# The Impact of Divorce Legislation on Daily Time Allocation

Katie R. Genadek†
Minnesota Population Center
University of Minnesota

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†Correspondence should be directed to:
Katie R. Genadek
Minnesota Population Center, University of Minnesota, Twin Cities
50 Willey Hall, 225 19th Avenue S., Minneapolis, MN 55455, USA
e-mail: kgenadek@umn.edu

**Abstract** Using time diary data from the mid-1970s, the relationship between unilateral divorce and couple-level time allocation is estimated. Married women in states with unilateral divorce are found to be spending less time in household production and core housework than those in states without unilateral divorce, and married men are found to be doing a greater share of housework within families.  This paper also uses cross state and time variation in divorce law by including data from the early 1990s to estimate the effect of the adoption of unilateral divorce on daily time use. The analysis confirms the findings for women in the 1970s, as unilateral divorce is found to significantly decrease time in housework for women.

**1 Introduction**

Between 1950 and 2000 was a time of great change for families in the United States, often marked by the increase in the female labor force participation rate, which rose from 33.9 percent to 59.5 percent[1]. In addition to the dramatic increase in female labor force participation rates, there were social, demographic, and technological changes within the household. These changes include: reduced fertility in married families, advancements in labor-saving technology in home production activities, declining marriage rates, and increased divorce rates. During this time there were also significant changes to divorce law in the United States. Many states switched from a previous fault-based law, which required one of the spouses to be determined at fault for the marriages demise or divorce law where both parties had to consent, to unilateral divorce law where either party could easily leave the marriage. There is an extensive amount of previous research on the change in divorce law that occurred between the 1960s and the 1990s. In the context of the social climate at the time, much of this previous research attempts to explain changes in divorce rates, labor supply and other outcomes, with the adoption of unilateral divorce law.

This previous research suggests that the law change had significant impacts on married women, especially on their employment (Genadek et al 2007, Stevenson 2008) and this is not found for men. Previous research also suggests unilateral divorce changes household dynamics and outcomes including children's well-being and domestic violence (Gruber 2004, Stevenson and Wolfers 2008). An important component of a household is home production, and very few studies have looked at the impact of unilateral divorce law at hours worked in the home (Gray 1998, Parkman 1998). Gray (1998) analyzed women's time use and found that unilateral divorce

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[1] Derived from U.S. Census Bureau, Statistical Abstract of the United States: 2003, Mini-Historical Statistics, No. HS-11. Marital Status of the Population by Sex: 1900-2002

law in conjunction with property laws have differential impacts on married women's time allocation. In some states unilateral divorce law is found to be associated with more household production and in others it is actually associated with less household production. Parkman (1998) also investigated divorce laws and time use, and he found that women are working significantly more hours and spending less time in leisure in states with unilateral divorce. He found no impact of unilateral divorce on the time allocation of men.

This study contributes to the previous literature on the effects of divorce laws by examining whether women and men alter their daily time use in response to unilateral divorce law using a nationally representative time diary data set. This is unlike Gray (1998) that only focused on women and analyzed time allocation based on recall questions. While recall data on time use are generally similar to that of time diary data, the time diary data is often found to be more accurate measure of time spent in activities (Conrath et al. 1983, Frazis and Stewart 2004). Also, the data used in the analyses in this paper have almost 2000 men and women, which is significantly larger than the previous research that used under 200 observations (Parkman 1998). The small data set could be especially problematic for cross state variation. In addition, this research uses multiple analytic methods in attempt to fully utilize the cross state and time variation in state level divorce laws.

The findings for women show that women are actually spending fewer hours in household production and core housework in states with unilateral divorce, and women are doing a smaller share of the core housework within couples. These estimates remain regardless of the underlying property law. The decrease in home production for married women caused by unilateral divorce is confirmed in the difference-in-difference analysis, and this finding is consistent with research suggesting that unilateral divorce is beneficial for women (Stevenson

and Wolfers 2006). The results for men's total time spent in activities are somewhat consistent with previous research, as most of the analysis show that unilateral divorce is not associated with large changes in men's time allocation. However, we do find variation in men's time spent in housework, and considerable increases in the share of the housework married men perform in households with unilateral divorce law in the 1970s.

## 2 Background

Before the 1970s, divorce laws in the U.S., were primarily based on the English common law system and had little variation from one state to another. In the majority of states, a court was required to grant a divorce based on the guilty actions of a husband or wife and to allocate assets accordingly (Weitzman 1985). In 1969, however, California passed a no-fault divorce law. Similar legislation was passed in other states, with many states adopting the Uniform Marriage and Divorce Act[2] (UMDA) version of no-fault divorce law or making variations to its proposed guidelines. These changes occurred throughout the 1970s, and by 1990 most states had some version of a no-fault or unilateral divorce provision in place. Differences in the laws across states persist; some states require mutual agreement between parties before a divorce is granted, and many states require long separation periods before allowing a no-fault divorce[3]. The no-fault and unilateral classification of states varies among research because of the complexity and ambiguity in state divorce laws. However, states with unilateral divorce allow either spouse to get a divorce without consent of the other spouse. This paper is focused on unilateral divorce because of the significant variation in the specifics of no-fault divorce law, and because unilateral divorce law

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[2] The National Conference of Commissioners on Uniform State Act used the California Family Law Act as a guideline for the creation of the Uniform Marriage and Divorce Act. The first version was published in 1970. It eliminated fault from marital dissolution, property allocation, and child placement decisions. It also established a set of rules for a court to use in deciding whether a marriage had broken down (Kay 1987).

[3] For example, Kay (1987) classifies only 15 states as having "pure" no-fault divorce laws, while Freed and Walker (1990) categorize 14 states as having sole no-fault grounds for divorce.

allows for the easiest way to divorce.[4] Table 1 shows year each state adopted unilateral divorce, and the state's corresponding property law.

A number of theoretical models have been proposed by economists (see Mechoulan 2005, Drewianka 2008), and this paper focuses on two sets of models that predict change in household time allocation due to changes in the probability of divorce or changing the bargaining position within the household associated with unilateral divorce law. The first model relies on the decrease in legal costs following divorce law change, which increases the probability of divorce (Peters 1992). The increase in risk of divorce for married couples is predicted to impact time allocation via decreases in investments marriage specific capital and increases investment in human capital or capital that is still valuable following divorce (Becker et al. 1977). Thus, if the adoption of unilateral divorce laws increases the probability of divorce, it is expected that couples in states that adopted the unilateral laws will spend more time working and less time in activities that have less value outside of the marriage, such as elements of housework. However, it is not clear that unilateral divorce increases the probability of divorce. Peters (1986, 1992) found that divorce law change did not affect divorce incidence, while Allen (1992), Friedberg (1998) and Brinig and Buckly (1998) found increases in divorce rates following divorce law change. Wolfers (2006) found increases in divorce rates immediately following changes in state laws, but found little evidence of the effect persisting over time. His results suggest the probability of ever divorcing did not change dramatically following the law changes.

Regardless of the changes in risk of divorce following the divorce law change, it is possible that time spent in household production, leisure and work will change based on how divorce law changes the bargaining position of spouses within a household. Bargaining models

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[4] Dates for the adoption of unilateral divorce are based on Gruber (2004) used because it has become the most commonly used in recent research.

result in different predictions depending on the relative power of the spouses. External threat point models (Manser and Brown, 1980 and McElroy and Horney, 1981) are defined by the spouse's best option outside of the marriage, or threat point.[5] The change in threat point occurs because the unilateral laws make it easier to exit the marriage, making leaving less costly, which in turn, causes outside options for a spouse that wants to leave a marriage more attractive. In the external threat model, unilateral divorce will shift the bargaining power in a marriage to the spouse who wants to leave the marriage from the spouse that is interested in preserving the marriage. The person most interested in leaving the marriage does not actually have to get a divorce for this change to take effect; their bargaining power will be strengthened within the marriage by the change to their threat point. In this case, it is expected that time spent in activities that partner with the most power prefers will increase, possibly more time in leisure and less time spent cleaning or doing laundry.

While the exit threat bargaining model predicts unilateral divorce law will affect time allocation within marriages, the prediction is not easily quantifiable. For example, it is difficult to know which spouse wants to leave, and which activities that spouse prefers. Previous empirical studies have analyzed the effect of unilateral divorce on bargaining power, Gray (1998) finds that unilateral divorce in states with common-law property rights shifts the bargaining power to men and when community property law is in place, bargaining power is shifted to women. Stevenson and Wolfers (2006) argue that unilateral divorce shifts bargaining power to women, because they find a decrease in domestic violence and suicide for females. This paper investigates time allocation differences between married people in states with and

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[5] Internal threat point or "separate spheres" bargaining models (Lundberg and Pollak, 1993) include threat points within a marriage as opposed to external threat points. The internal threat point is a threat that will change the marriage from a cooperative equilibrium to a non-cooperative equilibrium, unlike the threat of divorce in the external threat bargaining models. The internal threat point bargaining models predict little change in household allocation of time with unilateral divorce because changing the ability to get a divorce does not affect the internal threat points within the marriage.

without unilateral divorce laws. The time allocation outcomes of market work, household production, child care, and leisure are used to provide insight into the impact of unilateral divorce law on household dynamics including bargaining power within couples.

**3 Previous Research**

This study is focused on the impact of unilateral divorce law on time allocation of married individuals. The adoption of the law may change actions within household, and it may also impact time allocation by changing the overall divorce risk shortly after the law change. There is an abundance of previous literature on unilateral divorce law and various outcomes, and many of these outcomes influence time allocation. Labor force participation of women is one of the most researched outcomes and possibly the most important determinant of time spent in residual activities for married women. The results have generally been mixed about the direction of the effect of unilateral divorce law on labor supply, with early studies concluding that no-fault divorce law has a negative impact on women's labor supply (Johnson and Skinner 1986). Research using data through the 1970s often concluded that women have higher probability of women participating in the labor force in no-fault states (Peters 1986, Parkman 1992). The property laws within a state have also been found to impact the effect of divorce law change (Gray 1998, Chiappori 2002). Gray (1998) found that no-fault divorce law in a common property law states were associated with decreases in married women's labor force participation, and married women in states with community property laws had significant increases in labor force participation after no-fault legislation was enacted.

More recent research suggests that unilateral divorce increased female labor force participation and hours worked (Genadek et al. 2007, Stevenson 2008). Genadek et al. (2007) found that married women with children are more likely to participate in the labor force in

response to no-fault divorce laws than married women without children, and divorce law changes increase the annual hours worked for women with children. Stevenson (2008) also found a significant relationship between unilateral divorce legislation and increased women's labor force participation, regardless of the underlying property division laws.

In addition to changing married individual's time allocation through work hours, unilateral divorce law is associated with changes in household dynamics that will impact time allocation. Evidence that divorce law affects household dynamics comes from Stevenson and Wolfers (2008), who found decreased domestic violence, partner homicide, and female suicide in states with unilateral divorce. Previous research has also shown that unilateral divorce caused declines in investments in marriage-specific capital (Stevenson 2007). Specifically, increased education for women and reduced home ownership for married couples in states with unilateral divorce could alter how couples spend their time (Stevenson 2007). There is also evidence that unilateral divorce laws may be associated with decreased marital fertility (Drewinka 2006, Alesina and Guiliano 2006, Stevenson 2007). Children have a large impact on time allocation (Kimmel and Connelly 2007) and reduced fertility will decrease, most obviously, time spent in child care.

In addition to the indirect effects of divorce law on time allocation, the relationship between divorce law and individual time allocation has been directly analyzed by two studies. Gray (1998) uses the Panel Study of Income Dynamics (PSID) in 1970 and 1980 to find the effect of unilateral divorce law combined with property laws on married women's time use. The most consistent and significant finding was women in states with community property and unilateral divorce laws spend fewer hours in home production in than married women in states without unilateral divorce laws. The results for leisure hours are less clear, but in community

property states, time spent in leisure increases with the adoption of unilateral divorce laws. His results also show that for women in states with common law property rights, unilateral divorce is associated with more time spend in household production and less hours in market work. These findings are consistent with his hypothesis that unilateral divorce in community property states shifts the bargaining power to wives, and in common law states it shifts it to the husband. However, the findings in the states with equitable distribution property laws, where Gray suggests unilateral divorce is not expected to significantly alter the bargaining power, unilateral divorce is associated with working less hours in market work and slightly more in home production for women.

Parkman (1998) also analyzed time allocation and divorce laws using the Time Use Longitudinal Panel Study, 1975-1981. He performed basic regressions for work hours, house work, child care, and leisure separately for men and women with an indicator for living in a state with no-fault divorce laws on a small cross sectional sample of married men and women in 1981. He concluded that no-fault divorce laws were associated with a greater number of hours worked among married women, and not married men. Living in a no-fault state was also significantly associated with less time spent in leisure, but was not associated with difference in house work or child care for women. From these studies it is not clear how divorce laws effect time allocation, especially for men, and the effect of divorce legislation may also depend on the property laws within a state. This paper reconciles these mixed findings by using multiple methods on time diary data, larger data sets, and a unique couple level data set to analyze the impact of divorce law change on time allocation.

**4 Data**

The first set of analyses in this paper use data from the Time Use in Economic and Social Accounts (TUESA) 1975-1976, obtained from the American Heritage Time Use Study (AHTUS). The TUESA survey includes 1,519 respondents in the first wave of the study, and time diaries were collected up to three more times over the following year. In the time diaries collected, respondents were asked what they were doing throughout the day for a 24 hour period. As well as the time diaries, respondents were asked about economic, social, and household characteristic questions at each wave. There are many benefits to using this nationally representative time diary survey, one of which is that the 1975-1976 is the only US time dairy survey that collected time diary data from spouses. Couple-level diary data allows for household level time allocation analysis, and this is especially appealing for understanding the impacts of divorce law on household dynamics. The timing of this survey is useful for the analyses because most of the states had recently adopted the unilateral divorce laws (see Table1); however, it does have the drawback of not encompassing all of the change during this period.[6] In order to fully assess the change in time allocation due to unilateral divorce law over the period more waves of data are needed. Thus, data from the National Human Activity Pattern Survey (NHAPS), 1992-1994, and the NHAPS follow-up survey, the National Time Diary Study, 1994-1995 are used.[7] While the timing of the data collection does not allow for an analysis of all the states adopting unilateral divorce law, multiple states switched to unilateral divorce between 1976 and 1992.[8]

The surveys used are all slightly different from each other and the time diaries vary in the detail of the activities, but the AHTUS has harmonized the data across surveys. The NHAPS survey was collected between September 1992 and October 1994. Single-day time diaries were

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[6] The respondents were followed up with in 1981 for another round of the survey, but response rates were very low. Parkman (1998) uses the data from the 1981 follow-up survey.
[7] These data sets are used because the U.S. time dairy studies from the 1960s and 1980s omitted the respondents' state of residence.
[8] The states that adopted unilateral divorce between 1976 and 1992 are South Dakota, Utah, Wisconsin and Wyoming.

collected from 7,514 adults, and respondents were asked a limited amount of geographic, demographic, and socioeconomic questions. The NHAPS follow-up time diaries were collected from 1,200 new respondents between July 1994 and July 1995. Marital status was not asked of the original respondents, yet the NHAPS follow up did ask about marital status. Because divorce legislation only applies to married individuals, marital status is essential for the analysis. Thus, marital status is imputed in the original NHAPS data using multiple imputation with demographic characteristics contained in both surveys and the marital status in the follow-up survey.[9]

The samples are limited to married respondents between the ages of 18 and 65. The data used does not include marital histories so it is not possible to see respondents that were married before the laws were in place.[10] Table 2 shows the sample characteristics for men and women of the TUESA sample, and the TUESA sample combined with the NHAPS and NHAPS follow-up sample. The combined file uses one randomly selected day for each respondent in the TUESA sample so it is comparable with the NHAPS samples.

The time allocation measures of interest are created by summing the total minutes spent in the specified activity over the 24 hour period. Activities are segmented in the time allocation categories based on previous time diary studies (Aguiar and Hurst 2007). Four of the time use measures are mutually exclusive, and with the addition of sleep time will sum to the total minutes per day reported by the respondent. *Market Work* contains all time spent in all activities relating to the respondent's job. This includes paid work, working at home, work breaks, meals

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[9] For each respondent, marital status was imputed twenty times using the multiple imputation program in Stata, and the respondents predicted to be married at least 70% of the imputations are coded as married.
[10] The inability to identify recent marriage could impact the results of this analysis. The adoption of unilateral divorce laws will likely have a different impact on current marriages than couples that marry following the adoption of unilateral divorce laws. However, previous research has found labor supply effects for all married women in states with unilateral divorce law, regardless of if they were married before or after the divorce law change. Thus, unilateral divorce may impact the time allocation of all married people, not just those married over the period of divorce law change.

at work, looking for work, and travel related to work. *Household Production* includes all time spent in activities that could be classified as non-market work and activities pertaining to the home and family. The household production activities are: food preparation, cleaning, laundry, home repairs, shopping for household goods and services, caring for other adults, homework or educational activities, and travel related to home production. *Child Care* activities are those where the primary activity is taking care of children. This includes time spent caring for older children, helping children with homework, caring for infants, talking to children, and playing with children. Finally, *Leisure* activities are those that could be considered free time in that the respondent is choosing to spend time in that activity. The obvious activities in leisure include watching television, relaxing, sports and exercise, reading books, listening to music, going to parties, going to the theatre or museums, social activities and hobbies. In addition to the basic leisure activities, time spend in volunteer activities, religious activities, eating and drinking, pet care, and personal care are also included in the leisure time. The final time use measure is *Core Housework* which is a subset of Home Production and includes the basic household activities including food preparation, indoor cleaning and laundry.

Figure 1 shows the average amount of time spent in the time allocation categories by unilateral divorce law and gender. Comparing across gender, men spend more hours on average in market work than women and women spend more hours in household production and core housework. Also, women spend more time in child care. There do not look to be large mean differences in time allocation across divorce law classification, and the greatest differences are between men in states with and without unilateral divorce. Men in the unilateral divorce states are spending slightly less time in market work and more time in household production.

**5 Empirical Strategies**

The first empirical specification uses the cross-sectional 1975-1976 TUESA data where respondents and their spouses are treated as married individuals.[11] This method closely resembles the analysis performed by Parkman (1998), but this data is from a few years earlier and has a much larger sample size.[12] Ordinary Least Squares (OLS) is used to estimate the time use outcomes with an indicator for living in a state with unilateral divorce law and is shown in Equation 1.[13]

(1)     $Y_i = \alpha + \beta_1 law + \beta_i X_i + \beta_d X_d + \beta_s I_s + e_i$

The *law* variable is an indicator if the respondent lived in a state with unilateral divorce laws. The individual control variables $X_i$ include: age, years of education, and employment status. Household-level variables and diary day characteristics are also controlled for in the model ($X_d$) and include: number of children under age 18, number of children under 5, family income, weekend and season.[14] The covariates included control for variation in time allocation by demographic and socio-economic status. For example, more education is associated with more time spent in leisure, market work and childcare (Aguiar and Hurst 2007, Ramey and Ramey 2010). The presence of children is also included because children impact time allocation, and diary day characteristics are included to control for differences across weekend and

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[11] Standard errors account for correlation within households.
[12] The *law* classification used by Parkman (1998) only allowed for states with a no-fault law for more than 2 years to be classified as no-fault. The analysis in this paper will not use the 2 year no-fault restriction. If the law is publicized, the perceived divorce risk increase may be immediate. However, the exact date of the divorce laws enactment is not always easily obtainable, so a unilateral divorce law is considered in effect the year following the year enacted.
[13] OLS is used for the analysis of time allocation outcomes for two reasons. The first is that previous research has found that, with time-use data, OLS produces unbiased results when compared to Tobit and two-part models (kimmel2009). The bias occurs because many activities that people report zero minutes in they may perform on different days of the week, so it is a mismatch in the reference period and the overall period of interest. The second reason is that these broad time allocation activities have very few respondents spending no time in them. For child care and market work, Tobit models may fit better the model than OLS because people that do not work will have true zeros for market work time and most people without children do not spend time caring for children. However, OLS is used for consistency with the other outcomes, and Tobit models were performed as robustness analysis and show similar results.
[14] Race was not included in the first model because the race of the spouse was not collected; however, race of the respondent is included in the second model.

weekdays and seasons throughout the year. $I_s$ represent state-specific dummy variables, and are included to control for possible state level factors that could impact the time allocation outcomes.

The estimation of Equation 1 is performed for all respondents and spouses as individual observations and is estimated for men and women separately. However, using the data at the couple-level provides a greater understanding of unilateral divorce and time allocation within households. Couple-level analysis is used to estimate the proportion of total household time spend in market work, household production, core housework, child care and leisure by spouses. Equation 2 shows the model used, with an indicator for living in a state with unilateral divorce.

(2) $\qquad Y_h /(Y_h + Y_w) = \alpha + \beta_1 law + \beta_h X_h + \beta_w X_w + \beta_d X_d + \beta_s I_s + e_i$

The outcome is the proportion of total time spent in an activity that is done by the husband. In addition to the indicator for living in a state with unilateral divorce, there are three sets of control variables. The first two vectors include the individual characteristics for each spouse and include the same variables as in Equation 1. Also like Equation 1, a set of dairy day and household controls are included in the model. The couple-level analyses will also be performed replacing the divorce law indicator with a set of indicators identifying state property classifications. Gray (1998) found the effects of divorce law vary based on the property law within the state, and following his empirical specification this analysis will create indicators combining property laws and no-fault divorce laws. The property law types include equitable distribution, common law and community property.

The analyses presented are limited in that they are using cross sectional data at one time point. While the data is rich and was collected at the time of changing divorce laws, it is not possible to estimate a causal relationship between the unilateral divorce laws and time allocation.

In order to estimate the effect of unilateral divorce on married individual's time use, a difference-in-difference model is used with the combined TUESA and NHAPS data[15]. The effect of unilateral divorce law on time is estimated by comparing the change in time use of the respondents in states that adopted universal divorce law between the periods to the respondents in states that did not change over the period. The regression specification is presented in Equation 3, and the coefficient on the interaction between the law and year (or 1990 here) is the difference-in-difference estimate.

(3)    $Y_i = \alpha + \beta_1 law + \beta_2 law*1990 + \beta_3 1990 + \beta_i X_i + \beta_d X_d + e_i$

Similar to the first estimation method, the following individual level controls are included in the model to control for demographic and day specific variation across individuals: age, years of education, race, employment status, children under age 18, weekend and season.[16] The weakness of this strategy as it only captures the adoption of unilateral divorce law in four states and the data in the 1990s does not include couples. However, this pseudo experimental strategy provides a causal estimate of the effect of adopting unilateral divorce on married individuals time use.

**6 Results**

Table 3 shows the results from the OLS models estimating the impact of unilateral divorce on the daily time allocation for women and men. Columns 1-5 of Table 4 include the coefficients for living in a state with unilateral divorce when estimating each of the time allocation outcomes for women.[17] The estimate of the association between unilateral divorce law

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[15] In order to make the data compatible with the following time dairy studies, single day diaries were selected at random for each respondent in the TUESA data set.

[16] Data limitations preclude the use of family income and children under age 5 as control variables.

[17] The standard errors are reported in the parenthesis below the coefficients. They are robust and clustered on state and year, allowing for non-independent errors by the state, year and household groups.

and daily time spent in market work for married women is not statistically significant. However, married women living in states with unilateral divorce are found to be spending 87 minutes less in household production and 97 minutes less in core housework per day than women in states without unilateral divorce law. These results show that women living in states with unilateral divorce are not spending significantly different amounts of time in childcare or leisure than women in states without unilateral divorce. The results for men are presented in Columns 6-10 in the lower portion of Table 4 and show that, on average, unilateral divorce is not related to the overall time use of married men. The only coefficients found to be statistically significant (at the 10% level) is on core housework. Married men in states with unilateral divorce are found to spend almost 30 minutes more per day on core housework than married men in other states. The magnitude of the coefficient is relatively large, as the average man in the sample spends 31.6 minutes in core housework per day. The results presented here for men and women suggest that married women spend less time in housework in states with unilateral divorce and that married men spend more time in housework. However, statistically significant differences in the other time use activities between states with and without unilateral divorce law are not found.

The first analysis used the time-dairy data from couples, but treated them as individuals in sex-specific regressions. In order to fully account for couple-level differences in household time allocation in states with and without unilateral divorce, the share of total household time use performed by a husband is estimated. The sample sizes change slightly in each regression because some couples spend no time on the diary day in the specified activity. These observations are not included in the analysis to differentiate the couples where one spouse is doing all of time in that activity in the household form those where neither spouses spends time on that activity. The results for are presented in Table 5, and are similar to the findings from the

individual level analysis. Shown in Column 3 of Table 5, husband's share of core housework is found to be 17.5% more of couple's total housework in states with unilateral divorce. Thus, the converse is also true, married women do 17.5% less of the total core housework in the household in states with unilateral divorce than women in other states. This is the only statistically significant finding for the share of household time use outcomes. It is possible that this decline is fully explained by the large difference in time spent by housework by married. However, the analysis of total household time in home production shows that total time spent in core housework by both spouses is 58 minutes less in states with unilateral divorce.[18] This is about 48 minutes less than the difference found for women in states with unilateral divorce (shown in Table 3). Thus while the large difference in time spent in housework and household production shown in Table 3 for women is behind the finding for couple-level share of housework, it does not explain all of it. Couples in states with unilateral divorce are doing less core housework, and husbands are doing more core housework and a greater share of the total housework. This result provides support for the predictions from bargaining models where power within the couple is shifted to married women. There is little evidence from these analyses of either partner investing more in in human capital by working more hours, as predicted by the first theoretical model described.

Table 4 also shows the results from the analysis with unilateral divorce law in each of the three kinds of property law states, where the comparison group includes respondents living in states without unilateral divorce law. As with the first analysis, most statistically significant findings are for the share of core housework performed by each spouse. Husbands in states with equitable distribution and common law property rights are found to be doing a larger share of core housework than husbands in states without unilateral divorce. The coefficient on the

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[18] Results from this analysis are available upon request from the author.

unilateral divorce with community property is not statistically significant, but does not suggest that husbands are doing less housework in those states than those without unilateral divorce law. The only other statistically significant funding is that men are doing 50% more of the share of child care in states with unilateral divorce and equitable distribution property rights. The theoretical prediction for equitable distribution is ambiguous (Gray 1998), and it is also not clear if time with children is marriage-specific capital or not. In general, however, the division of time allocation within the household does not seem to depend considerably on the property law within that state.

Finally, in an attempt to capture the causal impact of the divorce law change, a difference-in-difference analysis is used with additional data from the early 1990s. Much like the first analysis, this is an individual-level analysis where sex-specific regressions are estimated. The data from the 1990s does not include spousal diaries, or more than one time point per person, so the data includes just one observation per respondent from each sample. The results from the difference-in-difference estimates are presented in Table 5. The top panel includes the estimates for women and the bottom panel displays the results for men. The first coefficient in each panel is the difference-in-difference estimate, or the coefficient on the interaction between year and having unilateral divorce. The direct year and law effects are presented below this. The results show a larger reduction in time spent in household production and core housework for women in states that adopted unilateral divorce. The coefficients are -47.77 minutes and -42.13 minutes for household production and core housework, respectively. This finding suggests that women in states that adopted unilateral divorce over the period compared to those in state without unilateral divorce are spending significantly less time in housework. The difference-in-difference estimate is consistent with the cross sectional estimate shown in Table 3, but the

estimate is smaller in magnitude. The other marginally significant results is that women in states that adopted unilateral divorce spend more than 30 minutes more in leisure that those states that did not, and this is significant at the 10% level. These results again support the bargaining theory described in the background section, and suggest that unilateral divorce shifted the power to women within marriages as they are found to do less housework and spend more time in leisure.

The difference-in-difference estimates for men suggest that adopting unilateral divorce had very little effect on the time-use of married men. The only statistically significant results are at the 10% level and show that unilateral divorce decreased the amount of men's daily time spent in market work (60 minutes) and increased the amount of time spent in child care (10 minutes). The result for work hours could be considered an investment in human capital, providing support for the first theory discussed in the background section where the increased probability in divorce increases investment in human capital. However, this result for men's work hours is only marginally significant, and the direct effect for year and unilateral divorce are not statistically significant.

The drawback of using this method with this data is that only four states adopted unilateral divorce in the period the data captures. The majority states had adopted the law shortly before the first round of data collection, thus it is possible that this analysis is not capturing the full effect of unilateral divorce on housework and other time use. Yet, the results here have a causal interpretation, and the findings are also strikingly similar to what was found in the first analysis. Likewise, the difference-in-difference results continue to show that unilateral divorce shifted the bargaining rights women within the household.

**7 Conclusion**

This study used time diary data to analyze the impact of unilateral divorce legislation on the time allocation outcomes of married men and women. The data used for this analysis come from the mid-1970s, shortly after many states adopted unilateral divorce. This dataset is unique in that it is the only time use study in the United States to capture time diaries for married couples, and this study takes advantage of this by analyzing couples' time allocation within households. The data from the 1970s are merged with time diary data from the early 1990s in order to use the cross state and time variation in the adoption of unilateral divorce to estimate the effect of unilateral divorce on the time allocation of married men and women. The results show that women in states with unilateral divorce law are spending less time in household production and core housework than women in states without unilateral divorce law, regardless of the property law in place. The results also suggest that the adoption of unilateral divorce increased time spent in leisure for married women. Unilateral divorce is found to have little effect on married men's time use, yet the data from the 1970s show that men perform a greater share of total housework within households.

This article contributes to the literature on divorce legislation and household dynamics by providing support the theoretical bargaining models that predict the power within the household shifts to the person in the marriage that wants to leave. The results show that unilateral divorce decreases the amount of time women spend in housework, thus unilateral divorce is found to shift the bargaining power to women. This is consistent with previous research on unilateral divorce and bargaining rights (Stevenson and Gruber 2006, Gray 1998). In addition to contributing to the literature on divorce law and household bargaining rights, this paper provides a more thorough analysis and understanding of how unilateral divorce affects married men and

women's time use than previous research (Parkman 1998). While divorce legislation did not affect many of the time use categories studied here, it was found to have substantial impact on how married couples spend time, especially on housework and possibly leisure, on a daily basis.
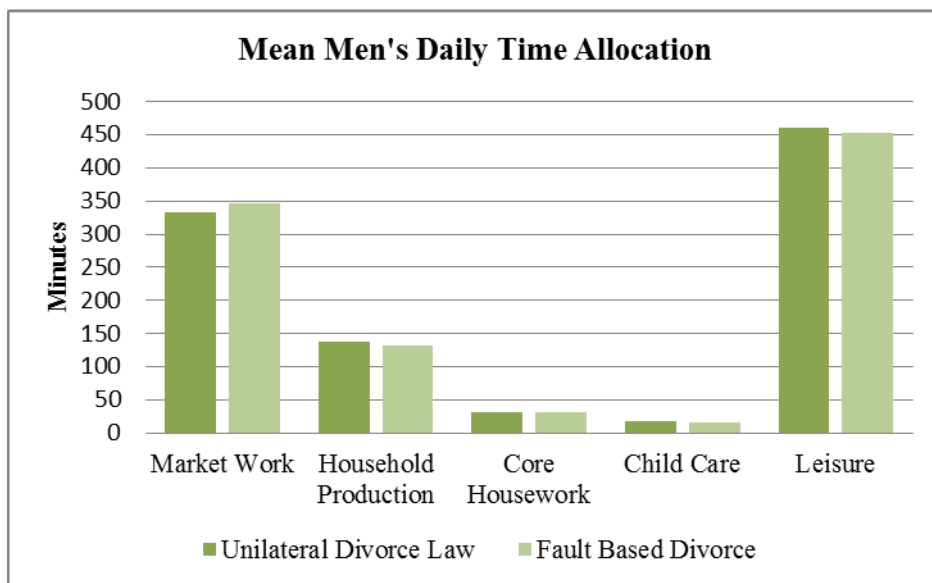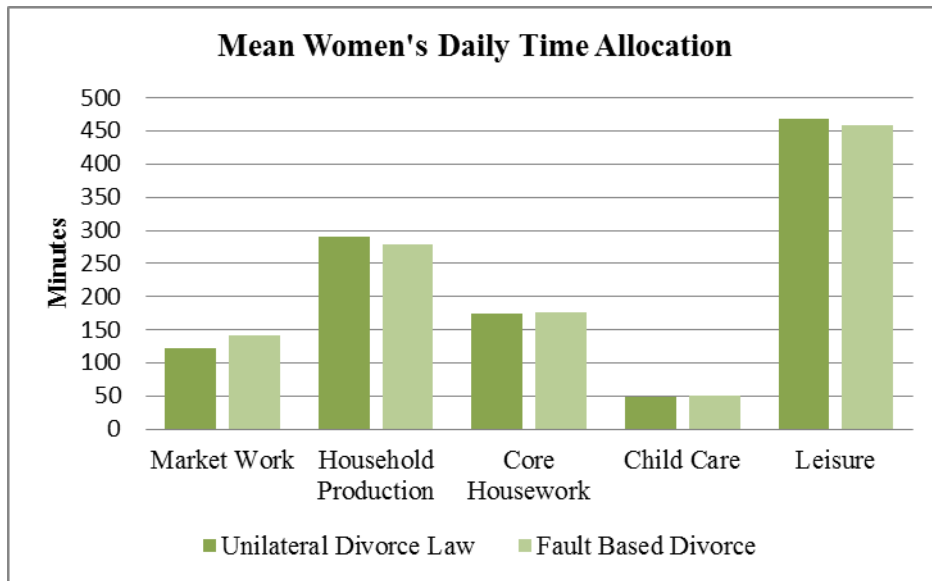
Figure 1.



**Mean Women's Daily Time Allocation**



**Mean Men's Daily Time Allocation**

Table 1. Unilateral Divorce Adoption and Property Law by State

| State | Year Adopted Unilateral Divorce* | Property Law Classification** | State | Year Adopted Unilateral Divorce* | Property Law Classification** |
|---|---|---|---|---|---|
| Alabama | 1971 | common law | Montana | 1973 | equitable distribution |
| Alaska | 1935 | equitable distribution | Nebraska | 1972 | equitable distribution |
| Arizona | 1973 | community property | Nevada | 1967 | community property |
| Arkansas | | equitable distribution | New Hampshire | 1971 | equitable distribution |
| California | 1970 | community property | New Jersey | | equitable distribution |
| Colorado | 1972 | equitable distribution | New Mexico | 1933 | community property |
| Connecticut | 1973 | equitable distribution | New York | | common law |
| Delaware | 1968 | equitable distribution | North Carolina | | common law |
| DC | | equitable distribution | North Dakota | 1971 | equitable distribution |
| Florida | 1971 | common law | Ohio | | common law |
| Georgia | 1973 | common law | Oklahoma | 1953 | equitable distribution |
| Hawaii | 1972 | equitable distribution | Oregon | 1971 | equitable distribution |
| Idaho | 1971 | community property | Pennsylvania | | common law |
| Illinois | | equitable distribution | Rhode Island | 1975 | common law |
| Indiana | 1973 | equitable distribution | South Carolina | | common law |
| Iowa | 1970 | equitable distribution | South Dakota | 1985 | equitable distribution |
| Kansas | 1969 | equitable distribution | Tennessee | | common law |
| Kentucky | 1972 | equitable distribution | Texas | 1970 | community property |
| Louisiana | | community property | Utah | 1987 | equitable distribution |
| Maine | 1973 | equitable distribution | Vermont | | equitable distribution |
| Maryland | | common law | Virginia | | common law |
| Massachusetts | 1975 | equitable distribution | Washington | 1973 | community property |
| Michigan | 1972 | equitable distribution | West Virginia | | common law |
| Minnesota | 1974 | equitable distribution | Wisconsin | 1978 | equitable distribution |
| Mississippi | | common law | Wyoming | 1977 | equitable distribution |
| Missouri | | equitable distribution | | | |

*from Gruber (2004)

**from Gray (1998)

Table 2. Time diary respondent characteristics for married couples

| | 1976 Sample | | 1976/1990 Sample | |
|---|---|---|---|---|
| | Women | Men | Women | Men |
| Age | 36.82 | 39.54 | 43.1 | 44.4 |
| White | 0.954 | 0.917 | 0.911 | 0.888 |
| Black | 0.040 | 0.051 | 0.047 | 0.048 |
| Other | 0.005 | 0.032 | 0.041 | 0.063 |
| Less than High school | 0.202 | 0.226 | 0.085 | 0.084 |
| GED/HS Degree | 0.484 | 0.371 | 0.386 | 0.324 |
| Some College | 0.166 | 0.160 | 0.263 | 0.236 |
| College/Advanced Degree | 0.149 | 0.244 | 0.264 | 0.353 |
| Employed | 0.504 | 1.596 | 0.624 | 0.859 |
| Number of children under 18 | 1.60 | 0.38 | 1.12 | 1.02 |
| Number of children under 5 | 0.38 | 0.92 | - | - |
| Weekend | 0.472 | 0.469 | 0.358 | 0.357 |
| Number of Observations | 1,846 | 1,846 | 1,880 | 1,589 |

Source: Author's calculations from AHTUS data from 1974/75, 1992/95. Sample includes all married respondents between the ages of 18 and 65. Race information only available for half of the 1976 Sample.

Table 3. Regression estimates of unilateral divorce law and minutes per day spent in specified time use activities, OLS Results

| | Women | | | | |
|---|---|---|---|---|---|
| | Market Work | Household Production | Core Housework | Child Care | Leisure |
| | (1) | (2) | (3) | (4) | (5) |
| Unilateral Divorce | 38.69 | -87.13 ** | -97.58 *** | -1.80 | 59.87 |
| | (45.14) | (39.89) | (27.55) | (15.78) | (44.12) |
| Observations | 1846 | 1846 | 1846 | 1846 | 1846 |
| R-squared | 0.438 | 0.181 | 0.158 | 0.344 | 0.249 |
| | Men | | | | |
| | Market Work | Household Production | Core Housework | Child Care | Leisure |
| | (6) | (7) | (8) | (9) | (10) |
| Unilateral Divorce | -24.13 | 24.26 | 29.85 * | -17.17 | 22.70 |
| | (72.17) | (45.23) | (16.95) | (14.36) | (46.87) |
| Observations | 1846 | 1846 | 1846 | 1846 | 1846 |
| R-squared | 0.428 | 0.133 | 0.088 | 0.107 | 0.305 |

Notes: The sample includes all married respondents between the ages of 18-65. The regressions include age, race, educational attainment, employment status, family income, children under age 18, weekend, season, and state-level fixed effects. The standard errors are reported in the parenthesis, and allow for non-independent regression errors within groups defined by state, year and household.

*p<.10; **p<.05; ***p<.01

Table 4. Regression estimates of the relationship between unilateral divorce law and married men's share of household time allocation, OLS Results

| | Market Work | Household Production | Core Housework | Child Care | Leisure |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| Unilateral Divorce | -0.032 | 0.108 | 0.175 *** | -0.180 | -0.008 |
| | (0.11) | (0.08) | (0.22) | (0.16) | (0.02) |
| | | | | | |
| Observations | 1262 | 1842 | 1777 | 1040 | 1846 |
| R-squared | 0.2699 | 0.1266 | 0.0977 | 0.1600 | 0.1132 |
| **Unilateral Divorce by Property Law** | | | | | |
| Unilateral Divorce Equitable Distribtion | -0.155 | -0.041 | 0.283 *** | 0.516 *** | 0.017 |
| | (0.14) | (0.11) | (0.11) | (0.13) | (0.02) |
| Unilateral Divorce Common Law | -0.032 | 0.108 | 0.175 *** | -0.180 | -0.008 |
| | (0.11) | (0.08) | (0.07) | (0.16) | (0.02) |
| Unilateral Divorce Community Property | 0.019 | -0.177 * | 0.139 | -0.074 | 0.001 |
| | (0.13) | (0.10) | (0.09) | (0.07) | (0.02) |
| | | | | | |
| Observations | 1262 | 1842 | 1777 | 1040 | 1846 |
| R-squared | 0.2699 | 0.1266 | 0.0977 | 0.1600 | 0.1132 |

Notes: The sample includes all married respondents between the ages of 18-65. The regressions include age, race, educational attainment, employment status, family income, children under age 18, weekend, season, and state-level fixed effects. The standard errors are reported in the parenthesis, and allow for non-independent regression errors within groups defined by state,

*p<.10; **p<.05; ***p<.01

Table 5. Difference-in-Difference estimates of the effect of unilateral divorce law on daily time allocation

| | **Women** | | | | |
|---|---|---|---|---|---|
| | Market Work | Household Production | Core Housework | Child Care | Leisure |
| | (1) | (2) | (3) | (4) | (5) |
| Unilateral Divorce*1990 | 6.76 | -47.77 *** | -42.13 *** | -7.91 | 36.63 * |
| | (22.47) | (17.71) | (13.44) | (8.39) | (19.87) |
| Unilateral Divorce | -100.93 ** | 60.14 * | -46.25 | -22.28 | 112.82 *** |
| | (46.87) | (34.60) | (34.31) | (35.05) | (41.27) |
| 1990 | 37.54 * | 9.08 | -24.13 ** | 30.18 *** | -54.92 *** |
| | (19.80) | (16.89) | (11.77) | (7.26) | (18.03) |
| Observations | 1880 | 1880 | 1880 | 1880 | 1880 |
| R-squared | 0.427 | 0.186 | 0.208 | 0.293 | 0.223 |
| | **Men** | | | | |
| | Market Work | Household Production | Core Housework | Child Care | Leisure |
| | (6) | (7) | (8) | (9) | (10) |
| Unilateral Divorce*1990 | -60.79 * | 23.15 | -3.41 | 11.28 * | 4.37 |
| | (32.16) | (18.30) | (10.47) | (6.29) | (24.55) |
| Unilateral Divorce | 96.25 | 80.58 *** | 24.81 * | -2.72 | -79.71 |
| | (107.02) | (23.82) | (14.46) | (4.90) | (127.59) |
| 1990 | 27.91 | 24.05 | 16.95 ** | 6.42 | -21.49 |
| | (26.12) | (14.59) | (7.76) | (5.94) | (19.16) |
| Observations | 1589 | 1589 | 1589 | 1589 | 1589 |
| R-squared | 0.470 | 0.177 | 0.105 | 0.108 | 0.327 |

Notes: The sample includes all married respondents between the ages of 18-65. The regressions include age, race, educational attainment, employment status, children under age 18, weekend, and season. The standard errors are reported in the parenthesis, and allow for non-independent regression errors within groups defined by state and year.

*p<.10; **p<.05; ***p<.01

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