during the day to collect detailed information about what members of a surveyed population were doing at a given moment of the day, with whom, and how they felt about this activity. The ESM has increased the amount of information available to researchers for the analysis of changing moods, feelings, and attitudes of the surveyed population and allowed, among other things, to assess the role of *immediate and circumstantial* meanings of and motivations for human actions (see Csikszentmihalyi and Larson, 1987).

of happiness reported by a respondent supposedly defines his or her general life disposition, the time use with which it is correlated is accidental – a single day chosen by Statistics Canada. The question that comes instantly to mind is – how typical is this day of the overall patterns of behaviour of the particular person? Does the fact that he or she reported 9.0 hours of work on the day of the survey validate an assumption that we are dealing with a workaholic or a person typically working long hours? To circumvent this problem, the 1975 US time use survey sampled four days (two weekdays, Saturday and Sunday). In the Netherlands, time use surveys collect diary information for the entire week. Such research strategies are, of course, more elaborate and costly, but they provide better data for the analysis of the relationship between respondents' time use and well-being, something that increasingly interests researchers and policy makers.

5.2 Sampling individuals or households?

There is another issue with Canadian GSS time use surveys. They sample one person from randomly selected households. It is well known, nonetheless, that individual time use is largely influenced and constrained by time use practices and requirements of other members of the household. The gender gap in the use of time that attracted much research attention has been calculated on the basis of time use reported by men and women who did not form a couple. This complicates understanding of the dynamic of family division of labour as it happens within a household.

The use of the household rather than individual as the unit of time use analysis has been adapted in some countries, for example, Australia, Germany, and New Zealand. It was also used in the 1975 and 1981 US time use surveys. Of course, trying to interview several members of the same household complicates the data collection process, yet in return we get much better means for examining problems and challenges faced by families in modern societies.

5.3 Lowering the age threshold?

Another potential miss of Canadian national time use surveys is, in our opinion, the respondents' start-up age. In Canada, as in some other countries, time use surveys followed the Labour Force surveys model and sampled populations aged 15 years and older. This practice is changing, however. In many countries (e.g., United Kingdom, Netherlands, Finland, Norway, Portugal), the age threshold for time use surveys has been lowered to 12 and even 10 years (Finland). Lowering of the respondents' age has been recommended by EUROSTAT. Inclusion of 12 to 15 year olds provides information about the entry of teens into the labour force[3] as well as the relationship between teens' study loads, sleeping habits, well-being, and health. A National Adolescent Time Use and Risk Behavior Study commissioned by the United States Department of Health and Human Services found that the time use patterns of 10th graders were highly predictive of what they would do during one year after high school.

[3] In Canada, adolescents as young as 14 begin to work in the service sector, and paid babysitting or delivery of newspapers start even earlier.

5.4 How big a sample?

The sample of the 2005 GSS, as mentioned, almost doubled the sample of 1998. The underlying reason for extended sampling in Canada is our proverbial concern with regional differences. It would be interesting, however, to learn how frequently, in fact, have been time diary data used to assess regional differences. Unlike the labour force surveys, time use inquiries generally deal with social phenomena of a more universal nature that are relatively immune to local or regional differences. Therefore, if the size of the sample were to be increased, it would be preferable, in our opinion, to use this to lower the age threshold of respondents and use households as units of analysis rather than expand the sampling of individuals horizontally.

5.5 Innovation versus consistency

A serious challenge for time use surveys is a conflict between the desire to improve or add new measurements to the surveys and the need of across-time consistency. It is the latter, of course, that guarantees the possibility of objective trend analyses over longer periods of time. The goals of innovation and consistency, in most instances, can be reconciled by adding rather than modifying activity codes and well-being measurements. It was timely and appropriate for GSS surveys of the 1990s to add to the list of coded pursuits new activities brought about by technological and life style changes, such as watching video movies or surfing the Internet. As well, time use surveys of the 1990s benefited from the inclusion of measurements of time pressure, work-family balance, and perceived stress.[4] It is unfortunate, however, when modifications of activity codes or well-being measurements disallow historical and trend analyses. This happened, for example, when some activities coded in 1981 as domestic work were in 1986 coded as volunteering (e.g. housework and cooking assistance) or when in 2005 the coding of life and domain satisfactions was changed from a 5-point to a 10-point scale.

While a comparison of 1986 and 1998 data shows that life satisfaction levels declined slightly during the period separating the two surveys (from 3.4 to 3.3 on the 5-point scale), the rating of 7.8 (on the 10-point scale) in 2005 complicates historical comparisons. It is unclear what raised the rating (3.9 if divided by 2), particularly in view of the fact that the ratings of happiness and self-assessed health, for which the coding was not changed, remained almost identical in the compared years. The average ratings for happiness and health were 3.3 and 3.7 respectively in 1998 and 3.4 and 3.6 in 2005.

For time use surveys, one of the most important methodological problems is consistency of coding and grouping of activities. Changes in the definition, coding and grouping of activities are among the most common reasons for discrepancies in survey findings. While changes in grouping (classifying) of activities can be rectified by appropriate recodes, different coding instructions may irreparably reduce across-survey comparability. It is likely that lower figures for child care and higher figures for social leisure in the 1992 GSS time use survey, compared

[4] The 2005 GSS included questions about closeness with and trust in other people, but we still seem to be missing a composite measurement of mental health (e.g. depression).

to 1986, were due primarily to differences in coding. Simply stated, innovations should complement rather than confuse historical comparisons.

5.6 How large an omnibus?

General Social Surveys provide a welcome opportunity to examine a variety of social issues, including the use of time. Typically, time use surveys combine time diaries with questions about respondents' labour force participation, engagement in selected leisure and sporting activities, and well-being, including time pressure, perceived stress, life satisfaction, and health. Sometimes, however, GSS are used to "omnibus" fairly unrelated issues such as language proficiency (1986) or hindrances to the use of public transportation (2005). This prolongs the interview and requires psychological re-adjustment on the part of the respondent that may affect the quality of response and contribute to survey fatigue.

It is regrettable that the traditionally high response rates of Canadian time use surveys (approximately 80% in 1992 and 1998) have dropped to 59% in 2005. It has also been noticed that with the proliferation of telephone interviewing the mean number of activities reported by time use respondents has declined over the years. As a result, the emerging picture of daily behaviour becomes increasingly "broad stroked", occasionally blurring significant differences in human behaviour. A careful assessment of the compatibility of survey topics included into the same survey and simplification of excessively detailed questions about sporting and voluntary activities should, in our opinion, be given consideration in future Canadian time use surveys.

5.7 Too much bureaucracy?

In the 1990s, Statistics Canada and the Social Sciences and Research Council of Canada (SSHRC) launched an initiative that was intended to widen researchers' access to and increase their uses of national statistics. Research Data Centres (RDC) were established at major universities, where researchers and students could access unabridged versions of data collected by Statistics Canada. The publicly available data can still be accessed on-line but they often miss important information such as, for example, time of the year when time diaries were collected or exact age of children. The work confined to RDC offices is often cumbersome due to excessive concerns about respondents' privacy. All output files are "censored" before being given to researchers, and this process often takes weeks. While concerns about privacy are legitimate, their application has become excessively formalised and bureaucratised. Any finding in the output file that is based on fewer than 5 cases halts the release of the entire file. Researchers are limited to the analyses of relationships specified in their original applications and may be denied requests for output files containing information that is germane for the project, but was not listed in the original application. Work at RDC puts space and time limitations on researchers' access to the data and is not very convenient. It is our opinion that if, in the publicly accessible files, information about respondents' residency were limited to provinces and urban versus rural areas, potential abuse of time use data and invasion of privacy would cease to be a problem. Unlike social scientists who tend to believe Ben-

jamin Franklin's maxim "time is money", the crooks know that there is little money to be gained by canvassing time use data, and the weirdoes are unlikely to find much compromising time use information in studies that have traditionally underreported sexual, illicit, or illegal activities. In short, relaxation of RDC "censorship" practices and upgrading of publicly available GSS data sets are venues that should be given serious consideration.

6 Time use and well-being – Perspectives and conclusion

The last four years in Canada have been marked by an effort to construct a comprehensive Canadian Index of Well-Being (CIW). This effort initiated by Roy Romanow and spearheaded by the Atkinson Charitable Foundation contains time use as one of its major components. A report about the time use dimension of well-being, prepared for this project by Andy Harvey singles out four major types of time use relevant for the assessment of well-being, namely changing amounts of contracted time (paid work and education); committed time (unpaid work); necessary time (sleep, meals, personal care); and free time. Among "things that matter" the report lists access to "work-life" balance, intensity of social contacts, location of time use, and subjective experience of time, such as sense of time pressure and enjoyment of selected daily activities.

Although the task of creating a synthetic index of well-being and incorporating into it time use data is admirable, it is also tricky. The problem is that the relationship between time use and well-being, unlike relationships between GDP, unemployment rates, and performance of the economy, are not necessarily linear. Too much free time does not make people happier, but neither does its shortage. It is extremely difficult to quantify balanced use of time, yet human well-being is predicated on it. As has been said, teens need about 9 hours of sleep to maintain a healthy life-style. The number of hours supporting a healthy life style in mid-life may be lower. Yet, for both groups, too much sleep, similar to its shortage, carries negative well-being effects. The key word for optimising time use is "balance," yet we do not seem to know how to measure how much of a given activity is "too much" for different gender, age, life-cycle, or social-occupational groups. From this perspective, subjective measures of "time crunch" or "work-family balance" are important indicators of perceived life-style equilibrium, which together with time use data can help us to capture important aspects of personal well-being.

In this context, consideration may also be given to a "modular" design of national time use studies. Such an approach would allow the collection of "core" time diary and labour participation data from the entire GSS sample to be combined with information about specific well-being, health, educational, time-management or other policy relevant issues collected from sub-samples of the surveyed population.

The "modular" approach, unlike enlargement of the topical scope of a single survey, may allow specific issues to be examined in greater detail without over-burdening respondents with long interviews and the state Treasury with excessive costs. Sub-sampling of the GSS could allow researchers to obtain more focused and detailed information about life-style issues facing the youth, employed parents, and people living in rural areas. As well, it could possibly allow selective use of complementary data collection strategies, such as the Experimental Sampling Method (ESM), to obtain more in depth information about relationships between time use, emotional well-being and mental health.

If well-being is becoming increasingly our central policy concern, then broadening the methodological and substantial scope of time use inquiries is one of the most effective ways to enlighten our future policy decisions and contribute to the advances of Canada's time use research that was initiated – to return to the beginning of this article – by Andy Harvey.

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