

**DIMENSIONS OF**

**HOME-BASED WORK**

**IN THE UNITED STATES**

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# OBJECTIVES

**One of the advantages of the large-scale, representative national time-use survey is its likelihood to include significant numbers of persons with characteristics that are pertinent to research and policy but difficult to sample in traditional ways.**

**This exercise explores the possibility of replicating with ATUS data:**

- 1. the *strategy* developed with Canadian and Swedish time-use data files<sup>1</sup> of identifying otherwise “hidden” samples through an analysis of BEHAVIORAL information about individual respondents (in this exercise, home-based workers),**
- 2. the particular types of *analyses* of home-based workers conducted with Statistics Canada time-use files, and**
- 3. the substantive *results* of these analyses.**

**The four columns to the right focus, in order, on:**

- the *sampling* of home-based workers from data about their time-use (and a comparison group of conventional workers) - from both nations,**
- the *distribution* of paid work episodes throughout the day (and night),**
- *tradeoffs* home-based workers make among everyday activities (and those they are thought to make but do not), and**
- *subjective impacts* on workers of the diverse types of work location.**

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<sup>1</sup> See William Michelson, “Home-based Employment and Quality of Life: A Time-use Analysis,” in E. Diener and D.R. Rahtz (eds.), *Advances in Quality of Life Theory and Research*. N.Y.: Kluwer, 2000, pp. 183-203; William Michelson and Lorne Tepperman, “Focus on Home: What Time-Use Data Can Tell About Caregiving to Adults,” *Journal of Social Issues* 59(2003): 591-610; and William Michelson, “Studying ‘Hidden’ Groups Through Behavioral Sampling,” Chapter 3 in *Time Use: Expanding Explanation in the Social Sciences*. Boulder, CO: Paradigm Publishers, 2005.

## OPERATIONAL DETAILS

Identifying a “hidden sample” and assessing its dynamics against hypothesized expectations is a TWO-STEP PROCESS. In the first step, time-use data are assessed to find people who, on the day(s) studied, are identified by specific behavior(s) to qualify as part the subsample of interest. Then, once these people are chosen, the second step involves another series of analyses of a greater range of time-use and associated data to assess the extent that their lives and situations differ in expected ways from other segments of the population. The significant point of the two-step process is that people who are not populous, who can not be identified through customary questions, and who are not on available membership lists may in some cases be sampled and studied from the analysis of their everyday behavior.

In the case of *home-based work*, I mean *main paid work substantially conducted at home*. (I take it as a tangible commitment to the conduct of work at home, not as a possibly tangential occurrence or spillover from a day spent in an external workplace). The OPERATIONAL DEFINITION of a home-based worker is a person who on a weekday spends *a total duration of 60 minutes or more of his or her main paid work at home on a weekday*.

In initial samples of home-based workers in Sweden (1990-91) and Canada (1992) with this operational definition, people meeting this one hour threshold spent means of 250 and 272 minutes working at home, respectively. In contrast, *conventional workers*, those found to be working but failing to spend as much as an hour doing their main paid work at home, had a mean under 2 minutes of such work.

Although the one hour threshold appears operationally meaningful to separate home-based workers from conventional workers, two distinct styles of home-based worker are evident.

- *Intensive home-based workers*: 4 or more hours of main paid work at home. (In practice, nearly all of their main paid work is done at home.)
- *Extensive home-based workers*: at least 1 hour but fewer than 4 of main paid work at home. (These are not part-time workers but rather people who divide their main job activities between two or more work sites, of which the home is one.)

**BEHAVIORAL SAMPLING**  
**OF HOME-BASED**  
**WORKERS**

# CANADA

From a sample of 10,749 in Statistics Canada's General Social Survey no. 12 in 1998, 7,709 respondents provided time-use data about a weekday. Of this number, 3,864 spent time on their main paid employment during the day in question. This is **50.1 %**.

The breakdown among those doing their main paid work on the day is as follows:

**CONVENTIONAL WORKERS = 3,469 (89.8%)**  
**EXTENSIVE HOME-BASED WORKERS = 229 (5.9%)**  
**INTENSIVE HOME-BASED WORKERS = 166 (4.3%)**

The mean amount of main paid work done at home among these subgroups is as follows:

**CONVENTIONAL WORKERS = 1 MINUTE**  
**EXTENSIVE HOME-BASED WORKERS = 113 MINUTES**  
**INTENSIVE HOME-BASED WORKERS = 431 MINUTES**

The mean total duration of main paid work during the day in all locations among these subgroups is as follows:

**CONVENTIONAL WORKERS = 431 MINUTES**  
**EXTENSIVE HOME-BASED WORKERS = 430 MINUTES**  
**INTENSIVE HOME-BASED WORKERS = 496 MINUTES**

The percentage of main paid work in the day done at home among these subgroups is as follows:

**CONVENTIONAL WORKERS = 0.2%**  
**EXTENSIVE HOME-BASED WORKERS = 26.3%**  
**INTENSIVE HOME-BASED WORKERS = 86.9%**

# U.S.A.

From a sample of 13,973 in the American Time Use Survey in 2004, 6,950 respondents provided time-use data about a weekday. Of this number, 3,583 spent time on their main paid employment during the day in question. This is **51.6 %**.

The breakdown among those doing their main paid work on the day is as follows:

**CONVENTIONAL WORKERS = 3,143 (87.7%)**  
**EXTENSIVE HOME-BASED WORKERS = 262 (7.3%)**  
**INTENSIVE HOME-BASED WORKERS = 178 (5.0%)**

The mean amount of main paid work done at home among these subgroups is as follows:

**CONVENTIONAL WORKERS = 2 MINUTES**  
**EXTENSIVE HOME-BASED WORKERS = 113 MINUTES**  
**INTENSIVE HOME-BASED WORKERS = 475 MINUTES**

The mean total duration of main paid work during the day in all locations among these subgroups is as follows:

**CONVENTIONAL WORKERS = 465 MINUTES**  
**EXTENSIVE HOME-BASED WORKERS = 394 MINUTES**  
**INTENSIVE HOME-BASED WORKERS = 527 MINUTES**

The percentage of main paid work in the day done at home among these subgroups is as follows:

**CONVENTIONAL WORKERS = 0.4%**  
**EXTENSIVE HOME-BASED WORKERS = 29.7%**  
**INTENSIVE HOME-BASED WORKERS = 90.1%**

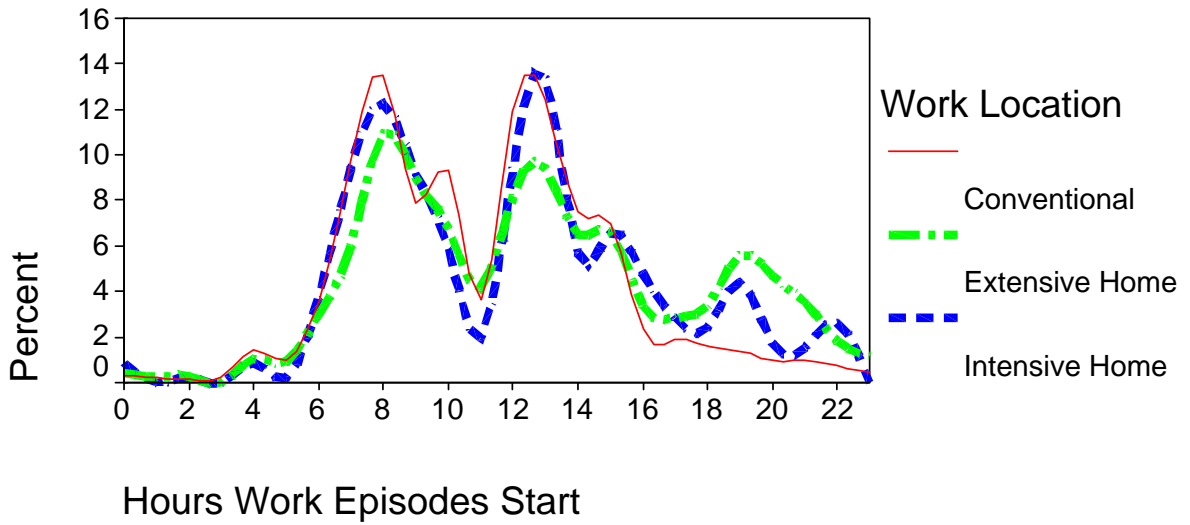
# COMMENTS

- In general, the method of behavioral sampling to identify home-based workers functioned well with ATUS data.
- The “yield” of persons found spending time on their main paid work on the weekdays reported is nearly identical in the American and Canadian most recent time-use files.
- The breakdown of these persons into conventional, extensive home-based, and intensive home-based workers is also nearly identical.
- The intensive home-based workers spent the most time on their main paid work in both national studies, well over eight hours. In both studies, the extensive home-based workers spent the least time in their main paid work, though in the Canadian case, work duration is only a minute less than for the conventional workers. Were one to lump all home-based workers in the same analytic category, it would hide important characteristics of the different styles of home-based work, while creating the false appearance of a home-based worker who is not very different from conventional workers.
- The duration of main paid work for American conventional workers is shown as about a half hour longer than for their Canadian counterparts. This difference, however, is likely to reflect the lumping of main job overtime with regular main job activities. Statistics Canada gives overtime a separate category (021). The sampling method is based only on main paid work (011), so as to select respondents solely on where they carry out their regular main job activities. To this extent, exact replication is not possible, though the difference is not serious for most purposes.
- The yield of home-based workers is conservative in size, given that selection is based on a single day. But this does not diminish what might be learned from the analysis of persons in the respective subsamples.
- The validity of the home-based work categories is confirmed by answers to a rather specific question in the GSS 12, “Excluding overtime, did you usually work any of your scheduled hours at home?” Affirmative answers were given by 70.1% of the behaviorally-identified home-based workers, 57.8% of extensive home-based workers, but only 12.3% of conventional workers.

**WHEN DO THEY**  
**WORK?**

# Starting Time for Episodes of Work by Locational Pattern of Work

Canada, 1998



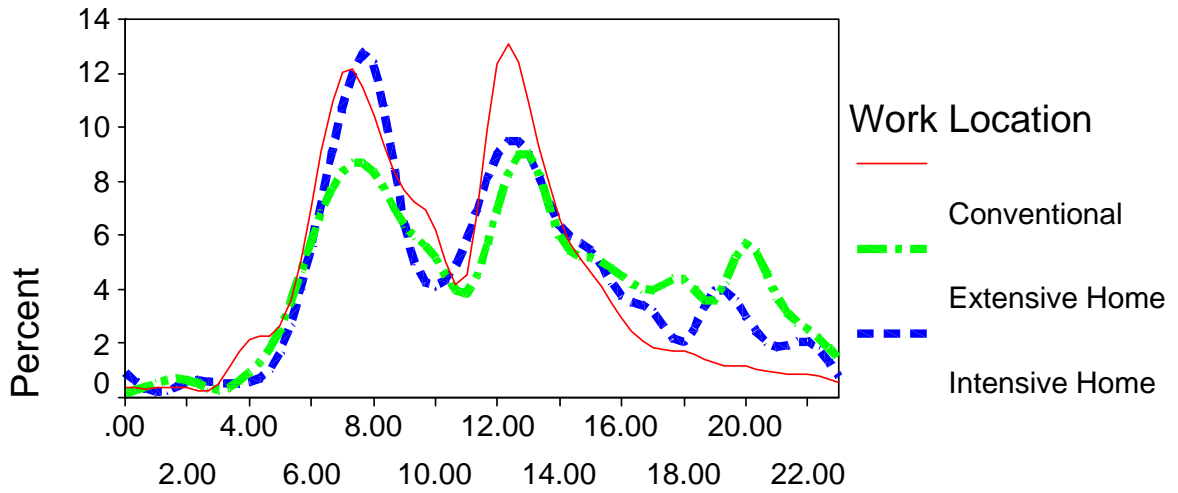
Hours Work Episodes Start

Computed from Statistics Canada,

General Social Survey no. 12

# Starting Time for Episodes of Work by Locational Pattern of Work

U.S.A., 2004



Hours Work Episodes Start

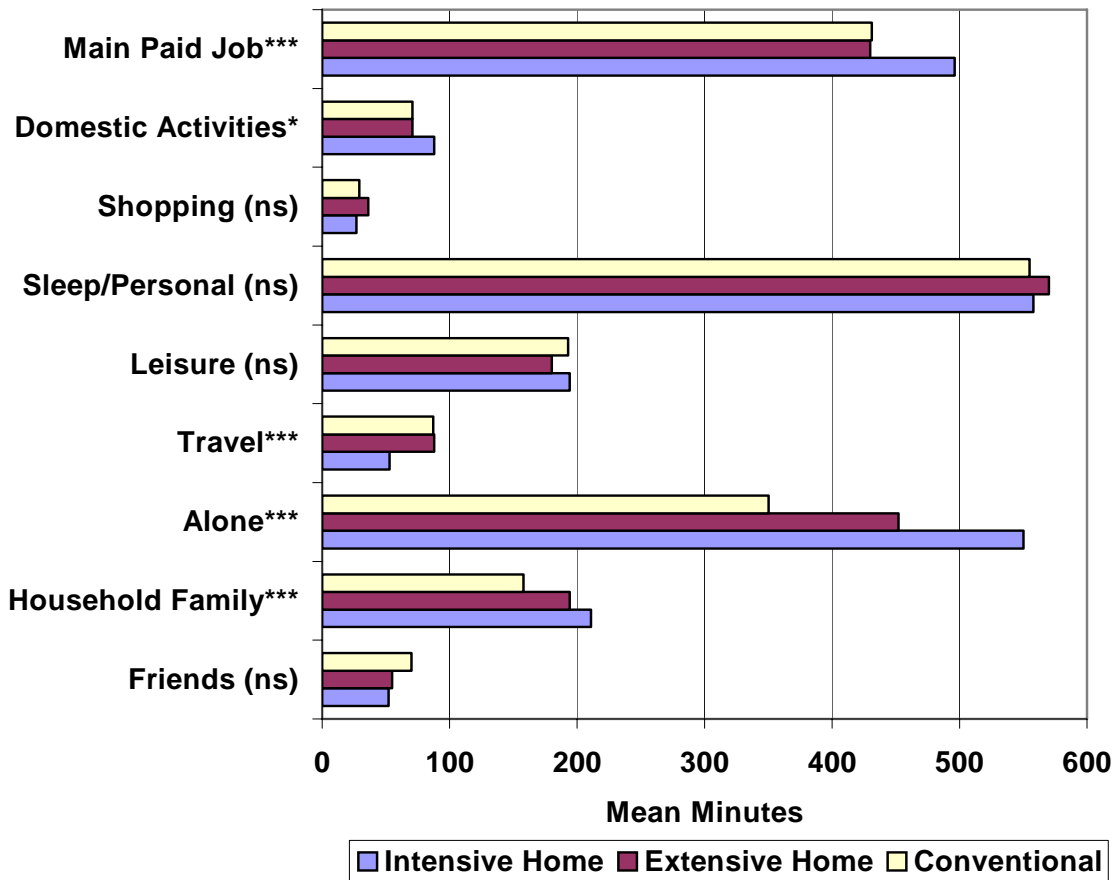
Computed from American Time-Use Survey, 2004

# COMMENTS

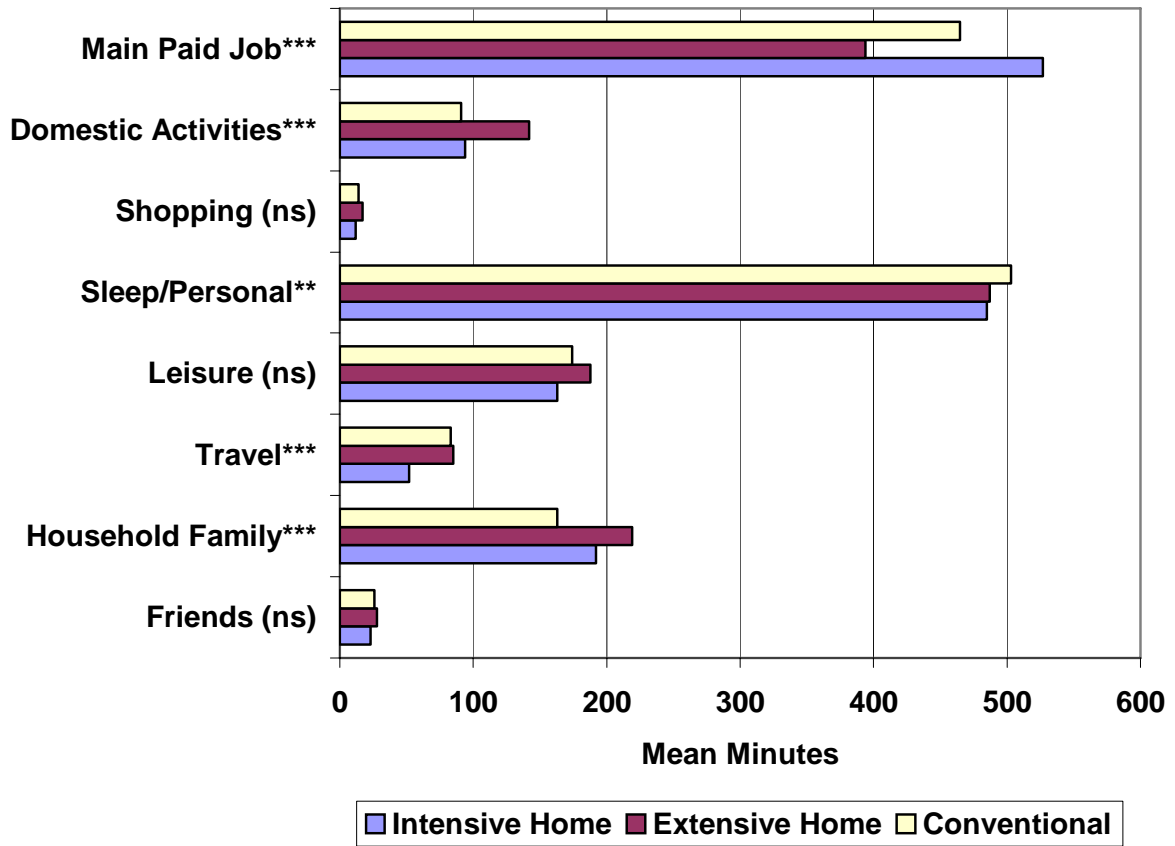
- **Tempograms plotting the starting time for episodes of main paid work throughout the day (and night), with separate lines for conventional, extensive home-based, and intensive home-based workers, show a major difference between conventional and home-based workers. They also show a basis for similarity between the two styles of home-based work.**
- **While all three subgroups have modal periods when they start such work in the mornings and early afternoons (“mountains”), only the home-based workers show marked “foothills” of work activity commencing in the early evening (and with a second, somewhat smaller foothill by the intensive home-based workers around 10 p.m.). The conventional workers taper off new main work activities shortly after 4 p.m., very few resuming in the evening.**
- **In this regard, the extensive and intensive home-based workers resemble each other more than they do the conventional workers.**
- **The ATUS data are fully functional for plotting in this way.**
- **The Canadian and American results for the distribution of starting times for main work episodes on weekdays in 1998 and 2004, respectively, are identical for all intents and purposes.**
- **However, it should be cautioned that the identification of temporal patterns in work episodes must not, without further information, be given normative meaning. Data such as found in these graphs portray clearly what people are doing, but not how they regard what they are doing.**

# **TRADEOFFS IN DAILY** **LIFE**

## Mean Totals of Selected Time Uses and Persons Present by Work Location (Canada, 1998)



## Mean Totals of Selected Time Uses and Persons Present by Work Location (U.S.A., 2004)

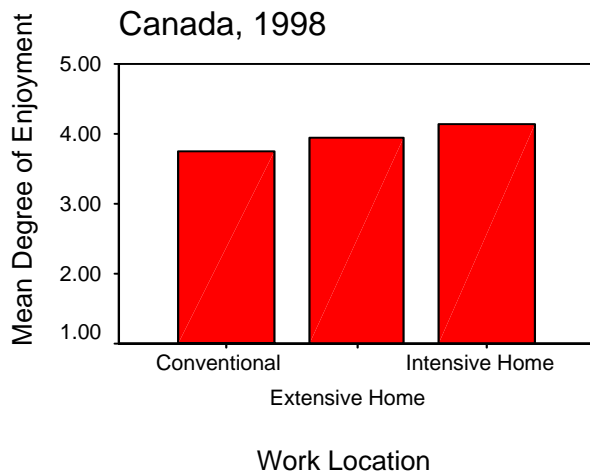


## COMMENTS

- Data from both national studies could be utilized to view in bar charts the aggregated time in the day studied that people spent in activities and in social contact, to correspond with expectations that both the literature and popular opinion have about how the daily lives of home-based workers differ from conventional workers.
- With some exceptions in detail, the Canadian and American surveys show similar findings. Among a total of eight common analyses, four statistically significant differences emerge from both surveys (regarding main paid job, domestic activities, travel, and being with household family). In three instances, both surveys find no significant differences between the work location categories (regarding shopping, leisure, and time spent with friends). With respect to sleep and other personal activities, only in the ATUS survey is there a significant difference, in that conventional workers are found to sleep significantly longer than either group of home-based worker; this is opposite to the common view that home-based work allows for more sleep in the daily routine.
- Other common views are refuted by data from both nations. Home-based work is not accompanied by significantly greater amounts of leisure time or time with friends.
- While travel does vary significantly as expected, it is only the intensive home-based workers who spend less time travelling. And in the case of this group, they still do travel, putting in about 60% of the similar daily amount of conventional workers and extensive home-based workers; there is relatively little time saved to trade off.
- Although home-based workers do not gain more time with friends, they do spend significantly more time with family in their household. And they spend significantly more time in domestic activities, both as expected.
- The most significant difference in the Canadian survey is in the added time that home-based workers spend alone, even though they spend more time with family. Unfortunately, this could not be replicated with the ATUS data, as “with whom” is not asked for main work activities.
- Once again, normative conclusions without additional types of data are unwise. Do certain home-based workers like or dislike the chance to do more paid work or domestic activity in the day?

**HOW DO THEY REGARD**  
**WHAT THEY DO?**

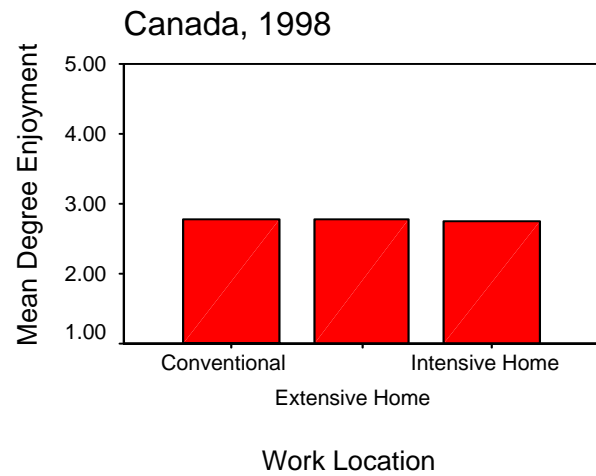
### Enjoy Paid Work by Work Location



Computed from Statistics Canada, GSS12

$F(2,3485) = 13.313, sig. = .000$

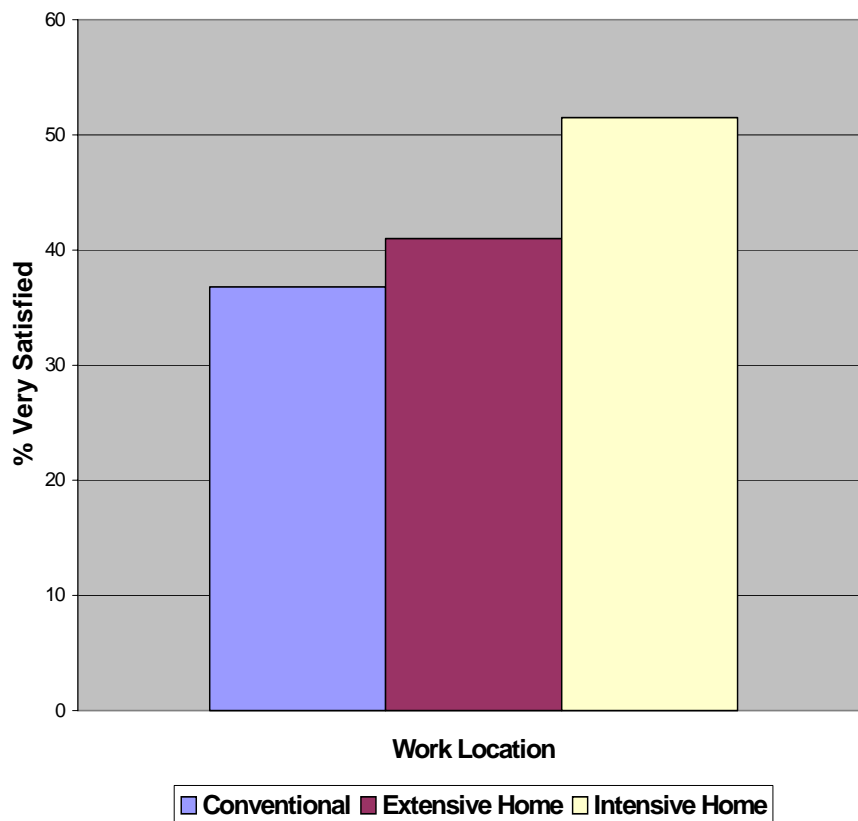
### Enjoy Cooking, Cleaning & Repair by Work Location



Computed from Statistics Canada, GSS12

Not significant difference

### Feelings About Job by Work Location



*The ATUS data do not offer  
the explanatory insights of  
subjective outcome variables.*

# COMMENTS

- The page of Canadian data above includes three from among more than thirty subjective variables collected by Statistics Canada as part of its Social Survey no. 12, in 1998. All but one of these thirty-odd variables are asked of the respondent outside of the structure of the time-use matrix of episodes. These can be used to interpret the apparent human impact of conditions portrayed by time-use and other objective data.
- Subjective data give to interpretation a foundation in the thoughts and experiences of respondents, instead of views coming solely from the mind sets and professional predispositions of analysts.
- From the data shown on the extent (on a five-point scale) that respondents “enjoy (their) paid work”, home-based workers enjoy their work significantly more than conventional workers, particularly among the intensive home-based workers.
  - Data on people’s feelings about their job go in the same direction. The home-based workers are significantly more likely to express that they are very satisfied with their work than are conventional workers, particularly once again the intensive home-based workers.
  - This is helpful when trying to gain an appreciation of what the long, late hours of main paid work actually mean to those doing them.
  - In contrast, while doing more domestic work, home-based workers do not show that they are particularly enjoying it, as captured by pooled responses on the extent that they enjoy cooking, cleaning and repair. If anything, the home-based workers enjoy these activities marginally less than conventional workers.
- One subjective variable used by Statistics Canada refers to specific episodes and their components. Respondents are asked which one of the episodes was the most enjoyable in the day they reported. In the 1998 data, the most home-based workers (again particularly the intensive ones) report their main paid work as most enjoyable, compared to watching television among the most conventional workers.
- Subjective variables such as stress levels can contribute even more if made an integral part of the episode matrix, parallel to activity, place, and with whom.<sup>2</sup> ATUS might consider their potential for explanation.

<sup>2</sup> William Michelson, *Time Use: Expanding Explanation in the Social Sciences*. Boulder, CO: Paradigm Publishers, 2005.