Spending time together: The impact of children on couples' leisure synchronization

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Summary

The presence of children may oblige parents to desynchronize their schedules in order both to minimize childcare expenses and to become more efficient in their domestic tasks. This disconnection between the father's and the mother's schedules may be undesired as such, and may represent an additional component in the overall cost of children as traditionally considered.

This article analyzes the impact of children on their parents' schedules, using the French time use survey data (INSEE 1998-1999). The comparison of female and male schedules makes it possible to measure the leisure synchronization of dual-earner couples. We show that the presence of children within a household significantly reduces joint leisure time, and the more so if they are young. Parental schedule adjustments are severely limited by work constraints. The parents' difficulties in coordinating their schedules in order to spend time together is expressed as a deprivation of leisure which is larger for joint than for individual time. Finally, for couples with children, greater housework synchronization does not free up enough time to maintain joint leisure time.

Key words: schedule, synchronization, leisure, child cost

JEL Code: J23, I31, D13

1. INTRODUCTION

By living together rather than remaining single, couples expect to enjoy a certain number of "gains from marriage" (Becker 1973). These gains are generated by the economies of scale associated with shared living, as well as by specialization and complementarities. Gains from complementarities arise with the production of specific goods such as children or "affective services", but also from simply spending time together, especially leisure time. Gains from specialization derive from the division of labor and from the comparative advantages associated with differentials in the skills and earning power with which family members are endowed. The arrival of children in a household involves major upheavals in these equilibriums. By increasing the demands on time, children influence the parental division of labor, leading to a higher degree of intra-household specialization. These adjustments provoke discrepancies between fathers' and mothers' schedules, so they may have less time to spend together than couples do without children and the complementarity of their schedules may decrease. The desynchronization of leisure time might have consequences on the satisfaction that parents derive from their schedules, and could be considered as a cost, not necessarily offset by the benefits of time spent with children.

This type of cost has rarely been studied and the matter of desynchronization of parental leisure deserves further investigation. In most studies on the time cost of children, the loss of parental leisure time is considered from a strictly individual point of view and is evaluated by simply summing up the amount of time given up by each parent. This kind of approach focuses solely on the duration of leisure and implicitly assumes that individuals are indifferent to where, when and with whom the leisure activity occurs. However, since the end of the 1980s, particular attention has been paid to the context and the sequencing of activities. Sociologists and economists now focus on the time of day at which these take place and the

presence of other people, because interactions between diary and environment could play a considerable part in the satisfaction derived.

Based on a French time use survey (1998-99) in which both members of couples described their schedules on the same day, this article analyses the impact of children on their parents' schedules, and it evaluates how their number and age operate on their parent's leisure time synchronization. We test the assumption that the presence of children disconnects the father's and the mother's schedules in a way that may be undesired as such, thus constituting an additional component in the overall cost of children.

The first question that is dealt with here is the choice of the definition of joint leisure. Previous studies on the subject use various measures, mainly because of restrictions due to the quality of data at hand (Hammermesh 1999, 2000, 2002; Hallberg 2003; Jenkins and Osberg 2003; Van Klaveren *et al*. 2007; Lesnard 2003). This article tests whether a precise and restricted measure of joint leisure, excluding housework, produces different results from those obtained with a broad definition of leisure as non-working time. The comparison shows that results vary according to the type of measure, and we show that the exclusion of housework, and the use of a precise definition of common leisure (leisure enjoyed by spouses at the same time and in the same place) tend to reinforce the effect of children on leisure desynchronization.

The second question, which had never been cleared up before, is the effect of children on individual leisure on the one hand, and on common leisure on the other. We highlight that both leisures do not react in the same way to the presence of children.

Third, we bring new insight on the complex relationships between two kinds of time constraints bearing on parental leisure: children and work schedules. First, it has been shown that children, especially young ones, tend to lessen work supply synchronicity and to dissociate parents' work schedules in France (Sofer 1999; Fermanian and Lagarde 1998).

Then, Lesnard (2008) also on French data, proved that leisure synchronization was restricted by the limited flexibility of working hours. Because of these multiple connections, we have paid special attention to the influence of working time constraints over parents' versus non-parents' scheduling choices, and disentangled the interactions between them. The results show that the control of working constraints is essential. The case of France is interesting in this respect. Thanks to extensive childcare provision and long school hours, France has a high maternal full-time labor force participation rate, and dual-earner parents are frequent. Conversely, a rather low percentage of workers are free to organize their work time schedules (Hardarson, 2007; Lefèvre *et al*., 2009), and in their case the time effect of children is mainly expressed as a trade-off between home activities. This country feature makes it possible to observe groups with quite specific behaviors.

2. REVIEW OF THE LITERATURE

Several studies have produced empirical evidence to show that activities spent in the company of other people, and in particular the spouse, provide more pleasure than solitary activities. When people are asked to classify activities according to the "intrinsic" satisfaction they provide, those carried out in company generally come first (Juster and Stafford 1985). A British study clarified this first result and showed that whatever the type of activity considered, the satisfaction derived from it is always greater when performed in the presence of the companion (Sullivan 1996).

Hamermesh (2000) was the first to attempt an economic approach to time synchronization. He assumed that spouses have a preference for shared rather than separate leisure, and seek to maximize the time spent together. The description of market work schedules between the 1970s and the 1990s waves of the American Current Population Survey revealed similarities of time use within a couple, and gave a measure of potential leisure time. The results tend to

validate the initial assumption, for it appears that simultaneity could be desired, since it was observed that couples spent more time together than pseudo couples[1]. Moreover, working time being equal, the synchronicity appeared to be positively related to spouses' wages[2]. These results suggest that couples manage to schedule their work time in order to spend leisure together. But the indicator of leisure simultaneity used was crude since the data used by Hamermesh only enable him to observe work schedules. Domestic time was assimilated to leisure, which was itself defined as non-working time. This accounting method poses several problems. First, literature on the "double workload" highlights the fact that housework cannot be assimilated to leisure activities (Goldschmidt-Clermont and Pagnossin-Aligisakis 1995). Furthermore, this method potentially over-estimated the duration of synchronized activities. For example, it considered a period during which one spouse was ironing while the other watched television, as joint leisure time.

The hypothesis of a voluntary coordination of schedules is not a straightforward one. The concordance of observed schedules may be the result of two different phenomena: social rhythms and assortative mating. The general organization of society drives people to adopt collective routines (employers' control over work schedules, school schedules, TV programs, shop opening hours, etc.). People tend to do the same things at the same time, and scheduling choices may actually be rather limited. But collective patterns of activity do not explain everything. It has been demonstrated that partners' ways of life tend to be similar, and that their schedules are more comparable than those of two persons taken at random. Their labor vs. leisure choices are similar and dual-earner couples tend to match their schedules They have similar weekly routines and work duration and their schedules tend to converge, i.e. a hard worker is likely to live with another hard worker and vice-versa (Sofer 1999; Fermanian

[1] The proportion of couples working at a given time is significantly higher than the average proportion of men multiplied by the average proportion of women working at this given time.

[2] The effect of female income was higher than male income in the 70's survey. This difference disappeared with the 90's survey. Men's preferences for joint leisure may have grown closer to women's preferences during those decades.

and Lagarde 1999). This correlation between the partners' pace of living and working hours may be explained by assortative mating. Because partners tend to share the same positions on the social ladder and schedules are structured according to social position, their pace of living – working hours in particular – tend to be correlated (Lesnard and de Saint Pol 2008). But within this general social framework, some degrees of flexibility exist. Hamermesh (2002) showed that the similarity between partners' schedules cannot be explained simply by external constraints (social or professional) or by homogamy, but is desired and results from an active strategy.

This issue was addressed again by Hallberg (2003) who tested it on Swedish data[3]. Since many aspects of behavior are dictated by social constraints, he compared couples' schedules with those of pseudo couples with the same characteristics to determine how far the proximity of the observed schedules was due to individual choice. The results, like Hamermesh's, showed that husbands' and wives' work schedules were positively associated, and to a significant degree. In addition, spouses seem to organize their schedules in order to enjoy simultaneous leisure time. But the gain was small: less than one hour of synchronous time for leisure and housework altogether, with a weaker synchronization for leisure than for housework. Jenkins and Osberg (2003) reached a similar conclusion on a British panel; the proportion of couples working during the same time of day was higher than that among pseudo couples. There appears to be a deliberate schedule coordination between spouses, over and above that imposed by social patterns of time use. This coordination is positively related to wages for women (with or without children), and for men with children. Van Klaveren *et al*. (2007) reached the same conclusion using Dutch data. With the exception of Ruuskanen (2004) who, using Finnish data, obtained a negative effect of wages on joint leisure time, it appears that the sensitivity of joint leisure time to income is usually positive.

[3] These data stem from the Household Market and Non Market Activities Surveys (HUS) conducted in 1984 and 1993.

The impact of children on parental leisure simultaneity could be negative. Children impose all kinds of constraints on their parents' schedule. First of all, young children have very specific daily routines. A child's nap, for example, gives the parents the opportunity to relax, but not necessarily at the time they would have chosen, and parents might find it more difficult to arrange time together. Secondly, the presence of children generates a considerable increase in each spouse's housework load (Spitze 1986; Brousse 2000). This can reduce their leisure hours and thus limit opportunities to spend time together. Lastly, the presence of children lowers the household's standard of living and may limit the time spent together, if this last activity is a superior good. Parents may be forced to desynchronize their schedules in order to minimize paid childcare time for example (Jenkins and Osberg, 2003).

Nock and Kingston (1984) were the first to address this question and observed that parents with preschool children had fewer joint activities than couples without children or with older ones. They were followed by Presser (1987, 1988, 1994)[4], and Hamermesh (1999, 2000, 2002), who, using American panel data, showed that when couples had a child, they more often had non-standard work schedules. Between two waves of that panel, dual-earner couples with less time to share, reduced their leisure time simultaneity after the birth of a child. Jenkins and Osberg (2003) confirmed these observations using British data. Van Velzen (2001) and Van Klaveren *et al.* (2007) used Dutch data with a more realistic definition that excluded housework from leisure time, and reached the same conclusion, namely that: the presence of children tends to reduce the time that parents spend together.

Lesnard (2004) produced conflicting results on French data: the presence of children did not seem to contribute to the divergence of parents' schedules (measured by the distance between the central points of their respective working days). Neither the number of children nor their age appeared to increase this distance. The assumption that a desynchronization was intended

[4] She attempted to show that desynchronization was connected to the presence of children but the samples she used were small, making results questionable.

to minimize the cost of childcare, did not appear to hold. For Lesnard, only homogamy and the couples' social position seem to influence the simultaneity of schedules. But it is possible that the measure selected was not precise enough since non-working time and leisure time were grouped together (as they were in Hamermesh's work). Another thorough study of work schedules based on a French survey (Fermanian and Lagarde 1998) showed that the presence of children under 6 may have an impact on parental time schedules. Parents may coordinate their activities to ensure a continuous presence at home. They stagger their departure and arrival times, and this corresponds precisely to the desynchronization of their activities.

Hallberg (2003) produced trails to interpret this last result. He carried out a detailed study on the effect of children on actual leisure, i.e. not merely understood as non-working time, and also excluding housework. His data enabled him to distinguish, for each activity, those that were carried out at the same time (synchronized activities), and those actually performed together. He observed that couples with children do not have fewer synchronized activities than their counterparts without children. The breakdown of activities provides some interesting information, and shows that there is a transfer of synchronized time from leisure to housework. Couples with children enjoy less joint leisure time, but more domestic time together, leaving overall joint non-working time unchanged.

Many cultural and societal factors other than the presence of children may influence parental time synchronization in a given country, in particular the labor market characteristics and the level of public support provided to parents. Up to now, studies related to spouse time synchronization have been conducted in two specific social and institutional contexts: the Nordic social democratic regime and the liberal welfare state regime, such as that in the United Kingdom or the USA, which promote market-based individualism (Esping-Andersen 1999). In these countries, childcare has to be provided by families themselves or has to be bought on the market. The price of this private childcare may explain why parents

desynchronize schedules in order to minimize costs. In contrast in France, as in Nordic European countries, state intervention in the private sphere has long been accepted as legitimate. The family benefit system is quite generous and diversified and the early socialization of children through nursery schools is encouraged. For instance, 97% of children aged three are enrolled at pre-school, even though schooling is not compulsory at that age. In this context children may have a less negative effect on their parents' joint leisure than in Northern European countries.

Furthermore, school and childcare hours are extensive in France[5]. The constraint of children on schedules should be weaker here than elsewhere because the daily period during which parents work is longer. This partly explains why female part-time work is less frequent in France than in Nordic countries (only 30%, Eurostat 2007).

However, the facilities available to parents in France are offset by the fact that working schedules are fairly rigid. Whereas in Northern European countries, workers can, to a large extent, adapt their schedule to their needs, few French employers regularly grant flexible working hours that fit in with school or nursery opening hours (Lefèvre *et al*. 2009). Almost 60% of Swedish workers have a certain degree of freedom in their schedule choice against only 36% of French workers (Parent-Thirion *et al*. 2007). These differences in control over employment scheduling may reduce the degree of parents' leisure time synchronization. Constraints on their work schedule may prevent parents from organizing their time to maximize joint leisure time, or from desynchronizing schedules to reduce childcare expenditure.

[5] School hours are from 8.30 to 16.30 for children aged 3 to 12 and care facilities are provided before and after school hours from 7.00 to 8.30 and from 16.30 to 18.00-19.00. Care facilities and school meals are provided during the lunch break. Wednesday is a school-free day, but "leisure centres" take over.

3. METHODS

3.1. Data

The data we use is from a French time-use survey conducted by the French National Institute for Statistics and Economic Studies (INSEE) on a representative sample of the French population from February 1998 to February 1999. All household members aged 15 and over from the 8,186 households surveyed were interviewed. The data contains rich sets of information on the background and socioeconomic situations of the individuals and the households. It also contains time-use records collected with the time diary technique. For a specific day set by the interviewer, respondents filled out a 24-hour diary in which they recorded their activities in 10-minute time slots. The respondents' own words were coded into 144 different types of activities. This dataset represents an extremely detailed source of information on the daily activities of various members of the same household, and provides a unique tool for a precise measurement of the time devoted to different activities. It is also unique as a source of information on working conditions, notably the degree of control over work schedules, and non-standard schedules.

One drawback to this dataset is that it cannot be used to measure spouses' common leisure time directly[6]. The survey did not specify whether the partner was present when the activity took place. In the "with whom" data collected for each activity in the diary, partners were not distinguished from other household members, for instance children. However, this drawback is not serious since individual data recording with whom activities takes place are generally unreliable. For instance, it has been shown that answers are very subjective and often differ between husband and wife (Hallberg 2003). Moreover, the synchronized leisure activities can be measured indirectly when precise information on couples' time use is available. The French

[6] Another drawback of the dataset is that it is cross-sectional. We only have information on current time and so we cannot examine the possibility that children and time synchronization are both linked to some unobservable differences between couples. This drawback is common to the majority of time-use surveys.

time use survey is one of the few in which schedules are available for both members of the couple, enabling synchronization to be measured by comparing the spouses' schedules. If, at a given point, both spouses report a leisure activity, then we may consider that leisure to be synchronized. Additional information on the location of the activity makes it possible to determine, with reasonable precision, whether the parents' activities were not only synchronized, but actually carried out together.

Our sub-sample is limited to full-time working couples, i.e. whose usual work hours are the legal 39 work hours per week, whether or not they worked on that specific day, and whether or not they were on vacation. This sample selection ensures symmetry between both partners' working schedule constraints. Our results cannot be generalized since they are only valid for dual-earner couples. However since the female labor force participation rate is very high in France, including for mothers (at 85.6% for all women aged 25-49, and 83.6% for mothers in the same age bracket) (Chardon and Daguet 2008), they are relevant for the majority of couples. Finally, after excluding missing values, our sample includes 1,323 couples. The characteristics of the sample and a comparison with a sample of all couples, may be found in Appendix A.

3.2. Definition of time synchronization

"Having leisure together" may have different meanings: doing exactly the same thing at the same time in the same room (playing cards for example), or being in the same place (the house for instance) but each attending to separate business. It is obvious that the degree of precision in the data affects the results, and the more precise the definition of activity and place, the shorter the duration of joint time. We use three synchronization measurements:

- The crudest one is simultaneous non-working time (Hamermesh’s definition) (definition 1).

- Leisure time is considered to be “joint” if both spouses enjoyed leisure at the same time and in the same place (at home or outside) (definition 2).
- Joint leisure time is identical if both spouses not only enjoyed leisure at the same time and in the same place, but also carried out precisely the same activity (definition 3).

The couple's schedule synchronization is measured by the sum of the durations devoted to activities carried out simultaneously. The first definition is used to investigate the effect on spouse leisure synchronization of including housework in leisure activities. Definitions 2 and 3 are distinguished in order to check whether the impact of children varies according to the degree of precision of the classification.

One point to be discussed is how to distinguish joint leisure time from the time spent together in the presence of children. The presence of children can change the nature of leisure, as argued by Hochschild (1997) or Daly (2001), who found that most parental time (in the service of children) is not always as desired, and can turn out to be stressful. The only assumption made here is that leisure with the partner is more enjoyable than leisure without, whether or not children are present.

Then, we analyze whether the presence of children specifically affects joint leisure, and to a greater extent than they affect leisure time in general. Like Hallberg (2003), we assess the effect of children on parents’ ability to synchronize their leisure time using a relative measure, i.e. the ratio of joint leisure to the couple's total leisure (solitary male leisure plus solitary female leisure plus joint leisure). As each spouse may adjust his/her own leisure time to a different extent in order to preserve joint time, we compute two additional relative indicators: the ratio of joint leisure to the total leisure of each spouse.

Finally, to assess whether couples choose to perform their domestic chores together, we evaluate substitutions that might occur between joint leisure and joint housework. We thus compute a measure of joint domestic work time.

The 144 activities described in the survey are grouped into four main categories to make our results comparable with those of previous studies: working time (including commuting time and lunch at the workplace), domestic time (cooking, domestic and administrative tasks, do-it-yourself, gardening, childcare), leisure time (meals, conversations, sport, cultural activities, walks). The residual time is physiological time (sleep, hygiene, health care, etc.). We opt for standard definitions of categories, except for meals. The choice of which activities should be considered as leisure is somewhat arbitrary, particularly for dual purpose events such as meals, which may be considered both leisure and bodily maintenance (Dalenberg *et al*., 2004). Mealtimes are usually seen as a human maintenance activity. However, in France meals represent much more than bodily maintenance since they are an important ritual and a time of communication and social interaction (de Saint Pol 2005), so we include them in our definition of leisure.

3.3. Empirical specifications

The effect of children on leisure synchronization, all other things being equal, is estimated using OLS regressions[7]. The analysis is carried out in four stages. First, we analyze how children affect leisure synchronization, using the three measures of joint leisure defined earlier as dependent variables. We then assess the effect of children on parents' ability to synchronize their leisure time using the relative measures defined above. Finally, we estimate separate models for weekdays and weekend days and for professionally constrained and non-constrained couples. The same set of covariates is used in all these specifications.

The presence of children, whatever the age, is used in a first specification. But since the presence of children is the key explanatory variable in our study, we construct a detailed measure by combining two important components: the number and the age of the children. The covariates of interest are the number of children of different ages (under 3, 3-5, 6-12, 13-

[7] We do not estimate a Tobit model because the proportion of zeros is very low: there is no couple without joint leisure time according to definitions 1 and 2, only 1% according to definition 3.

18) as is the case in many other studies (Kalenkosky *et al*. 2007, Connely *et al.* 2009). As children grow older they become less time-intensive and market substitutes increasingly become available. Hence, the impact of children on work or joint leisure time may be smaller.

Other standard demographic characteristics are marital status, mean age and the squared mean age of the couple. These variables are included in order to capture cohort effects. Each spouse's educational level is introduced[8] since educational attainment is a determinant in the price of time. The day on which the diary was filled in (weekday, Saturday or Sunday) is also introduced as a covariate, as well as the season, in order to capture leisure time variations according to the day and season. Leisure time is usually longer in summer due to summer vacations and because warm weather allows more outdoor leisure[9].

Since leisure time is highly dependent on working hours, and the amount of working hours differs between individuals on a given day, each spouse's working hours have to be carefully controlled for, not only for the total amount of time devoted to work, but also the degree of control wage-earners have over their working schedules. To assess the effect of inflexible working hours, we introduce a variable related to the spouses' degree of control over work scheduling. Constrained couples are defined as couples in which both spouses' work schedules are fixed by the employer and cannot be modified at all, or can only be selected from several fixed schedules. Non-constrained couples are defined as those for whom at least one member is not constrained, which means that at least one spouse may be able to adapt his/her own working schedule to that of his/her spouse, in order to spend time together[10]. Moreover, to capture wage-earners' degree of control over their working hours more precisely, we introduce an additional indicator of non-standard and non flexible schedules, i.e.

[8] We distinguished three educational levels: below secondary, completed secondary and higher than secondary.

[9] Other covariates were introduced, such as geographical variables (town size and region), firm size, level of job responsibility, but were excluded from the final specifications as they were not significant. Results can be obtained from the authors.

[10] One spouse is free to determine his/her own work schedule or can modify it.

night work (frequently or occasionally for at least one spouse). We expect that the more flexible and the more standard the work schedule, the more time and leisure the partners would have to spend together.

Characteristics relating to individual and household incomes are added: with a logarithm of hourly wages and two wealth indicators (as a substitute for non-labor income), i.e. whether the couple receives an income from property and whether the couple owns a home. Since wealthier people may use paid services, for instance for childcare or housework, they might enjoy more leisure together. People with a strong preference for leisure might work less or choose a more family-friendly job, for instance. Wages are then potentially endogenously determined (Bloemen *et al*. 2010). Observed working hours during the interview day, which are very precisely described thanks to the time-use diary, may also be endogenous with respect to joint leisure time. For instance, partners may organize their daily working hours in order to spend more time together. Even if the endogeneity of the men's and women's working time on the interview day is certainly reduced by the sample selection of full-time dual earner couples, it can not be completely removed (Connely and Kimmel 2007, 2009, Kalenkoski *et al*. 2007). Thus, we instrument both wages and hours worked. Two-step models with instrumental variable method are estimated, taking the economic sector, the number of subordinates and usual working hours as exclusion variables. The natural wage log for women and men is predicted using a set of standard demographic variables and regular participation in vocational training as an exclusion variable. The choice of this identifying variable is based on the argument that spouse leisure synchronization is not affected by participation in vocational training while vocational training has positive returns on wages (Adda *et al*. 2006)[11].

[11] Under the null hypothesis (which states that an ordinary least squares (OLS) estimator of the same equation would yield consistent estimates) the DHW test distributed Chi-squared(4) and the Hausman test distribute a Ficher(4, 1288). Both tests reject at respectively 36% and 37% the null hypothesis. Thus one concludes that there is endogeneity of working hours and individual wages.

4. RESULTS

4.1 Daily individual and joint leisure time

During weekdays, leisure time totals 277 minutes per day for men in full-time dual-earner couples and 242 minutes for women (Table 1). On average, men spend more time working than women, but women devote more time to domestic activities than their partners. The additional time freed up by the reduction of working time during weekends is mainly dedicated to leisure activities, for an average duration of 492 minutes for men and 394 minutes for women. Parents spend more time on domestic tasks than childless people (+22 minutes each day for men, +49 for women). This additional time is found at the expense of leisure for fathers on weekdays and of working time for mothers (45 minutes). The influence of children on individual time-sharing is greater during weekdays than during weekends.

Table 1:

Whatever the definition selected, the level of synchronized time is obviously much higher during weekends than during weekdays (Table 2). Of course, the more accurate the classification, the less likely it is that partners simultaneously perform the same activity. Under definition 1 of simultaneous non-working time, this totals 953 minutes per weekday for dual earners, and is 6 and 7 times lower for the other definitions. Joint leisure time is quite close to identical joint leisure time, the former totaling 134 minutes per weekday on average and the latter 112. Hence, it is the inclusion or exclusion of domestic tasks from leisure that creates the largest difference, rather than the various types of synchronization within ‘pure leisure’.

During weekdays, full-time working parents enjoy about 20 minutes less joint leisure time than adults without children. This gap is identical whatever the definition (2 or 3). Yet, during weekends, once domestic time is excluded from leisure time, the presence of children is not

associated with a significant variation in joint time. Nor does the presence of children under three significantly reduce synchronization during weekends.

Table 2:

On average, joint leisure time represents 40% of the couple's total leisure time (Table 3). The relative share of common leisure is greater during weekends than during weekdays: 51% and 36%, respectively. This proportion of joint leisure within total leisure is significantly smaller for couples with children than for childless couples, especially on weekdays: 38% of the couple's leisure time is spent jointly for childless couples versus only 33% for couples with children. Thus, parents not only enjoy shorter leisure time, but also shorter joint leisure time with respect to their total leisure. It appears that having children puts a stronger squeeze on joint leisure than on individual leisure.

Table 3

During weekdays, the main joint activity is watching television. This common activity lasts on average 44 minutes a day. Meals are also moments shared by the couple: meals at home with household members come second during the week (40 minutes), and first during the weekend (62 minutes). During weekends, socialization activities, i.e. meals outside home, meals at home with guests, and visiting relatives, are important (30, 19 and 10 minutes respectively). Entertainment and cultural activities shared by both spouses are less so.

4.2 Estimation results

Whatever the measure used, children reduce parents' leisure synchronization (Table 4). As expected, the degree depends on the definition used: having children under 18 reduces leisure synchronization by 19 minutes when the crudest definition of leisure time is used, i.e. non labor-market working time, as in the case of Hamermesh (2000) and Lesnard (2003) (specification 1a). But the exclusion of domestic time from this definition of leisure produces

a measure of joint leisure that is far more sensitive to the presence of children (about minus half an hour with specifications 2a and 2b).

It is important to take the children's age into account to compare the relevance of the various definitions. With the basic definition of leisure time, only teenagers seem to have a significant negative effect, while the more refined definitions (“joint leisure time” or “identical joint leisure activity”) reveal an impact across the age range, and particularly for young children. A pre-school child under three reduces joint leisure by about 56 minutes, all other things being equal. As children get older, between ages 3 and 12, joint leisure decreases by 23 minutes per day and per child. Lastly, in spite of their greater autonomy, teenagers also reduce parental leisure time synchronization, but to a lesser extent, only by around 10 minutes.

These results highlight the importance of excluding housework time from leisure, at the risk of strongly minimizing the effect of children. But the other definitions of joint leisure (whether partners perform exactly the same leisure activity or not) are the same. We observe the same decreasing negative effect of child age. Henceforth, we only use the second specification of joint leisure.

Table 4

In order to analyze whether joint leisure is more or less sensitive to the presence of children than individual leisure, we perform various regressions (Table 5). The first ones confirm well-known results, namely the overall negative impact of children on each parent's total leisure time and the decreasing effect with the age of the child (columns 1 and 2). The negative impact is higher for the mother than for the father, especially when the child is under 6. An interesting feature is revealed by distinguishing leisure without the partner (columns 3 and 4) versus leisure with the partner (column 5). The bulk of the effect on leisure is concentrated on joint leisure time whereas leisure alone remains unaffected by the presence of children, whether for the mother or for the father.

Table 5

Because of the complex interactions between individual leisure time, the couple's joint leisure time, and the quantity of leisure that the partners enjoy, which bounds joint leisure time, we estimate the effect of children on the ratio of the couple's joint leisure time to total available leisure time, i.e. father alone + mother alone + joint leisure. The results are shown in Table 6. We observe a significant negative effect of children (–9%) on the ratio, which confirms the former results: joint leisure time decreases more than individual leisure time when children are present. The effect is related to the children's age; it is stronger for very young children, and then weakens, but does not entirely disappear.

Columns 2 and 3 show the ratio of joint to overall own leisure time for women and men separately. Both parents' coefficients are affected by children which means that for both parents joint leisure time shrinks to a greater extent than leisure in general, individual leisure in particular. The coefficients of the children's effect on male and female ratios are not significantly different.

Whatever indicator is used (absolute or relative), joint leisure time is more easily forfeited than leisure alone, which even appears to be unaffected by children. This suggests that children's routines and childcare schedules impose constraints on schedules in such a way that it becomes difficult to spend time together. This mechanism is manifested through a desynchronization of parental schedules.

Table 6

The complete regressions presented in Table 5 (and in Appendix B) show that other family characteristics, such as partners' ages or marital status, are not significant. On the other hand, job characteristics do matter. As expected, non-standard schedules reduce common leisure time: if one of the partners is a night worker, joint leisure time decreases[12]. Night work

[12] Some other non-standard schedules have been tested such as Saturday and Sunday work but with no significant effect.

requires special living arrangements that mechanically reduce joint leisure time. It has been shown that such non-standard schedules may provide a mean to reduce childcare costs by enabling parents to alternate their presence in the the home (Maublanc 2009). But this mode of family organization usually entails dissatisfaction for the protagonists (Leturcq and Wierink 2009), one reason being that partners may suffer from spending less time with each other.

Similarly, constraints on work schedules decrease joint leisure. Couples with inflexible working hours, i.e. where at least one partner is not free to choose his/her working schedule, spend less time together. Thus, the degree of control over work scheduling is a key determinant of time synchronization. Daily work hours have a significant negative impact on joint leisure time, but only for women: a 10-minute increase in female working time reduces joint leisure by 1.6 minutes.

Men's and women's individual wage income has no effect on joint leisure time. This result was also observed by Hamermesh (2000) and Jenkins and Osberg (2003), but not by Hallberg (2003) and Van Velzen (2001). This absence of income effect could suggest that joint leisure might not be a superior good. But it might also indicate that the negative wage-price effect could be offset by the positive wage-income effect. Some dummies are added to measure pure income effect through the effect of wealth. Neither the unearned income nor the home-owner dummy have significant parameters. Nevertheless, there is a positive effect of wealth, proxied by home ownership, on the ratio of joint leisure time to couple leisure time, confirming that the hypothesis whereby spouses have a preference for joint leisure rather than leisure alone does not contradict the data.

Daily routines are very specific, and behaviors differ greatly from one day of the week to another, especially between weekdays and weekends (Table 7). Since the majority of people do not work at weekends, joint leisure time is potentially longer. Mechanically, children's

influence is higher on Saturday and Sunday than during weekdays. Having children reduces joint leisure by 37 minutes on weekdays, 40 minutes on weekends. However, relative to overall leisure, having children reduces joint leisure to a lesser extent on weekends than on weekdays (respectively -5% and -8%)[13].

Several patterns exist, depending on children's age. During the week, the children's influence is noticeable, even with teenagers whose effect can still be observed. Conversely, the constraint imposed by infants is highly visible during weekends (more than one hour of forfeited joint time), but after the age of 5, children have little effect on the time their parents enjoy together. The same phenomenon is perceptible on ratios of joint time to overall time: having infants reduces joint leisure time more than individual leisure, and more so during weekends than during weekdays. Thus, on weekdays, there is a combination of work and child constraints on joint leisure, whatever the children's age, while at weekends there is a specific constraint of children on parent's joint leisure time only when they are under the age of 6.

Table 7

Separate regressions, one on the subgroup of couples in which both spouses have no control over their work schedules, and another on the subgroup in which at least one partner has a certain degree of choice[14] show that the child penalty on joint leisure time is stronger when neither partner is able to choose their schedule, and weaker when at least one partner is free to choose his/her work hours. The dual constraint of young children's specific routines and imposed working hours reduces joint leisure by 81 minutes per infant, and 32 minutes per preschool child (47 and 16 minutes respectively if one parent has a flexible working schedule). Again, joint leisure time is more sensitive than individual leisure, especially for

[13] Results are not shown here. The same regressions are performed on joint leisure and ratios with the dummy presence of children instead of the number of children by age range.

[14] The sample of couples where both partners have a certain degree of choice is too small to perform separate regression.

couples with constrained work schedules and young children. Their share of joint leisure in total couple leisure time decreases by 14%, twice as much as for non-constrained couples. When a certain degree of flexibility exists, the effect of children is greatly reduced, and it is easier for parents to set aside joint leisure time for themselves.

Finally, the two last columns of Table 6 show that parents with very young children spend 21 extra minutes together performing domestic tasks. This higher synchronization of domestic chores can be interpreted in two different ways. Firstly, since partners with children are more likely to perform a greater number of domestic tasks, they are more likely to perform these at the same time. Secondly, they may also choose to synchronize these activities. They could specialize in different domestic chores (e.g., one may iron while the other cooks) as a mean to improve efficiency to compensate for their time shortage. They may also do the same thing together on purpose (such as preparing meals). Since parents enjoy less leisure and less rest time together, they may deliberately attempt to spend time together during domestic activities, and these activities may contain an interactive dimension.

To summarize, having children, especially young ones, severely curtails spouses' joint leisure time, whereas it increases domestic time synchronization. We obtain the same result as Hallberg (2003) using Swedish data. Both effects cancel each other out when we use a crude definition of synchronized time, such as Hamermesh's. With that approach, synchronized time is more heterogeneous and less sensitive to children than with the others.

5. DISCUSSION AND CONCLUSION

This paper investigates the impact of children on the joint leisure time of fully employed dual-earner couples. It aims to evaluate an underestimated form of child cost, i.e. the desynchronization of the father's and the mother's schedules. Using French time-use data, the paper shows that having children has no effect on each parent's individual leisure, but a negative effect on the couple's joint leisure time. These results are observed when a precise

definition of leisure is used, distinguishing housework from leisure which is not always done in economics. The exclusion of housework is essential because it tends to increase with the presence of children, especially young ones, and this rise tends to be cancelled by the decrease of leisure. Full-time working parents with one child under 3 enjoy one hour less of joint leisure per day than childless couples. This leisure time reduction also occurs during weekends, i.e. even when spouses are not constrained by working hours and can manage their time more freely. This huge squeeze in joint time reflects the burden children represent, as well as the specific time constraints imposed upon parents by young children, which make it more difficult to arrange time together. As children grow older, they take part in the leisure activities enjoyed by the whole family. But the negative effect is also observed for teenagers, whose parents enjoy about 10 minutes less joint leisure per day. Thus, a desynchronization of leisure activities is observed in the presence of children, whatever their age.

Parental schedule adjustments are highly limited by work constraints, job schedules being relatively inflexible in France. When both partners have work schedules imposed by the employer, they have to give up more joint leisure than other parents. The combination of work and child constraints on those couples implies that the cost of children is slightly higher for them than for others. These results hold for full-time dual-earner parents, who are those with the greatest time constraints. Working part-time may be a strategy to maintain joint leisure, but at the cost of a reduced income and lower career prospects.

Parents have difficulties in coordinating their schedules in order to spend time together. Because of adjustments and coordination costs, having children curtails joint leisure to a greater extent than individual leisure, even if parents prefer the former. Higher productivity in household production might help reduce the loss of joint leisure time resulting from the presence of children. But our results show that the greater synchronization of domestic tasks in the presence of children does not compensate for the loss of joint leisure time. Even it is

tempting to interpret the greater synchronization of production activities when children are present as a voluntary response to time constraints in the form of a greater division of labor, we cannot exclude the possibility that beside adjustment costs, some other mechanisms may be at work. The results show that parents spend more time performing domestic activities together, which suggests that the presence of children might generate a substitution from joint leisure to joint domestic time by reducing leisure and increasing domestic work. Our results could yet be interpreted as a strategy to maintain time together, even if it is not leisure time.

As presented at the beginning of the paper, the gains of marriage encompass the pleasure of spending time together, with a proven preference for leisure time spent jointly, and the division of labor. The decrease in common leisure time might as well not be offset by higher productivity in household production. This desynchronization of leisure activities can generate an additional child cost, which should be financially estimated and added to the other forms of child cost. Moreover, most of the schedule adjustments caused by the presence of children are not only expressed by modifications in the volume of domestic tasks (more housework activities, less leisure time) but also by increased dissatisfaction in their realization: the shortening of leisure time is combined with greater aloneness because the partner is occupied elsewhere. This last component of the child cost is very subjective and difficult to evaluate.

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Table 1: **Time use by presence of children (minutes/day)**

	Total			*Weekday*			*Week-end*			*Difference with - without children*		
	Total	Without children	With children	*Total*	Without children	With children	*Total*	Without children	With children	*Total*	*Week-day*	*Week-end*
Men												
Working time	384	389	377	502	501	503	120	124	115	-12	2	-9
Domestic time	169	159	180	135	123	150	244	244	244	22***	27***	0
Leisure time	343	348	338	277	288	263	492	491	494	-10	-25***	3
Women												
Working time	323	343	298	423	438	403	99	117	80	-45***	-35***	-37*
Domestic time	265	243	292	232	207	262	340	328	353	49***	55***	25
Leisure time	289	288	289	242	246	237	394	390	398	1	-9	8
N	1322	696	626	942	503	439	380	193	187			

Data: INSEE, Time Use Survey, 1998-99, full-time working spouse
***,**,* Significant respectively at the 0.01,0.05,0.1 level

Table 2: **Time synchronization for childless couples and parents (minutes)**

	Total	*Weekday*				*Week-end*				*Difference with - without children*	
		Total	Without children	With children	With children <3	Total	Without children	With children	With children <3	Week-day	Week-end
Simultaneous non-working time	953	814	817	811	835	1,263	1,250	1,277	1,279	-6	26**
Joint leisure time	183	134	144	121	110	293	292	293	270	-22***	2
Identical joint leisure time	150	112	121	101	91	236	236	235	224	-19***	-1
N	1322	942	503	439	119	380	193	187	43		

Data: INSEE, Time Use Survey, 1998-99. Full-time working spouses
***,**,* Significant respectively at the 0.01,0.05,0.1 level

Table 3: **Share of joint leisure time within couple total leisure time (%)**

	Total	Without children	With children	With children <3	*Difference with - without children*
Total	40.5	41.8	38.9	35.8	2.9**
Weekday	35.9	37.9	33.4	31.6	4.5***
Week-end	50.8	51.1	50.4	46.4	0.7

Data: INSEE, Time Use Survey, 1998-99. Full-time working spouses
***,**,* Significant respectively at the 0.01,0.05,0.1 level

Table 4: **Children's effect on synchronization (OLS)**

	Simultaneous non-labor time		Joint leisure time		Identical joint leisure activity	
	(1a)	(1b)	(2a)	(2b)	(3a)	(3b)
Having children	-18.576**		-35.799***		-32.276***	
	(8.035)		(7.215)		(7.207)	
Number of children aged:						
Under 3		-9.610		-56.379***		-55.851***
		(10.942)		(9.781)		(9.789)
From 3 to 5		-13.412		-23.457***		-23.522***
		(9.786)		(8.747)		(8.754)
From 6 to 12		-13.593**		-14.878***		-17.733***
		(6.373)		(5.697)		(5.701)
From 13 to 18		-15.886***		-8.851*		-10.753**
		(5.344)		(4.777)		(4.781)
Constant	1,212.081***	1,167.977***	113.629	191.197**	132.317	182.275*
	(100.775)	(106.255)	(90.492)	(94.977)	(90.392)	(95.053)
R2	0.88	0.88	0.48	0.48	0.37	0.36
Observations	1322	1322	1322	1322	1322	1322

Data: INSEE, Time Use Survey, 1998-99. Full-time working spouses. Others covariates are displayed in table 5.
Standard errors in parentheses, ***,**,* Significant respectively at the 0.01,0.05,0.1 level

Table 5: **Determinants of individual total leisure, leisure alone, and joint leisure (OLS)**

	Total Leisure		*Leisure alone*		*Joint leisure*
	Woman	*Man*	*Woman*	*Man*	*time*
Number of children aged:					
Under 3	-53.418***	-40.940***	2.961	15.438	-56.379***
	(10.174)	(11.595)	(7.950)	(11.011)	(9.781)
From 3 to 5	-25.808***	-7.869	-2.351	15.588	-23.457***
	(9.099)	(10.370)	(7.110)	(9.847)	(8.747)
From 6 to 12	-14.902**	-14.615**	-0.024	0.263	-14.878***
	(5.925)	(6.753)	(4.630)	(6.413)	(5.697)
From 13 to 18	-5.196	0.616	3.656	9.467*	-8.851*
	(4.969)	(5.663)	(3.883)	(5.378)	(4.777)
Married	-6.420	-5.955	0.825	1.290	-7.245
(ref=cohabitant)	(8.363)	(9.531)	(6.535)	(9.051)	(8.040)
Mean age	4.490	3.488	3.855	2.853	0.635
	(3.563)	(4.061)	(2.784)	(3.857)	(3.426)
Mean age squared	-0.074*	-0.047	-0.043	-0.016	-0.031
	(0.043)	(0.049)	(0.034)	(0.046)	(0.041)
At least 1 night work	0.376	-11.491*	16.560***	4.693	-16.184***
(ref= 2 day workers)	(6.025)	(6.867)	(4.708)	(6.521)	(5.792)
At least one work schedule constrained	-8.585	-15.949*	6.300	-1.063	-14.886**
(ref= 2 free)	(7.613)	(8.677)	(5.949)	(8.240)	(7.319)
Man's working minutes	0.064	-0.415***	0.128**	-0.351***	-0.064
	(0.068)	(0.077)	(0.053)	(0.073)	(0.065)
Woman's working minutes	-0.354***	-0.032	-0.198***	0.124**	-0.156***
	(0.057)	(0.065)	(0.045)	(0.062)	(0.055)
Man's hourly wage in log (francs)	22.985	0.021	4.759	-18.205	18.226
	(16.149)	(18.405)	(12.619)	(17.478)	(15.526)
Woman's hourly wage in log (francs)	-0.707	3.776	-5.085	-0.602	4.377
	(11.231)	(12.800)	(8.776)	(12.155)	(10.798)
Income from property (dummy)	-3.408	-8.855	0.899	-4.548	-4.307
	(7.810)	(8.900)	(6.102)	(8.452)	(7.508)
Home-owner	-10.059	-3.281	-19.487***	-12.709*	9.428
	(7.075)	(8.063)	(5.529)	(7.657)	(6.802)
Woman low educated	-6.165	-6.224	-4.305	-4.364	-1.860
(ref=medium)	(9.740)	(11.100)	(7.611)	(10.541)	(9.364)
Woman high educated	10.531	-18.549	16.467**	-12.613	-5.936
	(10.319)	(11.761)	(8.064)	(11.168)	(9.921)
Man low educated	-5.705	9.622	-19.388***	-4.061	13.683
(ref=medium)	(9.213)	(10.500)	(7.199)	(9.971)	(8.857)
Man high educated	-10.927	15.232	-16.847*	9.312	5.920
	(12.999)	(14.814)	(10.157)	(14.068)	(12.497)
Saturday	32.336	20.236	-27.958	-40.058	60.294***
(ref=week day)	(24.073)	(27.435)	(18.811)	(26.053)	(23.144)
Sunday	96.077***	80.983**	-16.214	-31.308	112.291***
	(28.787)	(32.807)	(22.494)	(31.155)	(27.675)
16/02 to 29/03	-13.106	-11.337	9.883	11.652	-22.989**
(ref= 04/01 to 14/02)	(12.159)	(13.858)	(9.501)	(13.159)	(11.690)
30/03 to 10/05	17.412	-2.165	8.011	-11.567	9.401
	(12.133)	(13.828)	(9.481)	(13.131)	(11.665)
11/05 to 21/06	9.836	24.520*	-1.321	13.363	11.157
	(11.707)	(13.342)	(9.148)	(12.670)	(11.255)
22/06 to 02/08	19.758	7.489	-8.289	-20.558	28.047**
	(12.565)	(14.320)	(9.818)	(13.598)	(12.080)
17/08 to 27/09	1.267	-4.606	-9.598	-15.471	10.865
	(11.648)	(13.275)	(9.102)	(12.606)	(11.198)
28/09 to 08/11	10.427	5.649	9.228	4.450	1.199
	(11.698)	(13.332)	(9.141)	(12.661)	(11.247)
09/11 to 20/12	3.153	8.390	1.222	6.459	1.930
	(11.467)	(13.069)	(8.961)	(12.411)	(11.025)
Constant	247.288**	452.744***	56.091	261.547**	191.197**
	(98.793)	(112.590)	(77.197)	(106.918)	(94.977)
R2	0.52	0.57	0.22	0.15	0.48
Observations	1322	1322	1322	1322	1322

Data: INSEE, Time Use Survey, 1998-99. Full-time working spouses.

Standard errors in parentheses, ***,**,* Significant respectively at the 0.01,0.05,0.1 level

Table 6: **Children's effect on ratios of joint leisure**

	Ratios Joint leisure /…			Bivariate model	
*Ratios *100*	*couple leisure time*	*woman's leisure time*	*man's leisure time*	Joint leisure	Joint domestic time
Number of children aged:					
Under 3	-9.361***	-6.399***	-8.822***	-54.77 ***	21.023*
	(2.056)	(2.420)	(2.377)	(10.949)	(10.510)
From 3 to 5	-3.363*	-1.586	-4.395**	-23.87***	-1.751
	(1.838)	(2.167)	(2.126)	(8.923)	(7.159)
From 6 to 12	-2.336*	-1.817	-2.533*	-13.91***	2.800
	(1.197)	(1.406)	(1.385)	(5.784)	(5.123)
From 13 to 18	-2.369**	-1.384	-2.233*	-9.487*	-10.176***
	(1.004)	(1.181)	(1.161)	(5.368)	(4.126)
Constant	41.240**	59.857**	38.336*	154.930	109.360
	(19.960)	(23.519)	(23.086)	104.231	81.655
R2	0.15	0.19	0.111	0.22	
Observations	1322	1320	1322	1322	

Data: INSEE, Time Use Survey, 1998-99. Full-time working spouses.
Joint leisure /couple leisure time: Joint leisure/ (joint leisure + male individual leisure + female individual leisure)
Joint leisure /woman's leisure time: Joint leisure/ (joint leisure + female individual leisure)
Standard errors in parentheses, ***,**,* Significant respectively at the 0.01,0.05,0.1 level

Table 7: **Children effect on joint leisure during week and week-end**

	Joint leisure time		Ratio joint leisure time/ couple leisure time		Joint leisure time		Ratio joint leisure time/ couple leisure time	
	Week	Week-end	Week	Week-end	Constrained[a]	Not constrained[b]	Constrained[a]	Not constrained[b]
Number of children aged:								
Under 3	-46.593***	-74.112***	-7.381***	-11.735***	-81.079***	-46.875***	-13.645***	-6.627**
	(8.982)	(24.904)	(2.332)	(4.157)	(17.903)	(12.367)	(3.376)	(2.680)
From 3 to 5	-18.723**	-35.077	-2.887	-6.024	-32.500**	-16.084	-4.634	-2.755
	(8.553)	(22.174)	(2.220)	(3.701)	(15.402)	(11.286)	(2.904)	(2.457)
From 6 to 12	-14.644***	-13.710	-2.497*	-1.072	-14.085	-15.412**	-1.765	-2.756*
	(5.138)	(14.643)	(1.334)	(2.444)	(10.042)	(7.146)	(1.894)	(1.554)
From 13 to 18	-10.523**	-6.652	-3.392***	-1.348	-0.813	-11.008*	-0.896	-2.609*
	(4.736)	(12.443)	(1.229)	(2.077)	(8.616)	(6.137)	(1.625)	(1.333)
Constant	191.123**	298.752	42.590**	61.816*	267.542	76.708	33.797	31.197
	(77.153)	(219.043)	(20.027)	(36.559)	(208.940)	(109.557)	(39.397)	(23.550)
R2	0.33	0.31	0.06	0.10	0.42	0.47	0.16	0.12
Observations	942	380	942	380	542	780	542	780

Data: INSEE, Time Use Survey, 1998-99. Full-time working spouses. Others covariates are those displayed in table 5.
Standard errors in parentheses, ***,**,* Significant respectively at the 0.01,0.05,0.1 level
a Both spouses can not command over their work hours scheduling.
b At least one member of the couple is able to adapt his/her own working schedule to the other on.

Appendix A: Description of samples

	All sample (1322)		**Both constrained** (542)		**1 or 2 non constrained** (780)	
	mean	*s.e.*	*mean*	*s.e.*	*mean*	*s.e.*
LEISURE SYNCHRONISATION						
Simultaneous non-labor time	942.94	312.53	956.03	318.32	921.90	304.67
Joint leisure time	178.80	136.53	184.48	140.90	173.42	133.28
Identical joint leisure activity	146.85	123.22	152.77	127.13	141.63	121.41
FAMILY characteristics						
Number of children under 3	0.12	0.35	0.13	0.36	0.11	0.33
Number of children from 3 to 5	0.12	0.34	0.12	0.33	0.11	0.33
Number of children from 6 to 12	0.30	0.57	0.27	0.54	0.32	0.59
Number of children from 13 to 18	0.39	0.65	0.37	0.64	0.41	0.67
Married (ref=cohabitant)	0.78	0.41	0.76	0.43	0.81	0.39
Mean age	40.74	8.74	39.38	8.87	42.15	8.55
Mean age squared	1736.10	708.91	1629.04	703.26	1849.77	714.42
JOB characteristics						
At least 1 night work (ref= 2 day workers)	0.35	0.48	0.32	0.46	0.61	0.49
At least one work schedule constrained (ref= 2 free)	0.78	0.41	1		0.57	0.50
Man's working minutes	393.74	289.66	364.72	283.86	429.40	290.85
Woman's working minutes	326.63	274.10	329.96	272.73	326.44	274.91
Man's hourly wage (francs)	61.70	35.98	55.17	24.91	65.85	41.85
Woman's hourly wage (francs)	55.82	40.09	50.99	29.93	58.85	45.49
Income from property (dummy)	0.19	0.40	0.13	0.34	0.24	0.43
Home-owner	0.67	0.47	0.62	0.49	0.71	0.45
EDUCATION						
Woman low (ref=medium)	0.53	0.50	0.61	0.49	0.51	0.50
Woman high	0.32	0.47	0.25	0.43	0.34	0.48
Man low (ref=medium)	0.62	0.49	0.72	0.45	0.57	0.50
Man high	0.25	0.43	0.17	0.38	0.30	0.46
Day and Season						
Saturday (ref=week day)	0.14	0.35	0.13	0.34	0.15	0.36
Sunday (ref=week day)	0.14	0.30	0.14	0.35	0.14	0.35
02/16 to 03 /29 (ref= 01/04 to 02/14)	0.10	0.30	0.10	0.30	0.11	0.31
03/30 to 05/10	0.14	0.34	0.14	0.35	0.15	0.35
05/11 to 06/21	0.13	0.33	0.12	0.32	0.13	0.34
06/22 to 08/02	0.12	0.33	0.14	0.34	0.11	0.31
08/17 to 09/27	0.13	0.34	0.11	0.32	0.14	0.35
09/28 to 11/08	0.13	0.33	0.11	0.32	0.14	0.34
11/09 to 12/20	0.13	0.33	0.13	0.34	0.12	0.33