



Unraveling the mystery of sleep duration dynamics – Sleep in the objective and subjective lives of employed men and women

William Michelson

William Michelson
S.D. Clark Professor of Sociology, Emeritus
University of Toronto
725 Spadina Avenue
Toronto, Ontario M5S 2J4, Canada
e-mail: william.michelson@utoronto.ca

Abstract

This paper addresses the place of sleep duration - objectively and subjectively - in the lives of employed men and women in Canada, based on data in Statistics Canada's 2010 General Social Survey no. 24, with an emphasis on time use. It addresses the mystery of how public opinion reflects a view that night-time sleep has declined in duration during a decade when surveys show that it has increased. A further mystery is why women in particular feel sleep deprived when comparable surveys show greater durations for women over men. Analyses were carried out on 10,201 men and women between the ages of 25-64, to eliminate the special situations of youth and the elderly on free time and sleep in recent decades. Analyses of the 6,608 employed persons in this age range showed that employed women spend less mean time than employed men in paid employment, more time in domestic work, equal time with their partners in child care, and more time asleep than their partners. But their reference group is to non-employed women who sleep significantly longer, not to men's sleep durations, and multi-tasking plausibly accounts for stress generally imputed primarily to sleeplessness for this cohort. Data indicate that both the amount and content of multi-tasking impact directly on feelings of time crunch.

JEL-Codes: D11, D12, C21, C39, C51

Keywords: Household behavior, family economics, employed women, sleep duration, stress, time crunch, multi-tasking

1 Introduction

In his poem, “The Rime of the Ancient Mariner,” Samuel Taylor Coleridge (1996; orig. 1858) described sleep as “... a gentle thing, Beloved from pole to pole.” (p. 29) As a necessary activity to human survival which requires roughly a third of people’s daily ration of 24 hours, sleep is an inherent aspect of everyday life and hence time-use analysis. The issue is not whether people sleep or even how much they sleep but how such a major phenomenon in all people's lives fits into the larger daily life experience. We are concerned about apparent inequalities in who sleeps more and who sleeps less (not least by gender)? But to what extent, as illustrated by Coleridge and many other observers in his wake, is sleep a convenient and familiar mechanism at the surface of a more complex context of factors that help explain the personal impact of a daily round?

Sleep duration has been a focus of research attention in the past thirty years, in connection with societal developments having to do with increased paid employment by women, the personalization of electronic communications and entertainment devices, the expansion of hours in which stores and other facilities are open to the public, and the increasing privatization of means of transportation. These have all led to the conclusion in the eyes of observers that most people are sleeping less than before because they are taking time previously given to sleep to accommodate the accumulation of new roles and activities, as well as travel to get to them all during various times of the day. According to Melbin (1978, p. 100), “The last great frontier of human migration is occurring in time – a spreading of wakeful activity throughout the twenty-four hours of the day.” Women, in particular, faced with the so-called “double day” accompanying more widespread paid employment while continuing the performance of gender roles during a “second shift” of unpaid domestic work and child care, are observed from a largely qualitative study of fifty families in California to have to take time from their allocation of sleep to make this possible, encountering as a result an increased number of time-pressures and strains (Hochschild, 1989).

Yet, the generally-assumed impact of these widespread societal changes on sleep diminution during this period is not supported by time-use research. In his analysis of international time-use trends in the latter half of the 20th Century, Jonathan Gershuny noted in 2000 that the amount of time people spend sleeping was relatively unchanging in the long run, despite changes in time devoted to other activities (2000). Robinson and Godbey (1997) had come up with similar conclusions after studying American time-use from 1965, 1975, and 1985. Tyler Frederick and I further confirmed sleep inelasticity in our analysis of Statistics Canada’s time-use survey data from 1986, 1992, and 1998 (Michelson and Frederick, 2005).

My later analysis of Statistics Canada’s time-use surveys, extended to 2005, in fact showed an *increase* in mean nightly sleep that was not found in the earlier surveys, as well as more sleep found among women than men (Michelson, 2010). An expansion of this analysis that included

data from the American Time Use Survey and data assembled by Kimberly Fisher and John Robinson of selected nations from the Multinational Time Use Study archive in Oxford supported both unexpected trends: towards an increase in sleep over time and greater sleep by women than men (Robinson and Michelson, 2010).

While these trends were not universal, they occurred in a clear majority of nations and studies, challenging a view in the academic public that projected multifaceted observations of a growing trend to employment by women onto the specific factor of sleep duration. The emerging findings about sleep have been supplemented by a more recent analysis of American Time Use Survey data showing that while employed mothers get no less sleep do men in the same situation, they do undertake more onerous unpaid work and encounter greater time pressures in this context (Milkie, Raley, and Bianchi, 2009). This American picture was duplicated in more recent research in Korea (Cha and Eun, 2014). Additional support for the trends shown in previous Canadian surveys appeared in the 2010 General Social Survey, showing a mean sleep duration of 495 minutes per night, comparable to the 2005 level of 497 minutes (Statistics Canada, 2010) and remain higher than in the time-use data in the earlier surveys up to 1998.

This paper utilizes data from 2010, in the most recent in the series of year-round time-use surveys conducted by Statistics Canada since 1986. The 2010 survey, like those preceding it, includes a yesterday time-budget along with an extensive set of socio-demographic and subjective questions having both overlaps and innovations compared to the previous surveys. Data were obtained from telephone interviews of a representative sample of the Canadian population. Many of the questions are similar to those in previous surveys, but others reflect strategic one-time decisions. The data files for these surveys are entirely separate, given their respective differences in size, substance, and, often, format. The 2010 sample yielded 15,390 respondents.

The objective of this paper is to shed light on the mysterious personal and statistical associations linking female employment to sleep deprivation. The analytic sections of this paper that follow focus, first, on why the population statistics on sleep duration trends might be irrelevant to the perceptions of employed women and, second, what *empirical grounds* for feelings of temporal inequality among employed women arise from the pressures of paid employment, apart from absolute duration of sleep, that give currency to perceptions now projected onto the singular phenomenon of sleep duration?

2 Employed women in an aging population

Table 1 shows that in 2010 Canadians from the age of 15 slept a mean of 8 hours and 15 minutes (i.e. 495 minutes) per day. By gender, this amounts to 488 mean minutes for men and 500, for women. A gender difference in favor of *more* sleep for women is found within each of the seven age brackets studied. Analysis of variance establishes that these gender differences are highly significant, occurring by chance less than once in 10,000 occurrences ($F = 44.646$,

d.f. = 1, 15,389, $p = .0000$). Mean sleep duration varies significantly as well for both men and women by their age bracket ($F = 72.153$, d.f. = 6, 15,389, $p = .0000$).

There is an easy, though partial solution to the part of the mystery arising from the literature having to do with *increasing* sleep over time. Sleep has been shown inversely correlated with time devoted to paid employment (Michelson & Frederick, 2005). The Canadian population has been gradually aging. The percentage of respondents aged 65 and over in the four Canadian time-use surveys between 1992 and 2010, has gradually increased from 16 per cent to 24 per cent of the population. Therefore, as employment levels are lower in both the pre-adult and senior age brackets, and the latter bracket has increased in percentage of the population it should be neither a surprise nor a mystery that mean sleep in the population has increased over time.

Table 1
Mean durations of night/essential
sleep by sex and ten year age group

Age groups	Mean minutes of sleep			Number of cases		
	Male	Fe- male	Both	Male	Fe- male	Both
15 to 24	540	541	540	699	678	1,377
25 to 34	486	501	495	793	1,131	1942
35 to 44	470	486	479	1,087	1,366	2,453
45 to 54	471	481	476	1,314	1,654	2,968
55 to 64	477	495	487	1,329	1,700	3,029
65 to 74	492	507	500	934	1,127	2,061
75 years and over	516	522	520	566	1,012	1,578
All ages	488	500	495	6,701	8,689	15,390

Source: Statistics Canada General Social Survey 24 (2010),
 own calculations.

However, Hochchild’s image of the impact on sleep of the double day focusses on the employed woman, not on teenagers, the elderly, and persons otherwise outside the labor force due to choice, ill health, or retirement. Table 2 therefore restricts the analysis of sleep duration by gender to only respondents between the ages of 25-64. And Table 2 breaks down this subsample by whether paid employment is the main activity of the past seven days compared to alternatives such as housekeeping, retirement, volunteer work, and education. Sleep duration can be seen in this table to be markedly lower among those with paid employment, compared to all of the other categories of main activity. This contrast between respondents having paid employment and those not is statistically significant at a very high level ($F = 102.673$, d.f. 1, 10,200, $p = .0000$).

Table 2 shows that sleep duration among women in the 25-64 year age range with paid work (481 minutes) is markedly lower than was shown in Table 1 for women in the population at large (500 minutes).

Table 2
Mean durations of night/essential sleep by sex and main activity in the past 7 days among Canadians aged 25-64

Main activity in past 7 days	Mean minutes of sleep			Number of cases		
	Male	Fe- male	Both	Male	Fe- male	Both
Paid work	467	481	474	3,253	3,350	6,603
Other	496	502	500	1,205	2,393	3,598
All Main activities	475	490	483	4,458	5,743	10,201

Source: Statistics Canada General Social Survey 24 (2010), own calculations.

This could be construed as evidence supporting the dysfunctions of a pattern of life grafting a second regular demand for everyday activity on the shoulders of employed women. From a psychological point of view, this could be an example of feelings of *relative deprivation* arising from comparing one's lot in life with that of particular reference groups of others (c.f. Stouffer, 1949; Merton, 1949); in this case, these are two: women in both older and younger age cohorts and women without regular employment commitments.

The reality of this situation must be more complex than what we learn from a sole focus on minutes of sleep. This becomes evident in Table 2 when the gender comparison is examined. This table shows that women with paid employment as their main activity and aged 25-64 sleep significantly more per night than do men in the same situation (481 minutes a night to 467 minutes a night ($F = 24.103$, d.f. 1, 20,200, $p = .0000$)). If we are to accept the feelings of dysfunction noted in the feminist literature as arising from women's combination of domestic and paid employment commitments, then evidence beyond sleep duration alone would be helpful. To delve into such matters, it is instructive to incorporate into consideration more contextual and subjective data about the experience of daily life - and not displace the symptoms onto sleep duration in the absolute.

3 Sleep duration dynamics and inequality – Contextual and subjective experiences

3.1 Activity tradeoffs

What is happening in the lives of *employed* men and women that may create feelings of exhaustion despite increasing durations of sleep?

Table 3, based on the most recent Canadian national time-use study in 2010, compares the extent that employed men and women aged 25-64 spend differential amounts of time on each of seven different categories of activity across the day, that account for nearly 1300 of the day's

1440 minutes. Six of the seven activities (child care excepted) show highly significant statistical differences by gender.

Table 3
Total duration of time spent in the day in selected major activities
by employed persons aged 25-64

Activity	Mean daily time in specific activities			Degrees of freedom	P (sex)
	Men (N=3253)	Women (N=3350)	F (sex)		
Sleep	467.01	481.06	27.449	1,6602	.0000
Paid work	411.90	353.50	64.584	1,6602	.0000
Domestic work	89.59	127.38	146.878	1,6602	.0000
Child care	28.01	28.32	1.132	1,6602	.2873
Entertainment	61.39	76.58	23.351	1,6602	.0000
Media	132.53	117.06	30.776	1,6602	.0000
Travel time	87.76	81.32	8.736	1,6602	.0031

Source: Statistics Canada General Social Survey 24 (2010), own calculations.

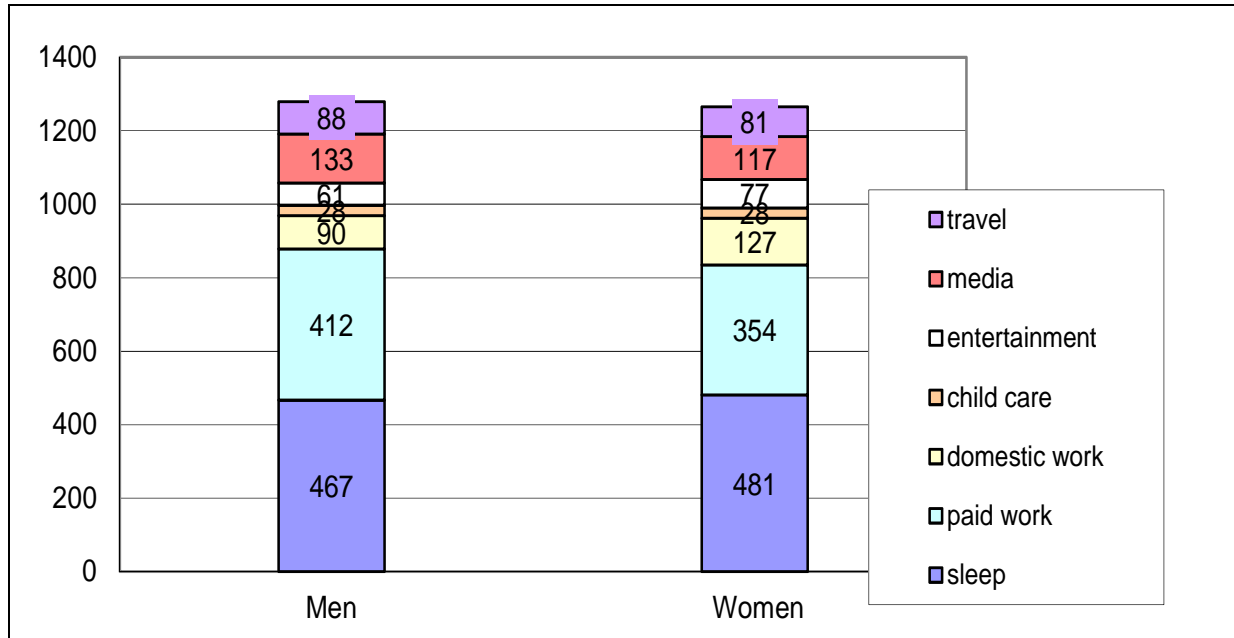
One way of examining this is to observe visually the *balance* of major activities in the day, not the duration of any one alone. Figure 1 continues with the subsample of employed Canadian men and women aged 25-64 in 2010. This is a stacked bar graph in which the respective times devoted to the seven prominent activities are portrayed for men and women.

The segments of the stacked bar at the bottom of each gender bar show the mean durations of sleep. Although of statistical significance on the basis of a large sample (see Table 3), these differences are not as compelling as in a pattern with respect to time in other activities.

While all respondents in this subsample are employed and in their traditional working years, what the chart shows very clearly is that the women spend much less time than men in their paid employment, along with visibly greater time in domestic work. Child care, however, is just the tip of the iceberg, as much of it is not reported as a primary activity; the likelihood is that it is being done as a secondary activity, almost certainly with domestic work.

While women are more likely to take responsibility for entertaining than men, the latter devote noticeably more of the day on the various passive media. Thus, while both men and women in this analysis are employed, the contents and proportions of their daily packages of activity are different. The contexts and demands of their everyday packages of activity while awake are not the same. Laurijssen and Glorieux (2012) suggest from their research that employed women can keep their days in balance only by cutting back on their hours of employment. Figure 3 shows what else has to be fit into place as a tradeoff for marginal hours of employment, as well as what else is sacrificed within the limits of twenty-four hours. Sleep is *not* one of them, but time in passive leisure (in the form of media) is. Working hours are exchanged for unpaid work, the extent of which is not yet fully obvious on Figure 1 (which does not consider simultaneous activities).

Figure 1
Gender comparison of time devoted to selected major activities in the day – Employed persons aged 26-64



Source: Statistics Canada General Social Survey 24 (2010), own illustration.

The experience of the daily package of commitments for which employed women are responsible is not the same as for men. The parts of women's package are more likely to interact with difficulty than men's. Women's double day is not a *doubled* day. But it is a *juggled* day. While women's daily package may not cut heavily into sleep, as commonly thought, that does not mean it is without *subjective* impact.

3.2 Time crunch

John Robinson's Time Crunch index is typically applied to the subjective side of everyday life (c.f. Robinson, 1988; Robinson & Godbey, 1997; Michelson, 2005, pp. 35, 86, 96, 104). The greater number of ten statements about subjective feelings concerning aspects of daily life with which respondents agree, the greater is the degree of imputed time crunch¹. A comparison of

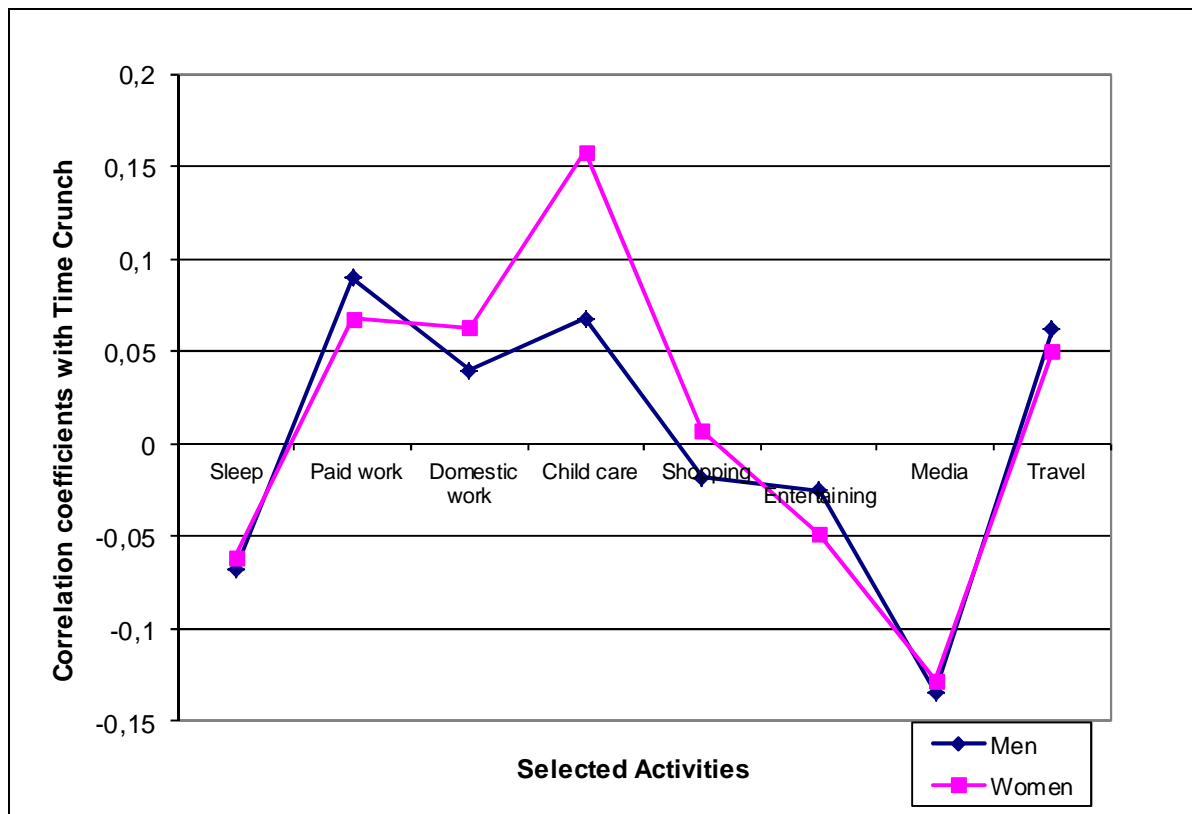
¹ The ten statements comprising the Time Crunch index, as displayed in the variable list for Statistics Canada's General Social Survey no. 24 (2010) by the University of Toronto Data Centre (<http://sda.chass.utoronto.ca/cgi-bin/sda/hsda?harcsda3+gss24m>) are as follows:

- Do you plan to slow down in the coming year?
- Do you consider yourself a workaholic?
- When you need more time, do you tend to cut back on your sleep?
- At the end of the day, do you often feel that you have not accomplished what you had set out to do?
- Do you worry that you don't spend enough time with your family or friends?
- Do you feel that you're constantly under stress trying to accomplish more than you can handle?
- Do you feel trapped in a daily routine?
- Do you feel that you just don't have time for fun any more?

time crunch scores for the same selection of employed men and women aged 25-64 shows that, even though women by and large get more sleep, their daily situations generate greater feelings of time crunch than is the case for men. On a scale of 0-10, women's mean time crunch score is 4.16, compared to 3.67 among men. Analysis of Variance shows that this degree of difference among 3,350 women and 3,253 men is not likely to occur by chance as frequently as once in a thousand times ($F = 58.704$, d.f. 1, 6602, $p < .0000$).

The relationship of male-female differences in time crunch to the daily package of activities that differentiates them is shown in Figure 2.

Figure 2
Correlation coefficients of time crunch with time devoted to selected activities
among employed men and women aged 25-64



Source: Statistics Canada General Social Survey 24 (2010), own illustration.

This figure plots male-female differences in the Pearson correlation coefficient between their Time Crunch score and the time they put into each of the activities in the package portrayed in Table 3 and Figure 1. Where women exceed men in their positive correlations between time crunch and daily activity durations is with respect to domestic work, shopping, and child care. Women spend marginally more time than men on domestic work, and the varying daily durations of time devoted to domestic work are somewhat more highly correlated with feelings of

- Do you often feel under stress when you don't have enough time?
- Would you like to spend more time alone?

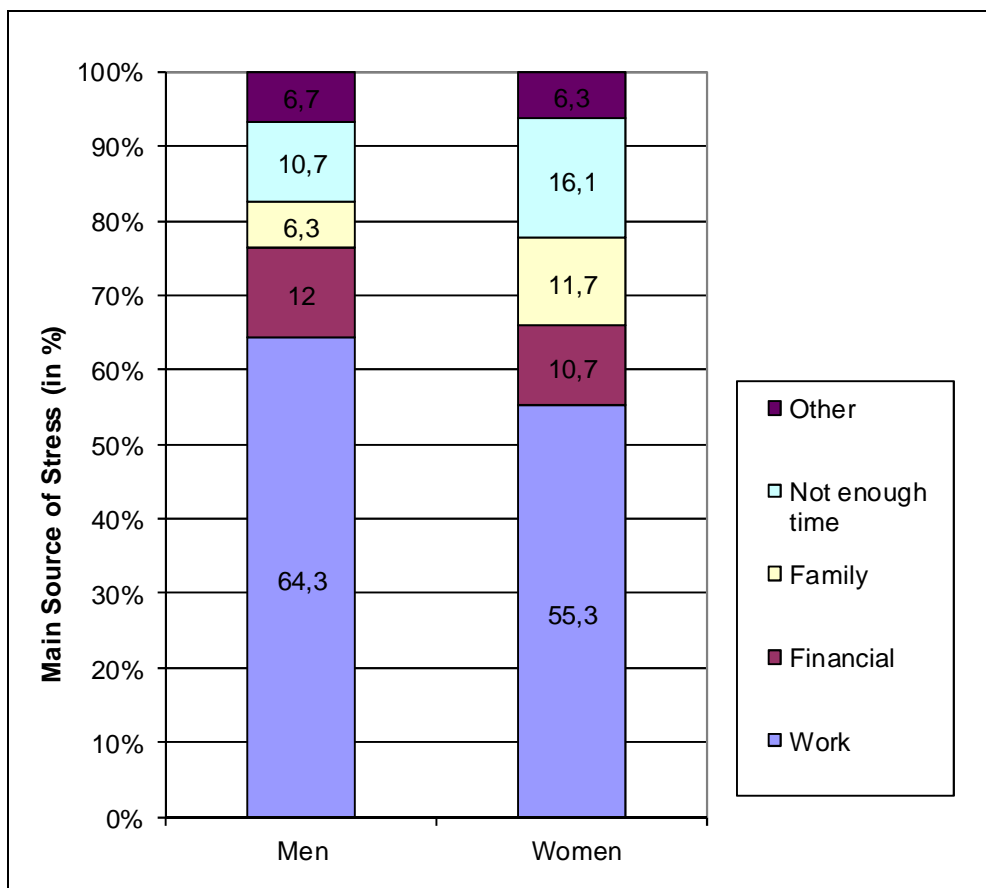
time crunch among the 3350 women than among the 3253 men but not of statistical significance ($z = 1.018$, $p = 0.3086$). However, while employed men and women are shown in Table 3 and Figure 1 to spend an equal amount of time on child care, Figure 2 shows that the correlation of total child care time with feelings of time crunch is much greater for women than for men, a statistically-significant difference ($z = 3.4980$, $p = .0005$).

More generally, the time crunch findings complement our interpretation of Figure 1, on the extent that women have to juggle household work and child care with work more fully than do men within the waking day, to the detriment of passive leisure rather than sleep. This is not just a neutral juggling of time, but a phenomenon with subjective implications.

3.3 Sources of stress

These findings on time crunch are substantiated by answers shown in Figure 3 to a stylized question, "What is your main source of stress?" Women are clearly more likely than men to attribute their feelings of stress to "family" (11.7%), and, more generally, to "not enough time" (16.1%), while the latter are more likely to cite traditionally male sources of stress having to do with work and financial circumstances.

Figure 3
Breakdown by gender of main sources of stress among employed persons aged 25-64



Source: Statistics Canada General Social Survey 24 (2010), own illustration.

While these gender leanings are statistically significant [chi square(6) = 84.40, p=0.00], they do no more than to complement the data in previous sections on activity tradeoffs and time crunch, as the majority of employed women also specify paid work as their main source of stress (though less so than men). Figure 3 also portrays graphically the degree that employed men and women share some of the same sources of stress while yet differ on others. Stress arising from family and insufficient time acts more as a supplement for employed women on top of the major concerns they share with men.

How much of the stress arising with regard to paid work, family, not enough time, and "other" is a function of insufficient amounts of sleep in the day, as compared to time used for other purposes in the course of the busy, varied day? The degree of impact by lack of sleep on women's feelings of personal stress in the context of other major demands on time can be observed in Table 4, from a multiple regression analysis with the Canadian 2010 data. In this analysis, the time crunch variable is the dependent variable.

Table 4
Regression coefficients on feelings of
time crunch (Women: N = 3,350)

Independent Variables	Beta	Standard Error (Beta)	T-statistic	Probability
Sleep duration	-.017	.019	-.928	.354
Duration paid work	.096	.022	4.346	.000
Duration domestic work	.096	.019	4.920	.000
Duration child care	.153	.017	8.886	.000
Duration media	-.002	-.082	-4.538	.000

R-Squared = .048, F = 33.324, p(F) = .000,
Source: Statistics Canada General Social Survey 24 (2010),
own calculations.

The independent variables, whose respective impacts on feelings of time crunch are measured, are the durations of time devoted to sleep, paid employment, domestic work, child care, and media. What the regression analysis shows is that, in this context of major daily activities, sleep duration fails to show that it has a significant impact of its own on time crunch. Sleep derivation surely colors our feelings and health, but these data point with some confidence to perceptions of time crunch arising more directly from other parts of the daily package.

A simple correlation matrix of these variables shows the common finding that the daily duration of paid work among these respondents is inversely related at a very high level with sleep duration (r = -.39), duration of domestic work (-.46), and media duration (-.29). Nonetheless, in the context of these other related parts of the employed woman's day, it is these other variables, not sleep duration, that combine to explain feelings of time crunch. These conclusions are similar to those of Cha and Eun in Korea (2014).

3.4 Multitasking

An important link between differential packages of daily activities by gender and differential feelings of time pressure is the greater presence of *multitasking* among women (c.f. Michelson, 2005, ch. 7). Multitasking is the art of carrying out two or more activities at the same time. Although the admonition that 'you can't do two things at once' has been widely circulated, in actuality people do this frequently. People commonly listen to the radio while driving a car. You can have a conversation while walking the dog. People mind their children while cooking dinner. Some combinations are simple to carry out; others, less so. However, the underlying assumption in this discussion is that increased multitasking in the day of more difficult activities to reconcile contributes to the stress encountered in everyday life. To what extent are employed women more likely than their male counterparts to multitask? Is there truth in the adage that 'women invented multitasking'? Is multitasking a structure of time-use that goes beyond the properties of activities per se to help understand the onset of feelings like time crunch?

Not all time-use studies assess multitasking. But when they do, the time budget matrix of questions includes an additional part to the statement of activity at the episode level, to the effect of "and what else were you doing at the same time?" Multiple answers are often prompted as appropriate, to a maximum of three or even five secondary activities accompanying a single primary activity. Statistics Canada gathered multitasking information for the first time in its 2010 General Social Survey. However, it limited its use when the primary activity was such that asking about simultaneous activities might prove embarrassing to respondents. The lists of primary and secondary activities in this Canadian study are far from identical. Nonetheless, there is still some value in exploring what might be learned, even from less than logically ideal operationalization.

One approach in the present exploration focuses on the mean number of *episodes* in the day that are multitasked. In Statistics Canada's 2010 survey, employed women between ages 25-64 average 6.62 multitasked episodes of activity, while men average 5.58 such episodes. The literature (c.f. Michelson, 2005, ch. 7; Sullivan, 1997; Fisher, Egerton, and Gershuny, 2004) also suggests that women's days are cut up into more episodes than are men's, which itself adds more complexity to the day; in this regard, the gender differences were 18.89 to 17.07 in favor of women. In another approach to examining task complexity from multitasking, computed from the Canadian 2010 survey, women multitask 35.0 per cent of their episodes, compared to 32.6 per cent among men. This difference is amplified when the mean number of *minutes* in the day devoted to multitasked activities is displayed. Women average 256.19 minutes in multitasked activities (some of it certainly involving child care), compared to 226.42 minutes by men. The different means of measuring multitasking found in this one survey are consistent and mutually reinforcing in the pictures they paint about gender differences.

Our view, however, of multitasking would be incomplete without exploring *which* activities are being multitasked. All multitasked activities are not equivalent in substance or in potential for the generation of stress.

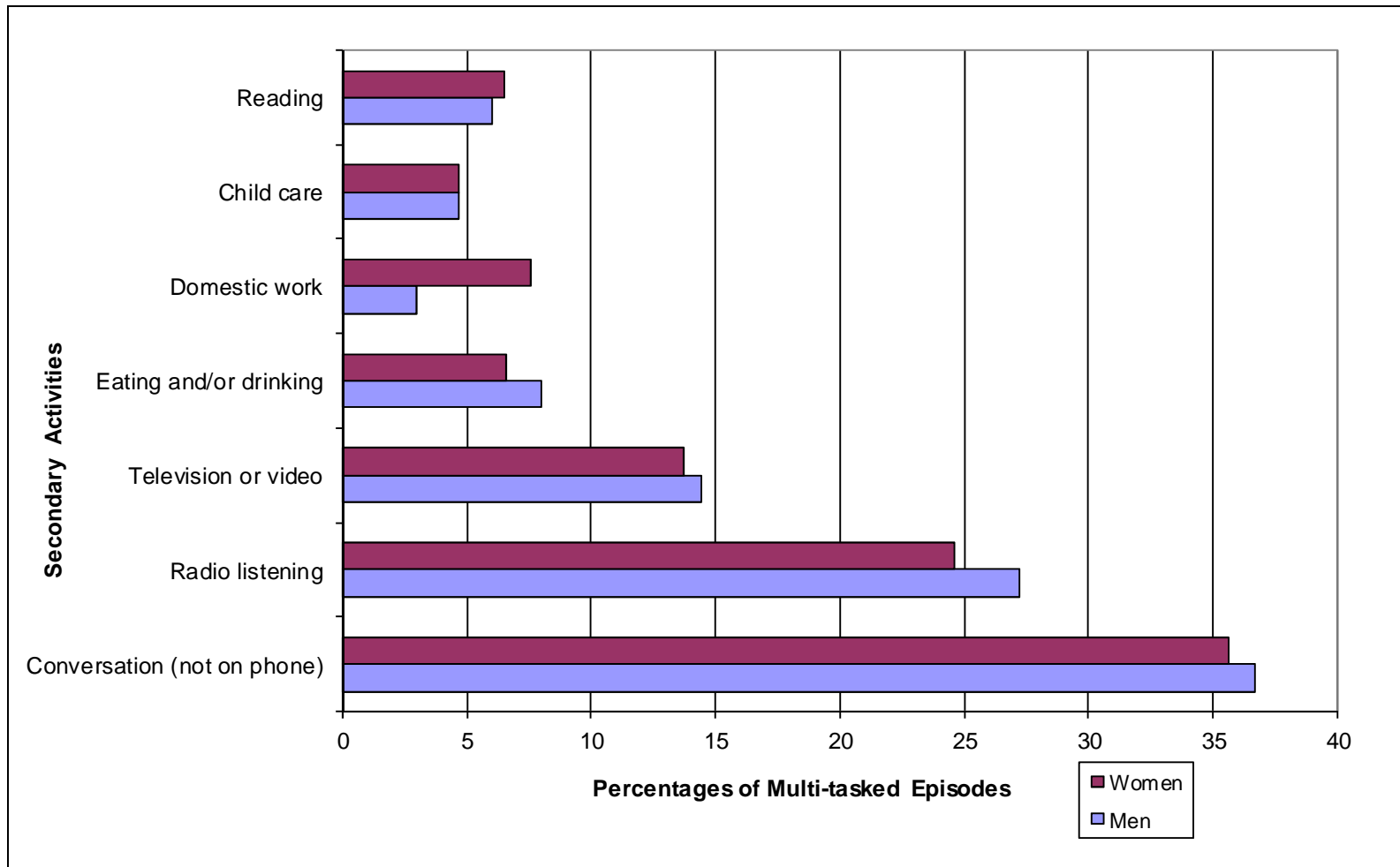
Five primary activities stand out for their accompaniment by secondary activities. Foremost as a primary activity accompanied by a secondary activity is eating at home – of meals and snacks. The most frequent secondary activities in this situation are watching television and conversation. More demanding domestic work is much less frequent while eating (once cooking is completed!). Commuting to and from work also generates much secondary activity, which almost entirely consists of listening to a car radio. Next as an independent variable in multitasking is food preparation, although its frequency as a multitasked activity is only about half that the eating and commuting. In this context, noteworthy secondary activities are television viewing, conversation, domestic work, child care, and radio. Only domestic work among these secondary activities to food preparation shows a noteworthy gender difference (13.1% for women and 8.2% for men). Travel for shopping and services elicits the relatively undemanding secondary activities of radio listening and conversations. Finally, when watching television, conversation is paramount as a secondary activity. Women are more likely than men to be doing domestic work and pet care simultaneous with TV viewing, while men are more likely to be carrying out child care while watching TV (likely while their partners are doing domestic activities as a primary activity). In sum, much simultaneous activity is not onerous. But in the few situations when this is more likely, it is more the experience for women than for men.

This suggests that many secondary activities are more relaxing than demanding, particularly in consideration of the primary activity with which they occur. Yet, gender differences potentially related to stress generation are visible. Figure 4 illustrates the percentage occurrence and gender distribution of seven frequent secondary activities.

Men exceed women in the frequency of four of the seven most common activities when undertaken as a secondary activity. Women exceed men in only two, it is not a stretch from Figure 4 to understand the dynamics behind women's greater subjective feelings of stress. Even if much secondary activity is relatively benign, the gender distribution of domestic work and of child care as a secondary activity that adds to significant amounts of primary child care – may help account for greater feelings of stress among women, whether or not they lose sleep as a result (c.f. Offer & Schneider, 2011).

Figure 5 examines more directly the relationship between the number of episodes in which domestic work or child care is the first-named secondary activity and the Time Crunch Index value found among the men and women doing them. Once again, this graph is derived from the subsample of employed men and women aged 25-64 from the 2010 Canadian time-use file. The gender difference is large. For men, the count of episodes of secondary domestic work and child care is flat, by and large unrelated to perceived time crunch. The absolute number of such episodes by men is well below that of women, despite representing more persons in the subsample. In contrast, the slope of the horizontal line representing episodes of domestic work and child care as first secondary activity increases in a nearly linear pattern with the degree of time crunch up to the time crunch value of 7, out of 10. As there are relatively few respondents with crunch index values over 7, it is not surprising that the absolute numbers of these simultaneous activities decline for both men and women at the right side of the chart.

Figure 4
Most Frequent Secondary Activities by Employed Men and Women Aged 25-64
as Percentages of all Multitasked Episodes by Gender

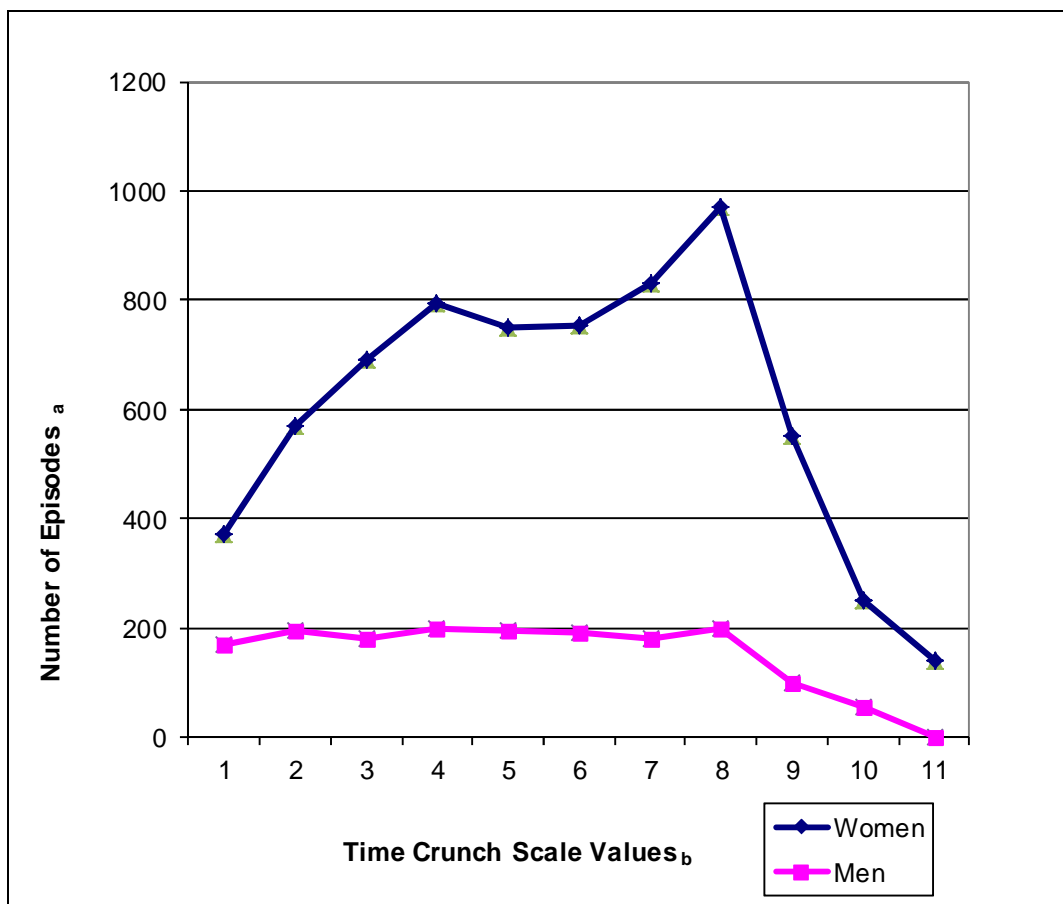


Source: Statistics Canada General Social Survey 24 (2010), own illustration.

Nonetheless, the extent of the gender difference in the occurrence of these secondary activities and their relation to feelings of time crunch is appreciable.

More evidence from this source supporting an understanding of the salience of under-reported, secondary childcare activities for feelings of time crunch and stress comes from an examination of with which primary activity the child care is coupled. Men are proportionately more likely than women to list taking care of children as a secondary activity when eating meals or snacks at home, watching television, socializing, and playing with them. For women, in contrast, their supplementary 38.6 per cent increase in episodes of child care observed from citing secondary activities comes disproportionately in tandem with a wide range of primary activities in the realm of unpaid domestic work. The multi-tasking of child care with other activities takes on a very different meaning and outcome for women than for men, with implications for perceived stress.

Figure 5
Number of episodes of domestic work and child care as first secondary activity by time crunch index value for employed men and women ages 26-64



a: Number of episodes in which domestic work and child care are first simultaneous activity, b: Time Crunch Scale Values (0-10), Coded as 1-11, for Respondents Doing Episodes, Source: Statistics Canada General Social Survey 24 (2010), own illustration.

4 Conclusion

The 2010 Canadian time-use survey substantiates previous time-use analyses that show an increase in the amount of nighttime sleep in recent decades after relative stability in the latter 20th Century. Contrary to a public myth, employed women continue to report greater duration of nighttime sleep than men. A reference point for feelings of disadvantage for employed women should be with respect to greater sleep duration on the part of women who are not in the labor force, not to employed men.

But just because concerns arising from societal change have taken the form of questionable assumptions about sleep duration does not mean that the dynamics of gender differences accompanying societal changes are illusory. They arise in a more subtle, subjective ways than the count of minutes of sleep per night. Differential stress, reflecting the interaction of gender roles with the need to balance the distribution of activities within the 24-hour day, which also includes the substantive and subjective dynamics of multitasking, is a reality that creates particular difficulties for employed women. These difficulties appear to have been projected erroneously to sleep duration, but they are important difficulties nonetheless.

Staikov's conception of daily time budgets as a zero sum game (1973) remains as a crucial analytic paradigm, but it is joined by the need to consider explicitly the substantive, subjective, and dynamic underpinnings of time-use when trying to unravel mysteries surrounding social change and gender dynamics. In this case, the myth of linear impacts from sleep duration is clarified by sensitive attention to the gender-related contextual and subjective aspects of the situation, which include the need to trade off activities during the 24 hour day, the multiple sources and characteristics of stress (which are helpfully addressed by the concept of time crunch), and the existence and varying manifestations of multitasking. Sleep duration is important, but its independent impact on feelings of time crunch wanes in a context in which the day includes substantial time and emotional demands from such other activities as paid employment, domestic work, and child care - simultaneous with less time available for activities that many people find relaxing, such as media viewing. In this and in many other situations, the complexity of everyday life needs to be recognized in its larger array of interacting objective and subjective manifestations, not as a simple, linear phenomenon.

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