Changes in marital status and the time spent on housework

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Draft paper as per 14th September 2007. Please do not quote without authors' permission.

Paper presented at the 29th Annual Conference of the International Association of Time Use Research, October 17–19, 2007, in Washington D. C. (USA).

Abstract

Current research on German men's and women's time spent on housework normally examines actors in already existing couple households by controlling for their marital status in cross-sectional analyses. Rarely, researchers apply a dynamic perspective to study the effects of changes in marital status on the gender specific performance of housework. Not at all, though, has the process of household formation been considered explicitly as a crucial predictor of shifts in time use. Against this background, our paper analyzes the impact of transitions between different marital status on men's and women's time spent on housework for the German case. Using longitudinal data of the German Socioeconomic Panel Study (GSOEP) from 1985 to 2004 we analyze this question by applying event history methods. Doing this, we go beyond the current "state of the art" (a) by studying the transition to couple households as an explanatory factor for gender specific time use patterns, and (b) by utilizing innovative quantitative methods to study the housework time dynamically as a process. In line with the only available (American) study by Gupta (1999) we find that in terms of time spent on housework household formation transitions are more to the men's than the women's advantage. These results are interpreted in favor of the doing gender approach.

Keywords: Marital status, doing gender, time use, housework, longitudinal data analysis, Germany.

In sociological analyses of women's and men's time spent on housework, marital status is seen as one of the most important predictors. Consequently, there has been a lot of research on the distribution of housework time for different household constellations by now (e.g. Coltrane 2000). Own calculations with the German Socioeconomic Panel Study (GSOEP) show, for instance, that married men spent 1.8 hours on housework per day in 2004 compared to 2.1 hours for cohabiting men. For women, the means are 4.3 and 3.3 hours, respectively. All things together, the empirical literature has consistently shown that women, still, do much more housework than men, and that this difference is much more pronounced for married actors (recently Baxter 2005).

Given the broad evidence of the impact of marital status on housework time in international research, it is interesting, though, that there is almost no research on the impact of *changes* in marital status on *changes* of the individual time budgets. Actually, there is only one study to date that has adressed this question explicitly. Using data from the National Survey of Families and Households (NSFH), Gupta (1999) analyzed how men and women change their housework behavior in the processes of forming or leaving coresidential unions. He showed for example that, "with respect to housework time at least, the formation of households with adult partners of the opposite gender remains more to the men's than to the women's advantage" (Gupta 1999, 711). In general, he found strong evidence for the causal impact of changes in marital status on the time spent on housework. With his study, Gupta (1999) responded to two rather obvious problems of current research: the neglect of household formation processes as an explanatory factor for gender specific time use patterns on the one hand, and the rare use of longitudinal data and methods in time use research on the other.

To date, quantitative research literature has merely examined individual time use in *already existent households*. This is problematic insofar, as there is no study for Germany on the effect of household formation processes on housework time. Thus, current literature does not provide substantial knowledge about the *very beginning* of the emergence of gender specific housework patterns in coresidential unions. However, there is no doubt aware that the initial conditions of social processes are of particular importance for their dynamics and trajectories (Blossfeld & Rohwer 2002). Given that social phenomenons are highly path dependent, individual, institutional and historic contraints at the beginning of an intimate relationship are highly relevant for its further development, for example because of routinization effects in every day interaction (e. g. Kaufmann 1997).

Over and above this shortcoming, the dominance of cross-sectional analyses is seen as a major drawback of current research. As Blossfeld & Rohwer (2002) summarized, it is neither possible to study courses and transitions with cross-sectional data, nor to dissect the time dependent mechanisms between causes and effects. However, exactly this would be necessary to examine the interesting changes of time spent on housework during the process of family development, and to adequately operationalize the time dependence of the available theories on household behavior. Recent longitudinal studies on the division of household labor in Germany therefore seem to be considerably fruitful examples for analyzing the causal relationship between marital status and time use (cf. Huinink & Röhler 2005, Schulz & Blossfeld 2006, Grunow, Schulz & Blossfeld 2007b).

Our paper tackles these problems by studying the effects of changes in marital status on changes of men's and women's time spent on housework theoretically and empirically. Therefore, we report the first multivariate longitudinal study of the impact of household formation processes on German men's and women's housework time. The goals of our paper are: (1) Replicating the ideas of Gupta (1999) with German data, (2) modifying his approach by using event history modeling techniques, and (3) assessing the relevance of our findings for the current state of research with a special focus on the potentials and limitations of this approach.

Theoretical background

One important explanation linking marital status to housework time is the concept of (incomplete) institutionalization (Cherlin 1978, Baxter 2005). As classical sociology suggests, actors are embedded in social settings that provide "normative prescriptions for role performance, insitutionalized procedures to handle problems, and easily accessible social support" (Ishii-Kuntz & Coltrane 1992, 217). It is argued that actors usually follow these institutional rules to get around sanctions from their social environment. From this point of view, a married couple might, thus, exercise a traditional housework arrangement, just

because they want to avoid perpetually explaining themselves and their situation to their friends, relatives, and so on. This especially applies to persons or couples that are situated in "deviant" arrangements, for instance if a marriage is arrangend around the wife's career (Greenstein 2000, Atkinson & Boles 1984). Actors in relationships that follow a different principle of cohesion, though, might not be subject to all of the rules associated with the traditional (Parsonian) family (Brines & Joyner 1999). Thus, there is less social control and much more freedom to negotiating individual arrangements with respect to housework performance.

To dynamize this rather static reasoning, Grunow, Schulz & Blossfeld (2007a) introduced the idea of shifting normative frames in the context of family development in their recent study on the division of household labor in the course of marriage. They argue that men and women frame their family situations in their life courses differently, according to institutionally prescribed role models. As for the transition to parenthood, Grunow et al.'s (2007a) example, Germany is a perticularly interesting case to study this phenomenon. Childless couples nowadays define their situations with respect to gender equal fairness *norms*, that is a more equal division of labor at home than their parent's or grandparent's generation. On the other hand, when couples have a child, their normative action frames still shift to the traditional expectation of the mother staying at home and the father being the sole provider, at least for the early years of their child. That goes along with an increasing propensity for women to being responsible for the household. Taken together, the transition to parenthood faciliates shifting frames towards what Grunow et al. (2007a)call complementary gendered fairness norms. In the long run, parents seem to adopt the traditional family model to an ever increasing extent. That is, women and men more and more identify themselves , with regard to marital and family roles traditionally linked to gender" (Greenstein 2000, 323). The same explanation, however, may be applied to household formation processes or the transition to marriage, at least with weaker implications, as spouses or cohabitors do not experience the same normative constraints as parents. But still, one can assume that there are some kinds of cultural expectations of how women and men are supposed to act when living together, especially in Germany's conservative welfare and gender regime (Mühling, Rost, Rupp & Schulz 2006).

An important social mechanism that leads to a better understanding of these considerations is provided by *doing gender theory*. It is the basic idea of this approach that gender is not determined by biological attributes of one's body, nor by role ascriptions that follow these physical characteristics. Gender is rather conceptualized as "a routine accomplishment embedded in everyday interaction" (West & Zimmerman 1987, 125). Following Goffman's (1976) idea of "gender display", women and men actively link their identities to institutionalized gender roles by *emphasizing* female or male traits of behavior in social situations. In doing so, they show themselves and significant others, which sex category they would like to be associated with. The given contextual setting therefore offers a certain amount of possible gender specific behavior which serves as the actors' repertoire on the stage of everyday life (Goffman 1977).

For assessing the relevance of gendered symbolic exchanges in intimate relationships, *housework* is seen as an indicator of central importance. Berk's (1985) metaphor of the heterosexual couple household as a "gender factory" draws attention to the fact that performing or refraining from housework duties is an important means of acting in a gender specific way. By doing certain household chores (e.g. cleaning, cooking, doing the laundry), women not only fulfill reproductive requirements for the household, but also "do gender" by avering female typed behavior. Men, on the other hand, try to accentuate their gender identity by taking the role of the breadwinner, by performing male connoted household tasks (e.g. maintenance, car valeting), and by explicitly avoiding "female housework" (cf. Brines 1994, Shelton & John 1993). Hence, South & Spitze (1994, 344) conclude that "men and women must be 'doing gender' when they live together".

So far, research almost consistently relies on the assumption that the process of doing gender is less important in single than in de facto than in married couple households (cf. Baxter 2005). This holds true especially for Germany, as the social images of manliness and womanliness in partnerships are largely affected by the traditional Parsonian family model that ascribes the household sphere exclusively to women (Mühling et al. 2006). This perception of reality has been confirmed by several empirical studies. For example, Künzler, Walter, Reichart & Pfister (2001) showed with a representative German national sample that single women spend about one hour less on housework per day than women in coresidental unions with a partner of the opposite sex. Also as expected, men's housework time is about two hours higher in a single than in a family household (Künzler et al. 2001, 93). Meanwhile, they didn't find significant differences between various forms of existing unions, for instance between de facto and married couples (Künzler et al. 2001, 94). This finding is consistent with Künzler's (1999) earlier work with data from the GSOEP for 1995, where the form of a union did not have an effect in multivariate time use analyses, either.

However, it is exactly this difference in men's and women's time budgets that led several Anglo-American researchers to attach great importance to the mechanism of symbolic exchanges in couples' every day life (e.g. Baxter 2005, Brines 1994, Brines & Joyner 1999, Shelton & John 1993, South & Spitze 1994). Not only that single women normally spend far less and single men spend far more time doing housework. Most notably it is the gender difference in time use between married and cohabiting partners that is taken as fundamental evidence for the validity of the doing gender approach. In this respect, it has been pointed out that especially women's housework time is highly influenced by marital status. Recently, Baxter (2005) showed with Australian data that cohabiting women spend less time on housework than their married counterparts, and cohabiting men perform more housework compared to married men. These differences remain stable after controlling for other characteristics. In this case, Shelton & John (1993, 406) argue that one can actually "interpret these differences as reflecting the effects of marital status. These differences would support our hypothesis that the production of gender varies by marital status. That is, married women and men 'produce' gender through their production of themselves as wives and husbands, while cohabitors do not." These kinds of interpretations, which are almost solely based on cross-sectional data, have been confirmed to a large extent by Gupta's (1999) longitudinal analysis of the NSFH.

Due to great empirical support, the doing gender theory is very popular in international research when it comes to explaining the time spent on housework (Shelton & John 1996). As this is not yet the case in German research literature, this approach has rather been used to explain previously unexplained variance for quite a long time (Künzler & Walter 2001, 199). That is because most of the available cross-sectional studies rather have found indications for other theoretical mechanisms that focus for example on education, employment, or income as the important predictors of housework time (for a summary of the most important theories and empirical results see Blossfeld & Drobnič 2001, Huinink & Röhler 2005, Schulz & Blossfeld 2006). Recent longitudinal research in Germany, however, has shown that there are indeed serious signs of gendered symbolic exchange in partnerships that go beyond the effects of the transition from cohabitation to marriage on time budgets for housework in their analysis of the pooled GSOEP for 1995–

1999. Yet, Klaus & Steinbach (2002) showed with data from the German Family Survey that the transition to marriage systematically increases men's retraction from housework. The studies on the household division of domestic labor by Schulz & Blossfeld (2006) and Grunow et al. (2007b) support the latter finding using data from the Bamberg Panel Study of Married Couples. Still, an empirical analysis of the effects of household formation processes on the time spent on housework is not available to date, and hence provided here.

For the empirical analysis, thus, we can derive the following *longitudinal hypotheses* for women and men from the doing gender perspective: Men are to reduce their time for housework when they form a coresidental union with a female partner or experience a transition to marriage. In contrast, *women* should increase their housework performance when entering a union or marrying (cf. Baxter 2005, Gupta 1999, Shelton & John 1993, South & Spitze 1994). In detail, the following three transitions are under study, as we can derive these theoretically meaningful hypotheses from doing gender theory: "never married \rightarrow cohabiting", "never married \rightarrow married", and "cohabiting \rightarrow married". If the impact of these transitions on housework time can be confirmed when controlling for other individual characteristics, it can be taken as strong empirical evidence for the relevance of the symbolic exchange mechanism in German couples (Shelton & John 1993, 406). However, as Gupta (1999, 702) pointed out, our hypotheses will be false if (1) men's and women's performances are not affected by changes in marital status, or (2) if their housework time was affected in the same direction. To confirm the hypothesis of doing gender, it will be also necessary to find men increasing, and women decreasing their housework performances when exiting coresidental unions (for more details see Gupta 1999).

Data and method

To empirically test our hypothesis we use the data of the German Socioeconomic Panel (GSOEP) from 1985-2004, that is a data set of 20 panel waves (see Frick 2005).¹ We include the following subsamples in our analysis: persons with German citizenship were selected of sample A (West-Germans), C (East-Germans), E (refreshment sample) and F (innovation sample). We select only Germany citizens because foreigners would need a special consideration because of differences related to cultural backround, living forms, and so on, which is not possible to give within the scope of this analysis. This applies accordingly for homosexual couples. The Highincome sample is not used because there are only two waves available yet. After all selections, our sample consists of 182,792 observation points, 95,393 for women and 87,399 for men.

This German sample is used, first, to replicate Gupta's (1999) study and, second, to apply an event history design to extend Gupta's (1999) work. Wheras Gupta (1999) analyzed only one transition between two living arrangements and the impact on time use for housework on the basis of the two waves of the NSFH from 1987/1988 and 1992/1993, the GSOEP covers 20 waves. In our selected observation window from 1985 - 2004, it is possible to analyze up to 19 transitions per person. Another advantage in comparison to the American reference study is that the gap between the panel waves is just one year, which enables us to get a little bit closer to the dynamic of the process than it is possible with a gap of five years like in the NSFH (see also the analysis on the basis

¹ The first wave is characterized by particuliarities related to certain questions and is therefore excluded from our analysis. Especially the time use on housework and childcare was asked in a single category.

of the GSOEP data of Huinink & Röhler 2005, Gershuny 1996). Following the work of Schulz & Blossfeld (2006) and Grunow et al. (2007b) on division of household labour in the course of marriage, the dynamics of housework time is regarded as a process, which consists (retrospectivly) of single episodes. These episodes are affected by events in other parallel processes, like for example changes in marital status.

Our basic understanding of causality is that theoretically important events (here: the changes of the living situation, ΔT , and other relevant variables, X) in the past, influence the probability (ΔPr), due to an assumed causal mechanism (here: doing gender), that the dependent variable Y (here: time use for housework) changes at a later point in time (Blossfeld & Rohwer 2002, 29):

$$\Delta T_t | X_t \longrightarrow \Delta \Pr(\Delta Y_{t'}) \qquad \text{for } t < t' \tag{1}$$

In our example, we therefore assume that changes in marital status and the household composition normally precede the changes of time spent on housework (Gupta 1999, 701). It should be the process of moving together that confronts the actors with the problem of dividing household tasks and developing durable and stable arrangements of everyday life (for empirical evidence see Kaufmann 1994).

For that particular understanding of social reality, event history analysis seems to be an adequate method as this approach enables us to analyze the time dependent patterns of the correlation between events of different processes (cf. Allison 1984, Blossfeld & Rohwer 2002). To extend our replication analysis we apply event history models. Because of the design of the GSOEP data set the empirical analysis is based on *event history models* for discrete time axes (Allison 1984). Here the dependent variable is binary and indicates if an event – in this case a change in the time use for housework – happens between two panel observation points or not. The rate can then be interpreted as the conditional probability for a change at point t, under the condition that so far no event has occured: $r(t) = \Pr(T = t | T \ge t)$.

Modeling changes of time spent for housework we refer to the logistic regression model described in equation 2. The time dependant rate r(t) represents the actors' propensity to change their time use in a certain direction ($\Delta Pr(\Delta Y)$, with ΔY either > or < 0), dependent on the change in their living arrangements (ΔT), time-constant (X_1) and time-variant variables ($X_2(t)$) and the initial level of the time use (Y).

$$r(t) = \log\left(\frac{\Pr(t)}{1 - \Pr(t)}\right) = \beta_0 + \beta_1 \Delta T + \beta_2 X_1 + \beta_3 X_2(t) + \beta_4 Y + \epsilon$$
(2)

Applying this method one has to notice that the *direction* of the dependent process has to be distinguished. Grunow et al. (2007b) showed in their analysis that processes of traditionalization and modernization of the division of household labour (relative increase or decrease of men's share of total housework) are not driven by the same social mechanism just with opposite signs. Therefore we estimate different models for the *propensity* of women and men to decrease or increase their time use for housework in the course of household formation processes. That idea fits our working hypothesis of doing gender theory, which basically focuses the propensity of the change in a certain *direction*, and not the extent of the change. Finally, we want to point out that the model used is a multiepisode model, so that there could be more than one spell for a respondent, if they occur with multiple completed, and not right censored episodes in the observation window (Blossfeld & Rohwer 2002). Against this backround, the *dependent process* is constructed as the change in the individual time use for housework and errands. The first episode of a person starts, when a valid value $(Y \ge 0)$ was recorded for the first time. The accordant variable was generated on the basis of the time use data of the GSOEP (Merz & Rauberger 1993).² The end of an episode is given per definitionem by the occurrence of an event. An event is defined as a change of the time spent on housework of at least one hour per day. We do distinguish between two directions: (1) an increase, and (2) a decrease of housework time. Measuring time budgets in complete hours means, however, that smaller changes in time use (for example of half an hour) are not included because of the survey design. We therefore expect a systematic underestimation of the real change (cf. Marini & Shelton 1993). If there is no event, these episodes are included as right censored episodes. Left censored episodes are excluded from the analysis, because there is no information about the starting point of the respective episode. This leads to the problem that the duration of staying in the origin state cannot be measured adequately.

The main independent variable is the change in marital status and cohabitation. We distinguish five states: never married and living in a single household, cohabitating, married and living together, divorced and living in a single household and widowed and living in a single household. By combining this states we get 16 possible transitions. Transitions from married, divorced or widowed to never married or from cohabiting to widowed, from never married or cohabiting to divorced or widowed are not possible. As specified in the theoretical part we especially focus on three of these sixteen transitions: "never married \rightarrow cohabiting", "never married \rightarrow married", and "cohabiting \rightarrow married".

Besides the changes in marital status, several factors are discussed in literature to have an effect on the individual time use patterns with regard to housework (for an overview, cf. Blossfeld & Drobnič 2001, Künzler 1999, South & Spitze 1994). We control for the following factors: The initial level captures the hours spent on housework at time t. It is important to control for this level because of possible floor and ceiling effects. Additionally, we control for linear age, educational level (years needed to receive a certain graduation), hours in paid work (hours per day), individual income (in 1.000 Euros), as well as the East and West German region. Parenthood, that is expected to have a strong effect on the development of housework, is operationalized by three time dependent dummy variables, which point out if there lives a child between zero and three years, four and six years or seven to sixteen years in the household or not (ref. no child in the household). Over the years the response categories were changed; a dummy variable, which gives information about the point in time of this modification, is added to the set of controls.

Results

In this section, we present our empirical results. We start with some descriptive results, then comment briefly on our replication of Gupta's (1999) proceedings. Following this, we present the results of our extension applying event history methods, and using different controls than our study of reference to examine the effects of union formation processes on men's and women's housework time.

² The question of the GSOEP is since 1985: "What is a typical day like for you? How many hours do you spend on the following acitivities on a typical weekday, Saturday, and Sunday? – Please give only whole hours. Use zero if the activity does not apply!" The response categories were changed over the years, the modifications were therefore controlled by a dummy variable.

Descriptive results

Tables 1 und 2 show the average changes of time spent on female housework per day for women and men, respectively. The means are given by changes in marital status, using pooled panel data to aggregate all changes between two consecutive panel waves. Due to very different cell weights, only a few means differ statistically significant from zero. Nevertheless, the reported average changes clearly support the implications of our doing gender hypothesis, indicating that men decrease their housework time when entering a coresidental union or marrying. Women, on the other hand, increase their housework performance in the course of the crucial transitions.

		Never married	Cohabiting	Married	Divorced	Widowed
Never married	\overline{x}	-0.01	0.30	0.97	n. p.	n.p.
	s_x	1.43	1.66	2.21		
	n	3.097	186	61		
Cohabiting	\overline{x}	-0.15	0.03	0.42	n. p.	n. p.
	s_x	1.52	1.84	2.02		
	n	191	4.589	813		
Married	\overline{x}	n.p.	-0.06	-0.00	-0.13	-0.93
	s_x		2.45	2.05	2.66	2.19
	n		72	48.718	16	345
Divorced	\overline{x}	n.p.	0.31	0.94	0.01	n. p.
	s_x		1.44	2.38	1.73	
	n		29	16	2.289	
Widowed	\overline{x}	n.p.	-0.75	n.c.	n. p.	-0.10
	s_x		1.97			1.83
	n		20			6.602

Table 1: Changes of women's housework hours by changes in marital status

Notes: Rows: Marital status in wave t; columns: marital status in wave t + 1.

Abbr.: n. p. := "impossible transition"; n. c. := "no cases".

Source: GSOEP 1985-2004 (pooled data); own calculations.

After a transition to a couple household, that is to cohabitation or marriage, women do more housework than men on average. Whereas men reduce their time by 4 or 8 minutes per day, women increase their time by 18 or 58 minutes respectively. It appears that, on the one hand, the total amount of housework to be done increases when two actors form a union. On the other hand, this additional housework is devided asymetrically between the partners. In addition, the difference is larger for the transition to marriage than to cohabitation. Following Baxter's (2005) interpretation, this can be seen as clear evidence for the significance of gendered interaction patterns in every day life: "to the extent that the gender gap in time and responsibility is larger between married partners, this suggests that doing gender is more important here than in other kinds of relationships" (Baxter 2005, 319). In line with Cherlin's (1978) concept of incomplete institutionalization, Baxter (2005) concludes that gendered processes of symbolic exchange are much more important in relationships that are subject to principles of specialization (cf. Brines & Joyner 1999). Given the German normative context, this is indeed true for marriages compared to de facto relationships (e.g. Mühling et al. 2006). South & Spitze (1994) report a similar finding by deducing the importance of doing gender from the differences of men's and women's time spent on housework in different marital constellations.

		Never married	Cohabiting	Married	Divorced	Widowed
Never married	\overline{x}	0.03	-0.07	-0.14	n. p.	n. p.
	s_x	1.37	1.86	1.25		
	n	3.385	221	58		
Cohabiting	\overline{x}	0.25	0.00	-0.15	n. p.	n. p.
	s_x	1.44	1.51	1.43		
	n	213	4.488	829		
Married	\overline{x}	n.p.	0.01	0.04	0.48	0.70
	s_x		1.42	1.43	1.25	2.88
	n		72	48.777	48	133
Divorced	\overline{x}	n.p.	-0.30	-0.33	0.03	n. p.
	s_x		1.38	0.82	1.56	
	n		69	24	1.437	
Widowed	\overline{x}	n.p.	-0.69	-1.00	n. p.	-0.14
	s_x		2.06	4.62		1.81
	n		16	10		1.129

Table 2: Changes of men's housework hours by changes in marital status

Notes: Rows: Marital status in wave t; columns: marital status in wave t + 1.

Abbr.: n. p. := "impossible transition".

Source: GSOEP 1985-2004 (pooled data); own calculations.

Moreover the two crosstabs show that the mean changes of transitions to the same marital status, that is, for example, staying married from wave t to wave t+1, are throughout rather small. For women and for men these changes do not exceed eight minutes per day. It is interesting, though, that the changes are almost identical for both sexes. This might suggest that relatively stable arrangements between two partners emerge already at the very beginning of their union formation and cannot be explained by relationship duration alone. This finding supports the hypothesis of Schulz & Blossfeld (2006) and Grunow et al. (2007b), who found that marriage duration decreases the propensity to change arrangements of the division of household labor in Germany.

Replication

Table 5 shows the results of our replication of Gupta's (1999) analysis with German data. We therefore used linear fixed-effects panel regression to estimate the changes in female housework hours for women and men, using the very same variables (for a full description cf. South & Spitze 1994). Unlike Gupta (1999), we had not only two but up to 20 panel waves per respondent to estimate the impact of marital status transitions on the performance of housework. We present two models for women and men, the first containing only the variables indicating transitions in marital status, and the second with all other controls.

With respect to our theoretical question we first look at the effects of transitions in marital status, compared to the effects of remaining in a given status (see more details below). Our replication suggests that only the transition to marriage seems to have the expected impact. For men, the coefficient for the transition from cohabitation to marriage is significant, the coefficients for the household formation processes are not. Yet, the coefficients have the expected signs. For women, at least the transitions from never married and cohabitation to marriage yield the expected results. In contrast to Gupta (1999, 710), who concluded "that the fact of entry into a coresidental union is of greater consequence for housework time than the form of that union", we *tentatively* have to restrict our interpretation to the transition to marriages. Considering the still high appreciation of the traditional family image in Germany (Mühling et al. 2006), this seems to be plausible after all, as the gender order of housework seems to be more rigid in these constellations.

A comparison of models 1 and 2 in table 5 shows, for men and women respectively, that the transitions in marital status are not affected greatly by the additional control variables. For both genders, only one coefficient substantially changes its significance when controlling for other possible influences. For women, for example, the transition from never married to married is no longer significant in model 2. This is due to the close relationship of this transition with the transition to parenthood (cf. Gupta 1999, 708). Altogether, though, our models do not explain a lot of the dependent variable's variance (see the really low values for \mathbb{R}^2). The reason for this is the low variance of our independent variables themselves. As we measure changes between two panel waves which are one year apart, the change in most of the cases is zero, that is the proportion of respondents that actually experience a change is very low.

Nevertheless, we find three plausible effects of the control variables here. First, the change in the number of children aged 0 to 4 years has a positive effect on women's and a negative one on men's housework time. This finding is in line with many German studies that emphasize the impact of the transition to parenthood as the most important factor with respect to the division of household labor (recently Schulz & Blossfeld 2006, Grunow et al. 2007b). This result, thus, supports the view that the birth of a first child is the major cause for traditionalization. Additionally, a change in employment hours is significantly associated with housework time for both genders. The more time men and women spent on paid work, the less housework they perform. Again, this finding is well documented in current German resarch (e.g. Huinink & Röhler 2005). The third mentionable coefficient is "entry into education", which reduces housework time significantly. This is plausible insofar, as education binds time, just as employment does, on the one hand, and is normally given a higher value than housework on the other.

However, with the following analysis, we go beyond this replication to even better assess the dynamics of housework time. To do so, we apply event history methods as they are suited best for studying highly dynamic phenomena like housework. Event history methods rather focus on *propensities of change*, making this approach more probabilistic. As doing gender theory suggests, a shift in contextual frames might change the probability of women and men to act in a gender specific way. Additionally, the propensity of doing gender depends on the actors' past experiences and present situation, which can also be considered in this approach (Blossfeld & Rohwer 2002).

Extension – the dynamic analysis

As a second step we present the findings of our event history analysis. As noted earlier, we differentiate between two processes of possible change: increase and decrease of time spent on housework of men and women. Tables 6 and 7 in the appendix show regression models of the propensity to increase or decrease the time spent on housework by at least

one hour per day. The first models contain only the changes in marital status and the two basic control variables ("initial level" and "modified question"); the second models additionally contain all other controls.

As does Gupta (1999, 704-707), we focus on the influence of the change of the living arrangement in comparison to the initial state, for example the effect of the transition from "never married to married" in comparison to "staying never married". The respective coefficients are calculated on the basis of the models with covariables (in each case model 2) of table 6 or table 7. The propensity of women to increase their time spent on housework in the course of the transition just mentioned is to be calculated as the difference of the coefficients: 0.39 - (-0.85) = 1.24. The statistical significance is given by means of a t-test for the equality of the two coefficients. The coefficients of interest are summarized in tables 3 and 4. They do not represent the breakdown of changes in housework hours as in the crosstabs above, but rather the propensity of the actors to change their time use in the given direction.

Following doing gender theory, we expect that the propensity to increase the time spent on housework should increase for women in the course of a household formation, because they are said to illustrate their feminity with regard of the predominant mental map of the family. Accordingly, we expect that the propensity of men to decrease their time spent on housework should increase, too, for that they demonstrate their gender identity particularly by avoiding housework (Berk 1985, Brines 1994). Table 3 shows the respective regression coefficients for household formation processes.

		Women	Men				
	Propensity	to increase housework time	Propensity to reduce housework time				
	Cohabiting	Married	Cohabiting	Married			
Never married	$0,47^{***}$	1,24***	0,28*	0,90***			
Cohabiting	ref.	0,55***	ref.	0,29***			
Divorced	-0,09	0,18	0,47*	0,51			
Widowed	0,52	n. c.	1,34**	1,39**			

Table 3: Effects of entry into coresidental unions on the propensity to change housework time

Significance: * $p \leq 0.10$ / ** $p \leq 0.05$ / *** $p \leq 0.01$ Abbr.: n.c. := ,,no cases".

Compared COCED 1085 2004 and and

Source: GSOEP 1985–2004; own calculations.

With one exception all signs of the coefficients in table 3 are consistent with the theoretical expectations. Nearly every coefficient is statistically significant, whereas especially the empirical evidence for men matches the theoretical arguments very well. In the course of forming a couple household, the propensity to increase the time spent on housework increases for women. For men the propensity to spend less time on housework simultaneously increases. Also in line with our hypothesis are the proportions of the coefficients for the transitions to cohabitation and to marriage. For example the propensity of a women to do more housework in case of a transition from never married to married increases by the factor $e^{1,24} \approx 3.5$; whereas the transition to the less institutionalized cohabitation increases the propensity to a lower extent by the factor $e^{0,47} \approx 1.6$. The same proportion is given for the respective transitions for men. This finding also confirms Cherlin's (1978) thesis of incomplete institutionalization. Marriage, as it is drawn in the traditional family image, seems to have an important impact on how German men and women act in a partnership with respect to housework. This finding is also in line with our replication analysis.

Moreover, our event history analysis show that the effects for entry into cohabitation also seem to matter. What we have tentatively concluded from our replication has now to be expanded to all union formation processes. Obviously, it is not merely marriage, but still, as Gupta (1999) stated, any form of living together that perpetuates gender specific behavior. The effects for cohabitation being smaller than those for marriage indicates that symbolic exchanges are less binding in the case of cohabitation. There indeed seems to be more space to negotiating very specific arrangements, even beyond the terms of traditional gendered housework patterns (cf. Baxter 2005, Brines & Joyner 1999, Shelton & John 1993). But nevertheless, a wider scope of negotiation does not blur the boundaries of gender specific action itself.

For the sake of completeness, all surrounding conditions of our doing gender hypothesis are true too, as table 4 shows for the effects of household dissolution processes.

Table 4: Effects of exit from coresidental unions on the propensity to change housework time

		Wo	omen		Men					
	Propensity to reduce housework time					Propensity to increase housework time				
	Nev. marr.	Cohab.	Divorced	Widowed	Nev. marr.	Cohab.	Divorced	Widowed		
Cohabiting	$0,37^{**}$	ref.	n. p.	n.p.	$0,31^{**}$	ref.	n. p.	n.p.		
Married	n.p.	0,53**	1,05**	0,92***	n.p.	0,59**	1,79***	$1,47^{***}$		

Significance: * $p \le 0.10$ / ** $p \le 0.05$ / *** $p \le 0.01$

Abbr.: n. p. := "impossible transition".

Source: GSOEP 1985–2004; own calculations.

A comparison of models 1 and 2 of tables 6 and 7 shows that the effects of the changes of the marital status on the propensity to change the time use pattern are only marginally influenced by the control variables. Nearly all of the regression coefficients of the changes in marital status are stable; they do not switch signs. Only in the models for men in table 7 there are a few, as regards content however not very meaningful changes in the level of significance with regard to the selected reference category. The crucial point in the argumentation is, anyway, that the effects are stable compared to the theoretically relevant reference group (like in table 3 and 4).

Even though almost every control variable is significant in our models, the results are not in contrast to our basic hypothesis. Rather the results reflect other major influencing factors in an expected way. The size of the effects is quite small compared to coefficients for changes in marital status. Only the presence of children seems to have a bigger impact. As we have already pointed out in the discussion of table 5, children are the most influential factor when it comes to re-arranging housework responsibilities (cf. Schulz & Blossfeld 2006, Grunow et al. 2007b).

Conclusion

In our paper, we analyzed gendered time use patterns for housework in Germany. Contrary to many other studies before, we therefore applied a longitudinal perspective to study changes of women's and men's time spent on housework. With respect to the factors determining these changes, we focused especially on household formation or institutionalization processes. Theoretically, we drew on the ideas of doing gender theory, asking if the observed changes can be explained by its proposed mechanism of symbolic exchange. To do so, we drew on the only available (American) study to data by Gupta (1999) and first replicated his approach using linear fixed-effects panel regression on the 20-wave German Socioeconomic Panel. Subsequently, we extended Gupta's (1999) approach, conducting a more dynamic event history analysis of housework processes. As doing gender theory suggests, we estimated the conditional propensity of changing the time spent on housework given the changes in marital status for women and men.

In accordance with Gupta (1999), and other findings of current research, our empirical analyses showed what one would have expected: Women still perform more housework than men. When entering coresidental unions with a partner of the opposite gender, be it cohabitation or marriage, women's propensity to do even more housework considerably increases. The same pattern is observed for women, who marry their already cohabiting partner. Meanwhile, men seem to reduce their housework time when moving into a couple household or marrying, as their increasing propensity to reduce their housework performance indicates.

These rather clear-cut findings support our hypotheses of doing gender theory. We indeed find empirical evidence that the mechanism of symbolic exchange is appropriate to explain gendered housework patterns in Germany. Insofar, our analysis adds to the understanding of the causal relationship between housework time and marital status by supporting a view that was only applied for covering previously unexplained variance for a long time. As we have outlined in our theoretical discussion, this seems to be plausible for the German case after all, considering its welfare and gender regime (Esping-Andersen 1990) and the still comparatively high appreciation of the traditional Parsonian idea of marriage and family (Lück 2006). Eventually, this approach has to be taken seriously into account when conducting further research.

Starting here, a first step could be to include information of the partners to assess their impact on women's and men's time use. In general, an analysis on the level of couples would even fit better to the doing gender approach, especially because one can then estimate a couples' effect of the changing individual propensities. Secondly, it would be interesting to compare different countries or welfare regimes with respect to the relevance of doing gender, or, for the German case, to compare East- and West-Germany in more detail. A third possible extension, suggested by Greenstein (2000), would be to include variables on gender ideology in the models to control for more aspects of doing gender theory. These three suggestions already open a wide range of possible new questions to be answered. But it can be taken for granted that the answers to these questions will push research on housework time to a higher level.

To conclude, we need to comment on one general limitation of our paper. As we do not find many examples for this kind of analysis in current literature, our proceeding is also a leap in the dark. That is, applying new methods to classical research question is always an arguable endeavor. Are the methods appropriate? Do we produce artifacts? Do we condition our analysis in favor of the hypotheses? These questions can only be answered if there will be more studies in the future that experiment with new approaches and try to replicate previous research attempts (Diekmann 2006, 27). However, this kinds of "experiments" are limited by the available data. Our event history approach, for example, has proved to be quite fruitful to assessing gendered time use patterns. But still, a proper implementation requires data of very high quality, e.g. valid retrospective information or prospective panel studies that cover quite a long period. Nevertheless, as most of the theories strictly speaking demand for longitudinal applications, the future of research on housework time highly depends on the collection of appropriate data.

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Tables

		We	omen		Men				
	N	lodel 1	Me	odel 2	Mo	odel 1	Mo	odel 2	
	b	s. e.							
Constant	0.03	0.01**	-0.16	0.10	0.29	0,02***	-0.32	0.06***	
Change in marital status:									
Nev. marr. \rightarrow Nev. marr.	-0.19	0.07***	-0.22	0.07***	-0.02	0.05	-0.03	0.05	
Nev. marr. \rightarrow Cohabiting	0.14	0,16	0.07	0.16	-0.10	0.11	-0.11	0.11	
Nev. marr. \rightarrow Married	0.86	$0,27^{***}$	0.40	0.26	-0.27	0.21	-0.28	0.20	
Cohabiting \rightarrow Nev. marr.	-0.32	0.16**	-0.31	0.16*	0.18	0.21	0.12	0,11	
$Cohabiting \rightarrow Cohabiting$	-0.00	0.05	-0.01	0.05	-0.01	0.04	0.00	0.04	
Cohabiting \rightarrow Married	0.32	0.08***	0.16	0.08**	-0.17	0.06^{***}	-0.18	0.06^{***}	
Married \rightarrow Cohabiting	-0.14	$0,\!25$	-0.10	0.25	0.11	0.19	0.18	0.19	
Married \rightarrow Married (Ref.)					_				
Married \rightarrow Divorced	-0.09	0.53	0.26	0.52	0.46	0.23^{**}	0.30	0.22	
Married \rightarrow Widowed	-0.95	0,12***	-0.96	0.11***	0.52	0.14^{***}	0.49	0.14^{***}	
Divorced \rightarrow Cohabiting	0.36	0.38	0.27	0.37	-0.37	0.19*	-0.39	0.19**	
Divorced \rightarrow Married	0.95	0.53^{*}	0.82	0.51	-0.41	0.32	-0.36	0.31	
Divorced \rightarrow Divorced	0.10	0.09	0.10	0.09	-0.03	0.06	-0.04	0.06	
Widowed \rightarrow Cohabiting	-0.98	0.48**	-0.97	0.47^{**}	-0.79	0.39**	-0.81	0.39**	
Widowed \rightarrow Married	n. c.		n. c.		-1.05	0.49**	-1.00	0.48**	
Widowed \rightarrow Widowed	-0.15	0.06^{**}	-0.14	0.06**	-0.42	0.08***	-0.41	0.08***	
Other transitions	-0.02	0.03	-0.01	0.03	0.14	0.03^{***}	0.14	0.03^{***}	
Controls:									
Change adult females			-0.01	0.02			-0.37	0.21*	
Change adult males			-0.24	0.23			-0.03	0.01*	
Change children $0-4$			0.19	0.03***			-0.05	0.02**	
Change children $5-11$			0.03	0.03			-0.05	0.02^{***}	
Change girls $12-18$			-0.04	0.04			-0.02	0.03	
Change boys $12-18$			-0.07	0.04*			-0.06	0.03**	
Change employment hours			-0.14	0,00***			-0.08	0.00***	
Change family earnings			-0.00	0.00			-0.00	0.00	
Change years of education			-0.01	0.01			0.01	0.00*	
Entry into education			-0.48	0.03^{***}			-0.14	0.02^{***}	
Change age			0.23	0.13*			0.38	0.07^{***}	
Change age (squared)			-4.46	2.88			-3.60	1.07^{***}	
Overall \mathbb{R}^2	(0.0015	0.	0431	0.	0016	0.	0287	
Number of observations		87	,268			79,	734		
Number of groups		8,	697			8,1	65		

Table	5:	Fixed-effects	s panel	regression	for	changes	in	female	housework	hours	for	women
		and men (re	plicatio	on of Gupt	a 19	999)						

Significance: * $p \le 0.10$ / ** $p \le 0.05$ / *** $p \le 0.01$

Source: GSOEP 1985-2004; own calculations.

	Women				Men				
	M	odel 1	Me	odel 2	Ma	odel 1	Ma	odel 2	
	b	s. e.	b	s. e.	b	s. e.	b	s. e.	
Konstante	-0,45	0,02***	$0,\!49$	$0,06^{***}$	-1,43	0,01***	-0,26	$0,06^{***}$	
Change in marital status:									
Nev. marr. \rightarrow Nev. marr	0,98	0,04***	-0,85	0,04***	-0,00	0,04	0,01	0,04	
Nev. marr. \rightarrow Cohabiting	g -0,44	0,14***	-0,38	0,15**	$0,\!16$	0,15	$0,\!14$	$0,\!15$	
Nev. marr. \rightarrow Married	0,05	$0,\!23$	0,39	0,24	-0,44	0,40	-0,37	$0,\!40$	
Cohabiting \rightarrow Nev. marr.	-0,81	$0,\!17^{***}$	-0,67	$0,17^{***}$	$0,\!53$	0,15***	$0,\!50$	0,15***	
$Cohabiting \rightarrow Cohabiting$	-0,31	0,03***	-0,23	0,03***	0,31	0,03***	0,20	$0,04^{***}$	
Cohabiting \rightarrow Married	$0,\!18$	$0,07^{***}$	$0,\!33$	$0,07^{***}$	$_{0,20}$	0,08**	$0,\!22$	0,09***	
Married \rightarrow Cohabiting	$0,\!13$	$0,\!24$	0,02	0,24	$0,\!65$	0,25***	$0,\!59$	0,25**	
Married \rightarrow Married (Ref.)) —		—		—		—		
Married \rightarrow Divorced	$_{0,12}$	$0,\!50$	$_{0,27}$	0,51	$1,\!62$	0,26***	1,79	$0,27^{***}$	
Married \rightarrow Widowed	-0,49	$0,\!13^{***}$	-0,63	$0,14^{***}$	$1,\!69$	$0,17^{***}$	1,47	$0,18^{***}$	
Divorced \rightarrow Cohabiting	-0,76	$0,\!37^{**}$	-0,62	0,37*	$0,\!03$	0,30	0,03	$0,\!30$	
Divorced \rightarrow Married	-0,61	$0,\!45$	-0,35	0,46	-0,76	0,60	-0,49	0,60	
Divorced \rightarrow Divorced	-0,53	0,04***	-0,53	0,05***	$_{0,22}$	$0,06^{***}$	0,31	$0,06^{***}$	
Widowed \rightarrow Cohabiting	-0,13	$0,\!50$	-0,13	0,50	0,86	0,53	$0,\!68$	$0,\!54$	
Widowed \rightarrow Married	k. F.		k. F.		$_{0,10}$	1,05	0,00	1,06	
Widowed \rightarrow Widowed	-0,39	0,03***	$-0,\!64$	$0,03^{***}$	0,79	$0,07^{***}$	$0,\!52$	$0,07^{***}$	
Other transitions	-0,40	0,02***	-0,56	0,02***	$0,\!30$	0,02***	0,02	0,03	
Controls:									
Initial level	-0,17	0,00***	-0,26	0,00***	-0,31	0,01***	-0,43	0,01***	
Age			-0,00	0,00***			-0,00	0,00***	
Years of education			-0,02	0,00***			0,00	0,00	
Employment hours			-0,01	0,00***			-0,02	0,00***	
Income			-0,03	0,00***			-0,02	0,00***	
East Germany (Ref.)									
West Germany			-0,10	0,02***			-0,35	0,02***	
No children (Ref.)			—				—		
Children $0-3$			$0,\!29$	0,03***			-0,05	0,03	
Children $4-6$			0.23	0,03***			-0,04	0,04	
Children 7–16			0.12	0,02***			-0,04	0,02*	
Modified question	0,88	0,03***	$0,\!82$	$0,03^{***}$	$0,\!47$	$0,04^{***}$	$0,\!51$	$0,04^{***}$	
$-2 \times \log$ likelihood		4.780	7	.397	3	.115	6	.253	
Number of observations		81	.193			68.	681		
Number of events		26	.668			19.	673		

Table 6: Discrete event history analysis of the propensity to **increase** the time spent on housework

Significance: * $p \le 0.10$ / ** $p \le 0.05$ / *** $p \le 0.01$ Abbr.: n. c. := "no cases".

Source: GSOEP 1985-2004; own calcualtions.

	Women				Men				
	M	odel 1	Mo	odel 2	Ma	odel 1	Ma	odel 2	
	b	s. e.	b	s. e.	b	s. e.	b	s. e.	
Konstante	-3.09	0,02***	-2.94	$0,06^{***}$	-2.53	0,02***	-1.70	$0,07^{***}$	
Change in marital status:									
Nev. marr. \rightarrow Nev. marr.	$0,\!24$	0,04***	$0,\!16$	$0,04^{***}$	-0,72	0,04***	-0.98	0,05***	
Nev. marr. \rightarrow Cohabiting	$0,\!25$	$0,\!18$	-0,03	0,18	-0,31	0,15**	-0.70	0,15***	
Nev. marr. \rightarrow Married	$0,\!46$	0,31	$0,\!22$	0,31	0,26	0,26	-0.08	0,26	
Cohabiting \rightarrow Nev. marr.	0,86	0,15***	0,57	0,15***	-0,48	$0,17^{***}$	-0.88	0,18***	
$Cohabiting \rightarrow Cohabiting$	$0,\!34$	0,04***	$0,\!20$	$0,04^{***}$	-0,02	0,04	-0.24	$0,04^{***}$	
Cohabiting \rightarrow Married	$0,\!29$	0,08***	0,07	0,09	0,35	0,08***	0.05	0,08	
Married \rightarrow Cohabiting	$0,\!60$	0,25**	0,53	0,25**	-0,02	0,30	-0.14	0,30	
Married \rightarrow Married (Ref.)									
Married \rightarrow Divorced	$1,\!25$	0,49**	$1,\!05$	0,50**	-0,63	0,42	-0.98	0,43**	
Married \rightarrow Widowed	$0,\!67$	0,11***	0,92	0,11***	-0,54	0,21**	-0.32	$0,\!22$	
Divorced \rightarrow Cohabiting	$0,\!07$	$0,\!43$	-0,02	0,42	0,04	0,24	-0.19	0,24	
Divorced \rightarrow Married	-0,55	0,73	-0,70	0,73	-0,11	0,39	-0.15	0,39	
$Divorced \rightarrow Divorced$	$0,\!08$	0,05*	$0,\!23$	0,05***	-0,62	$0,06^{***}$	-0.66	$0,06^{***}$	
Widowed \rightarrow Cohabiting	$0,\!23$	$0,\!45$	0,33	0,45	0,70	0,51	0.97	0,51*	
Widowed \rightarrow Married	n. c.		n.c.		0,95	0,63	1.03	$0,\!64$	
Widowed \rightarrow Widowed	$0,\!24$	0,03***	$0,\!58$	0,03***	-0,63	$0,07^{***}$	-0.36	$0,07^{***}$	
Other transitions	$0,\!43$	0,02***	$0,\!35$	0,02***	0,01	0,02	-0.37	$0,03^{***}$	
Controls:									
Initial level	0,39	0,00***	0,44	0,00***	0,53	0,01***	0.58	$0,01^{***}$	
Age	,	/	-0,01	0,00***	,	,	-0.02	0,00***	
Years of education			0.01	0,00***			-0.01	0,00**	
Employment hours			0.04	0,00***			0.01	0,00***	
Income			-0.00	0.00***			-0.01	0.00***	
East Germany (Ref.)				,				,	
West Germany			-0.02	0,02			0.18	0.02^{***}	
No children (Ref.)				,				,	
Children $0-3$			-0,16	$0,03^{***}$			0.06	$0,03^{*}$	
Children 4–6			-0,18	0.03^{***}			0.08	0.04**	
Children 7–16			-0,08	0,02***			0.09	$0,03^{***}$	
Modified question	-0,32	0,04***	-0,29	0,04***	$0,\!24$	0,05***	0.17	0,05***	
$-2 \times \log$ likelihood	1	4.954	15	5.644	7.495 8.507				
Number of observations		79	.252			53	575		
Number of events		26	.232			17.	814		

Table 7: Discrete event history analysis of the propensity to **reduce** the time spent on housework

Significance: * $p \leq 0.10$ / ** $p \leq 0.05$ / *** $p \leq 0.01$ Abbr.: n. c. := ,,no cases".

Source: GSOEP 1985-2004; own calcualtions.