Personality Traits, the Marriage Market, and Household Behavior

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Abstract

We develop an empirical framework to analyze the dynamic effect of personality traits in marriage market patterns and intrahousehold decisions. We exploit detailed information at the individual level from the HILDA survey about consumption, labor supply, time use, and personality traits (as measured by the Big Five). First, we document that personality types are related to marital and divorce patterns, time allocated to both market and non-market labor activities, and the evolution of earnings. To rationalize these empirical facts, we build a life-cycle model that integrates endogenous household formation and collective household choices under limited commitment. Our framework allows personality to affect both wage processes and individual preferences. In the latter, personality traits enter indirectly through household production and the utility of marriage (match quality). We use the estimates of our model to conduct counterfactuals associated with intrahousehold behavior.

JEL Classification: D10, D13, D91, J12, J22, R20
Kewords: Marriage, Limited commitment, Personality traits, Time use.

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1 Introduction

Personality traits are pivotal in shaping human behavior and influencing attitudes and values. Although there is growing evidence that personality traits are important predictors across various aspects of life (Almlund, Duckworth, Heckman, & Kautz, 2011)—particularly in areas related to labor market outcomes (Heckman, Jagelka, & Kautz, 2019)—their implications for household dynamics across the life-cycle remain largely unexplored. How is personality associated with intra-household bargaining? What are the implications for the allocation of resources amongst household members? Is personality driving marriage market outcomes such as divorce rates over time?

This paper seeks to answer these questions by integrating personality into a dynamic structural household model incorporating intra-household interaction, household production, and endogenous marriage and divorce. We present an empirical framework to examine how personality traits influence individual behavior across the life cycle, with a focus on outcomes related to marriage market dynamics, intra-household bargaining, and time-use allocations. Our findings highlight both the short- and long-term effects of the interplay between partners' psychological traits on family dynamics.

In the first part of the paper, we document several empirical patterns associated with personality using a sample of couples and singles from the Household Income and Labour Dynamics in Australia (HILDA) longitudinal survey. Rooting our analysis in developmental psychology, we categorize individuals based on three established personality types derived from the Big Five personality traits (Robins, John, Caspi, Moffitt, & Stouthamer-Loeber, 1996): *resilient*, *overcontrolled*, and *undercontrolled* individuals.[1] First, personality has a heterogenous effect on the likelihood of both marriage and divorce across personality types. Second, personality influences decisions about how time is allocated to market and non-market activities. Finally, and consistent with previous research, types with positive loadings in all Big Five traits earn higher wages throughout their lives than individuals who do not (Todd & Zhang, 2020).

Guided by our empirical findings, we develop and estimate an economic model that quantifies the underlying mechanisms through which personality impact family dynamics. We adopt an intertemporal collective framework that incorporates limited commitment and search frictions within the marriage market. In our framework, the quality of a match in the marriage market between two individuals is influenced by the

[1]The Big Five traits include openness to experience, conscientiousness, extraversion, agreeableness, and emotional stability (Goldberg, 1992).

potential complementarity and compatibility of personalities within the relationship. Additionally, home production—driven by an individual's productivity at home duties—depends on the individual's personality type. Lastly, labor market productivity—and the corresponding wage offers—are directly impacted by the personalities of the individuals involved. Using the Method of Simulated Moments we apply our empirical framework to data, effectively replicating observed data moments.

Using the estimates of the model, we can shed light on how households respond to different sources of uncertainty in their environments—which is important for addressing a range of policy-relevant questions—and what is the role of personality in these reactions. We include shocks to economic gains of marriage, modeled as changes to the permanent income components of married men, and shocks to non-economic gains of marriage, modeled as changes to the permanent component of household match quality. For instance, does a change in match quality cause individuals to shift from labor market activities to home tasks? Alternatively, does it affect spouses' time investments in household goods? Furthermore, which types of households are better equipped to adapt to income and match quality uncertainties, and how do their responses to these shocks differ?

Our counterfactual exercises suggest that *resilient* individuals, particularly women, are more likely to shift towards market labor in response to negative changes in match quality, effectively helping to stabilize household consumption and marital longevity. In contrast, *undercontrolled* individuals are less likely to adjust efficiently. Instead of reallocating time to market labor or home tasks, they struggle with impulsivity and lower emotional regulation, which can lead to poor adjustments and increased vulnerability to both income and relational shocks. This makes undercontrolled households less capable of investing in household goods during periods of uncertainty. Finally, in response to economic shocks, *overcontrolled* individuals prioritize non-market tasks and household stability over higher allocations of time to market work.

Our paper contributes to several literature strands, bridging family economics and behavioral dynamics to investigate how personality traits influence marriage and divorce decisions, life cycle choices, and intra-household behavior. Lundberg (2012) finds that personality traits correlate with marital outcomes among German cohorts, highlighting the relevance of personal attributes in household economics. Dupuy and Galichon (2014) enhance the Choo and Siow (2006) matching model by incorporating personality as a continuous attribute, thus revealing the relevance of personality traits as an attribute

on which individuals sort into the marriage market. Flinn, Todd, and Zhang (2018) investigate how personality influences the household mode of interaction, as well as members' labor supply and wage rates. Fernández (2023) suggests that personality traits may affect intra-household behavior through changes in preferences over consumed commodities and power dynamics between partners. Building upon these insights, our work integrates personality traits into a dynamic model that captures household formation and dissolution and examines personality's dual influence on partner selection and household decision-making processes.

Our paper also contributes to literature analyzing dynamic household behavior and marriage market dynamics. We build on the collective model laid by Chiappori (1988, 1992) and its extensions to a dynamic setting such as in Mazzocco (2007). To model married couples decision-making process, we make use of the limited commitment framework (Ligon, Thomas, and Worrall (2002), Mazzocco, Ruiz, and Yamaguchi (2014)). This framework is relevant when examining the effects of spouses' outside options on intrafamily allocations, a theme explored in depth by Voena (2015), Low, Meghir, Pistaferri, and Voena (2018), and De Rock, Kovaleva, and Potoms (2023). In our framework, we introduce personality as an intrinsic variables that influence relevant life cycle choices. Our model innovates by aligning individual personality with commitment levels to capture the complexities of partnership formation and dissolution, allowing for a more accurate replication of marriage dynamics.

Finally, our study also relates to the literature structurally exploring the driving forces of household behavior and household income inequality. Recent studies have shown that factors such as education (Greenwood, Guner, Kocharkov, & Santos, 2014; Calvo, Lindenlaub, & Reynoso, 2021; Ciscato & Weber, 2020; Reynoso, 2018), family attitudes (Goussé, Jacquemet, & Robin, 2017), the value of an individual's outside options (Cherchye, De Rock, Vermeulen, & Walther, 2021), tax systems (Shephard, 2019), material and non-material matching surpluses (Browning, Cherchye, De Rock, Vermeulen, & Demuynck, 2021), among other factors contribute significantly to rationale marriage market patterns (e.g., increased marital sorting) and its implications for household income inequality. We contribute by introducing a rather unexplored source of heterogeneity, examining the effects of personality on labor market outcomes and earnings processes, preferences for leisure time and home production, and the influence of a partner's personality type.

The rest of the paper unfolds as follows. The following section presents the empirical evidence related to personality traits, marriage market choices, time use allocation,

and wages that guide the development of our structural model. We then describe our structural model in Section 3. Section 4 presents the estimation approach, identification strategy, and results. Section 5 illustrates the quantitative effect of personality traits on household choices. Section 6 describes our two policy counterfactual exercises. Finally, Section 7 concludes.

2 Reduced-Form Evidence on Personality, Marital Choices, Time Use, and Wages

Throughout the paper, we use the Household Income and Labour Dynamics in Australia (HILDA) longitudinal survey. This section presents reduced-form evidence to illustrate the main mechanisms by which personality may affect household behavior. Three key facts emerge from the evidence presented below. First, individuals with a certain personality type are more prone to either marry or divorce than other types. Second, individuals' personalities significantly influence the time allocated by men and women to labor market and non-labor market activities. Third, in estimating wage equations, we observe that personality is an attribute that is valued in the labor market.

Sample and Personality Types. To study the interaction between personality and family dynamics, we draw a sample from the HILDA survey, which is a representative household-based panel administered by the Department of Social Services of the Australian Government. This ongoing annual panel began in 2000. We consider an unbalanced panel of men and women from 2001 to 2019, with detailed information at the individual level about personality, marital history, labor supply, time use, and income.

We restrict the sample to individuals that at the time were surveyed are between 18 and 65 years old; married, single, or divorced; part of a household with at least one partner or spouse participating in the labor market; and not living with any other adult different than the current partner. Our empirical analysis is based on a sample of 6,130 men and 6,247 women that are followed over time. The total number of observations (individuals across time) is around 84,000. Table A1 in the appendix presents descriptive statistics of the main variables.

Our analysis is rooted in developmental psychology literature and characterizes men and women in the sample based on their personality types. The HILDA dataset includes information from the widely-used Big Five personality questionnaire (Goldberg, 1992)

for five years. Consistent with the literature, we impute personality data in the waves where it is not observed by calculating the average of the observed individual values.[2] Next, we construct personality types based on common configurations of the Big Five traits (see, e.g., Robins et al. (1996)). These personality types are labeled as (1) *Resilient* (i.e., individuals with relatively high values in all five personalities); (2) *Overcontrolled* (i.e., with relatively low levels in extraversion, openness to new experiences, and agreeableness); and (3) *Undercontrolled* (i.e., with relatively high values in openness to new experiences but relatively low levels in emotional stability and conscientiousness).[3]

Personality, Marriage, and Divorce. Relationship researchers have been interested on the influence of personality on driving marriage decisions, relationship quality, and marital dissolution for several decades (Barry, 1970; Robins, Caspi, & Moffitt, 2000; Back & Vazire, 2015). To study the association between personality and the probability of marriage and divorce, we estimate Cox proportional hazard models, which relate a set of independent variables to the hazard rate. The latter is the rate at which an event occurs in a given period t, conditional on not happening until that period. The unit of observation in these models is either singlehood or marriage spells (i.e., the number of years spent in a particular state). The Cox regression assumes that a set of covariates ($\mathbf{x}$) together with a vector of parameters ($\tilde{\boldsymbol{\psi}}$), shift proportionally the baseline hazard ($\tilde{\lambda}_0(t)$) that captures unobserved heterogeneity.[4] Formally, we estimate:

$$\tilde{\lambda}(t|\mathbf{x}) = \exp(\mathbf{x}^{\intercal}\tilde{\boldsymbol{\psi}}^{i})\tilde{\lambda}_0(t), \tag{1}$$

where $\tilde{\lambda}$ is the hazard rate and includes, among other controls, agents' personality type. We introduce heterogeneity by gender in the coefficients ($i \in \{m, f\}$). One convenient

[2]This imputation is based on the fact that personality traits are relatively stable over time. For instance, Cobb-Clark and Schurer (2012) and Fitzenberger, Mena, Nimczik, and Sunde (2022) show that, on average, the Big Five traits are stable for most of an individual's adulthood. Figure B2 in Appendix B demonstrates that the stability of personalities also holds for our sample.

[3]This typology of personality types is an extension of Block (2014)'s theory of ego functioning; see related discussions in Asendorpf, Borkenau, Ostendorf, and Van Aken (2001), Specht, Luhmann, and Geiser (2014), and Gerlach, Farb, Revelle, and Nunes Amaral (2018). Moreover, using three personality types instead of the set of Big Five traits reduces the computational burden of our structural model. In Appendix C we present more information about the computation and validation of the three personality types. See, e.g., Todd and Zhang (2020) and Flinn, Todd, and Zhang (2020) for studies using types associated with the Big Five personality traits to characterize observed heterogeneity.

[4]Throughout the paper, reduced-form (as opposed to structural) parameters are defined with a tilde symbol: ~.

feature of this model is that it controls for right censoring.[5]

The first empirical fact we document is that personality significantly correlates with the conditional probability of marriage and divorce. Figures 1 and 2 show the estimated hazard ratios with their confidence intervals of Cox duration models for either mating choice. Each symbol corresponds to an estimated coefficient from a Cox regression where we control for personality types, demographics variables, and regional dummies.[6] Because of perfect multicollinearity, we can only compare the effect of personality relative to a base type (e.g., the impact of Resilient or Overcontrolled individuals relative to Undercontrolled individuals). Overall, looking at the results using singlehood spells in Figure 1, the effect of personality is somewhat similar across genders with slightly higher estimated coefficients for women. In particular, Resilient men and women are more likely to marry relative to Overcontrolled and Undercontrolled individuals. Undercontrolled individuals have are the least prone to get married. For both genders, Overcontrolled individuals are less likely to marry than Resilient but more likely compared to Undercontrolled. Interestingly, looking at the results using marriage spells in Figure 2, we observe differences across genders in the likelihood of divorce. In general, Undercontrolled men are more likely to divorce than Undercontrolled women. Overcontrolled men would be less prone to divorce than Overcontrolled women, whereas Resilient men have a smaller probability of divorce than Resilient women. In our sample, Undercontrolled individuals are the least emotionally stable across personalty types (see Appendix C). Overall, the literature suggests that higher levels of emotional stability are positively correlated with constructive interactions between spouses and better evaluations of marriage (Donnellan, Conger, & Bryant, 2004).[7]

Personality and Wages. Consistent with the literature, our second empirical fact documents that personality correlates with wages (see, e.g., Blau and Kahn (2017), Todd and Zhang (2020), and Flinn et al. (2020)). We construct real wage rates and estimate via OLS the following extended Mincer equation:

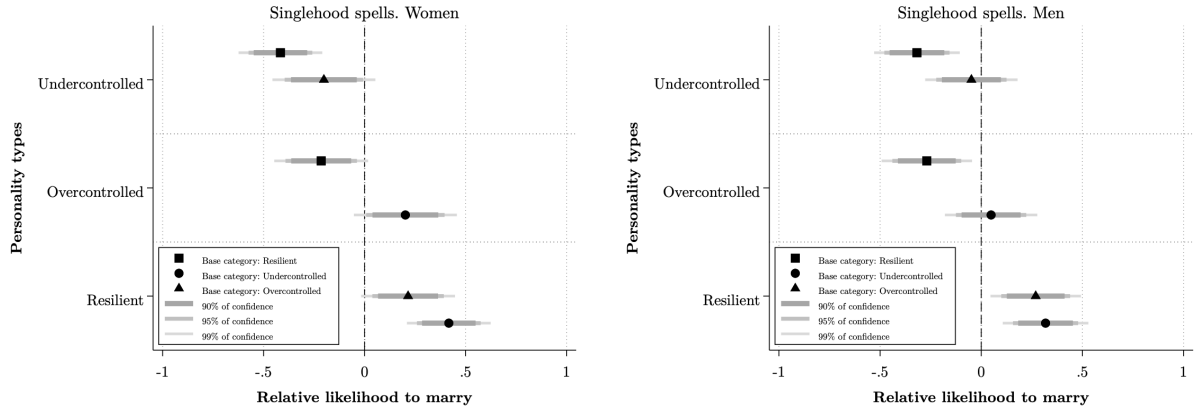
$$Wage_i = \tilde{\gamma} Personality_i + \mathbf{d}_i^{\intercal} \tilde{\delta} + \tilde{\omega}_t + \tilde{\nu}_i + \tilde{\mu}_i, \tag{2}$$

[5] Right censoring takes place when a participant exits the study before experiencing the event of interest or when the study concludes before the event has happened.

[6] A similar exercise looking at the impact of education and divorce laws in the risk of marriage, cohabitation, and divorce is done in Blasutto (2020a) and Blasutto and Kozlov (2020), respectively.

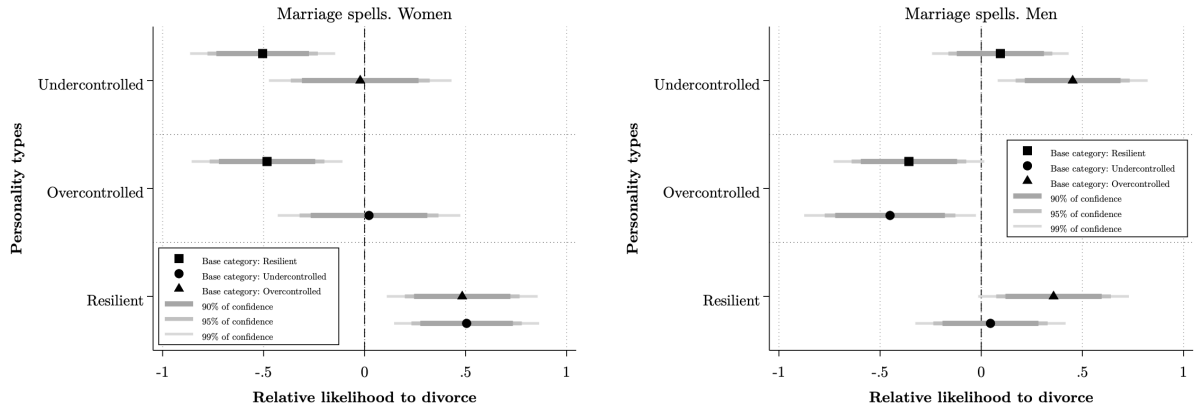
[7] The estimated coefficients and standard errors of the Cox regressions presented in Figure 1 and Figure 2 are detailed in Appendix D.

Figure 1: Likelihood to marry by personality type and gender. Results from Cox regressions.



Notes: The results correspond to hazard ratios of Cox regressions that control for age, sex, the number of children, educational level, previous marriages, and de facto relationships, dummies for the region of residence, and country of birth. Observations: singleness spells. Confidence intervals are constructed with robust standard errors.

Figure 2: Likelihood to divorce by personality type and gender. Results from Cox regressions.



Notes: The results correspond to hazard ratios of Cox regressions that control for age, sex, the number of children, educational level, previous marriages and de facto relationships, dummies for the region of residence, and country of birth. Observations: marriage spells. Confidence intervals are constructed with robust standard errors.

where *Wage* is the hourly real wage rate of individual $i \in \{m, f\}$, *Personality* refers to the three personality types described above, $\tilde{\omega}$ are survey-year fixed effects, $\tilde{\nu}$ are state fixed effects, and $\tilde{\varepsilon}$ is an error term. Demographic controls **d** include schooling, age and its square, marital status, and the number of children. We estimate Equation 2 only for

individuals who work, using a two-step correction for selection into the labor market for both men and women. We assume that the number of children affects the decision to work but does not impact the offer wage function. Standard errors are clustered at the individual level.

By employing the fitted weekly hours derived from the estimation of Equation 2, we calculate the differences in average predicted wages across personality types. Figure 3 presents these results. Consistently across gender, for most of an individual's life cycle, Resilient has the highest average hourly wage rate relative to Undercontrolled and Overcontrolled individuals. From 40 years old onward, we observe that differences between Undercontrolled and Resilient individuals become smaller. Overall, differences in mean wages between personality types are larger for women than for men.
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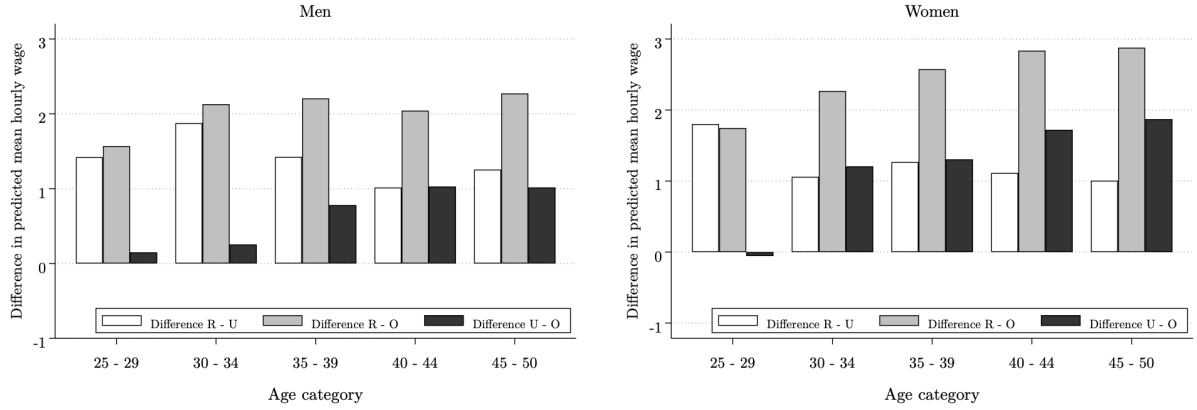
Figure 3: Differences in conditional hourly wage rates between personality types.



Notes: Figure 5 presents differences in predicted real wage rates across personality types for men and women. Predicted wage rates are obtained by estimating Equation 3 by OLS pooling up all HILDA waves. Explanatory variables include personality types, gender, schooling, age and its square term, marital status, and year and state dummies. Selection into the labor market is addressed by using a two-step estimation process where we use variation in the number of children to explain the decision to work but not the offer wage function. In the estimation, standard errors are clustered at the individual level. Wages are in 2010 real terms.

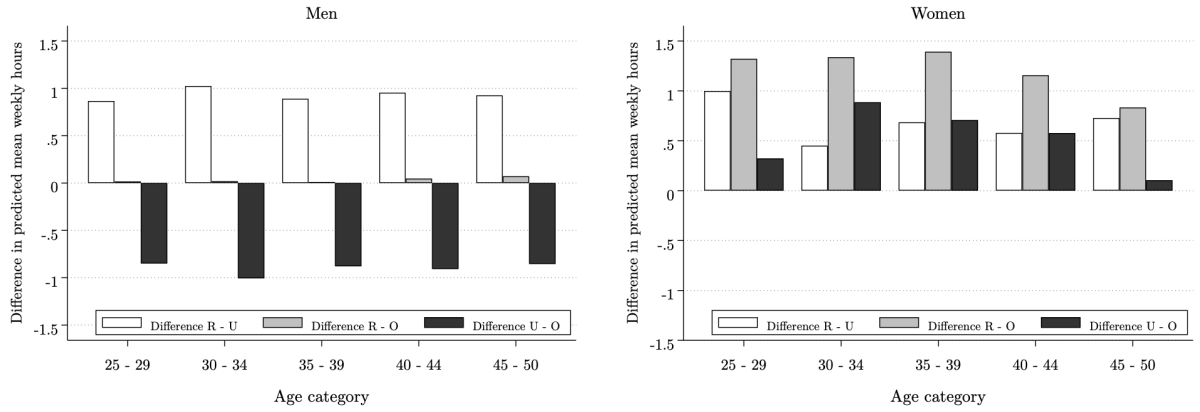
Personality and Time Use Decisions. Labor market returns to personality may drive self-selection of household members into market and domestic activities (Flinn et al., 2018). In our final empirical fact, we document the correlation between personality types and the conditional hours that men and women allocate to different activities. In particular, using time use information, we compute the number of weekly hours dedicated to market labor (i.e., time spent on paid work) and to non-market labor time (i.e., childcare and domestic work). We pooled all observations and via OLS estimate the following empirical specification:

$$Hours_i = \tilde{\alpha} Personality_i + \mathbf{d}_i^{\intercal}\tilde{\boldsymbol{\beta}} + \tilde{\omega}_t + \tilde{\nu}_i + \tilde{\varepsilon}_i, \tag{3}$$

where *Hours* are the weekly hours that individual $i \in \{m, f\}$ dedicate to either market labor or non-market labor and the independent variables are the same described in Equation 2. Standard errors are clustered at the individual level.

By employing the fitted weekly hours derived from the estimation of Equation 3, we calculate the differences in average predicted hours between personality types. Figure 4 illustrates these differences in mean labor market hours across age groups and gender. In the case of men, there are no differences between Overcontrolled and Resilient individuals. If anything, Resilient men spend slightly more time in the labor market than

Figure 4: Differences in conditional market labor hours between personality types.



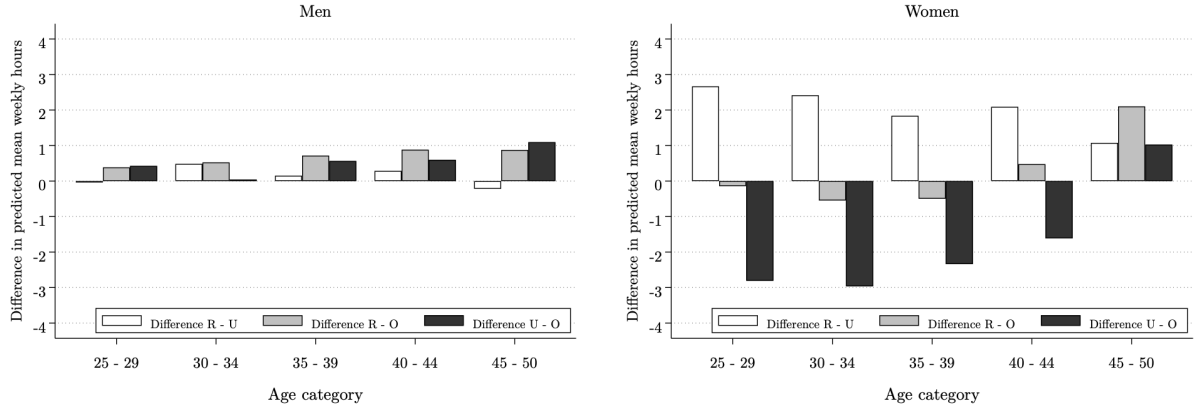
Notes: Figure 3 reports the differences in predicted market labor hours across personality types for men and women. The predicted hours are obtained by estimating Equation 2 by OLS for each gender and pooling up all HILDA waves. Explanatory variables include personality types, schooling, age, marital status, number of children, and year and state dummies. In the estimation, standard errors are clustered at the individual level.

Overcontrolled later in life. Moreover, these two personality types spend more weekly time in the labor market than Undercontrolled men. In the case of women, Resilient is the type that allocates more time to market work whereas Overcontrolled women allocate less time to market work.

In Figure 5, we repeat the analysis but consider differences in non-market labor hours. Differences across personality types are much larger for women than for men. In the case of males, the main pattern that emerges is that Overcontrolled individuals spend less weekly time on housework and childcare. In the case of females, Undercontrolled is the personality type that spends less time in non-market labor. Interestingly, for the last age category, Overcontrolled women would be the type that spend less time in non-market labor. In Figure 13 and Figure 14 in Appendix E, we show how these empirical patterns differ for couples with and without children.

The intertwined dependency of the effects of personality, as presented in this section, make the assessment of the relative relevance of each mechanism underlying the relationship between personality and household behavior particularly challenging without a structural approach. In the following sections, we therefore develop and estimate a model around the behavior of heterogenous agents over the life cycle that allows us to explain the descriptive facts presented above and to disentangle the contribution of each different channel.

Figure 5: Differences in conditional non-market labor hours between personality types.



Notes: Figure 4 reports the differences in predicted non-market labor hours across personality types for men and women. The predicted hours are obtained by estimating Equation 2 by OLS for each gender and pooling up all HILDA waves. Explanatory variables include personality types, schooling, age, marital status, number of children, and year and state dummies. In the estimation, standard errors are clustered at the individual level.

3 Model

Outline of the Model. Our model integrates endogenous household formation and collective household choices under a limited commitment framework. Agents are characterized by an exogenous personality type j, which can be of three types: Resilient (R), Overcontrolled (O), or Undercontrolled (U). The model begins with married and single individuals at age $t = 25$ that work until age $T_r = 55$ and live until age $T_d = 75$. In every period, single agents have a certain probability of meeting a potential partner and must decide whether to get married or remain single. If a marriage occurs, we assume that couples act cooperatively subject to limited commitment, meaning they can renegotiate in response to changes in outside options. Married individuals can choose each period whether to divorce or not. Divorce occurs when participation constraints cannot be met, and household assets are divided based on individual negotiation. In each period, single and married individuals decide how much time to allocate to market labor and housework as well as their private consumption and savings.

Preferences. Individuals $\left(i \in \{m, f\}\right)$ have preferences that are represented by a Constant Relative Risk Aversion (CRRA) utility function that is separable in each component, as is often assumed in the literature (Voena, 2015; Blasutto & Kozlov, 2020). Single individuals at time t derive utility from the consumption of private and home goods (c

and Q, respectively) and leisure time (l):

$$u_{it}(c, l, Q) = \frac{(c_{it})^{1-\gamma_c}}{1-\gamma_c} + \frac{(l_{it})^{1-\gamma_{il}}}{1-\gamma_{il}} + Q_{it}, \tag{4}$$

with $\gamma \geq 0$ as the coefficient of relative aversion, τ governing preferences for home good, and η reflecting disutility from providing time to market labor and home production. Note that we introduce individual heterogeneity on how agents trade-off between leisure and other activities.

Preferences for couples include an additional component related to the utility of being married relative to being single (i.e., match quality). The utility function of married spouses is thus given by:

$$u_{it}(c, l, Q, \theta^H) = \frac{(c_{it})^{1-\gamma_c}}{1-\gamma_c} + \frac{(l_{it})^{1-\gamma_{il}}}{1-\gamma_{il}} + Q_t + \theta^H_{it}, \tag{5}$$

where preferences for home production are a function of the number of children in the household (k_t). The parameter $\theta^H_{it} \overset{\text{iid}}{\sim} N(0, \sigma^2_{\theta^H})$ corresponds to the taste for a marriage of a couple with personalities type $H \in \{1, \ldots, 9\}$ (e.g., both spouses being classified as Resilient). We assume that the mean of the match quality shock depends on the personality type of the couple.[8]

Home Production. In each period, agents allocate time to labor market work (n), home production (h), and leisure time (l). The time constraint for $i \in \{m, f\}$ is defined by:

$$T_{it} = h_{it} + n_{it} + l_{it}. \tag{6}$$

We assume that the household good Q_t is produced through a Constant Elasticity of Substitution (CES) function (see, e.g., Cherchye, De Rock, and Vermeulen (2012)):

[8] As is evident from the comparison of preferences between singles and couples, we model personality traits as individual heterogeneity that influences only the preferences of married individuals. Despite this simplification, this assumption makes the model empirically tractable while enabling us to concentrate our analysis on the intrahousehold dynamics shaped by personality within established couples.

$$
\begin{aligned}
Q_t &= F_Q\left(h_{ft},\ h_{mt},\ \psi\right), \\
&= \left[\psi_f^j h_{ft}^{\rho} \ +\ \psi_m^j h_{mt}^{\rho}\right]^{\frac{1}{\rho}},
\end{aligned}
\tag{7}
$$

with ρ represents the elasticity of substitution between time inputs. The production function considers two primary inputs: the time each spouse dedicates to home production, and the disparity in productivity between spouses concerning the time allocated to producing the public good. The productivity is captured by the parameter ψ, which defines productivity in home production. We also allow for productivity to vary depending on the individual's personality type. This functional form accommodates a range of relationships between inputs, allowing them to act as either perfect substitutes or complements.

Importantly, married couples produce household good jointly, whereas single individuals and divorced couples produce a separate household good that is a function of an individual's non-market labor time:

$$
Q_{ft} = F_Q\left(h_{ft},\ 0\right) \quad \text{and} \quad Q_{mt} = F_Q\left(0,\ h_{mt}\right). \tag{8}
$$

Wage Processes. Wages are assumed as a standard Mincer equation with an additional personality component and permanent income shocks (z). We extend the work of Flinn et al. (2018) and Todd and Zhang (2020) by modeling income volatility conditional on personality traits. The log-wage equation for individual $i \in \{m, f\}$ of personality type $j \in \{R, O, U\}$ is given by:

$$
\ln(w_{it}^j) = f_{it}(E, t, j, \mathbf{x}) + z_{it}^j. \tag{9}
$$

Permanent income shocks experienced by individuals evolve over time as a random walk:

$$
z_{it}^j = z_{i,t-1}^j + \zeta_{it}^j \quad \text{with} \quad z_{i1}^j = \zeta_{i1}^j, \tag{10}
$$

where ζ_t is an independent white noise process, representing productivity shocks $\left(\zeta_{it}^j\right.$

$\overset{\text{iid}}{\sim} N(0, \sigma^2_{\zeta j})\big)$. The variance of the permanent income shock depends on both gender and personality. As in Low et al. (2018), we do not assume that the innovations in the income process are correlated between men and women.

Meetings in the Marriage Market. In each period, with a probability of λ_t, single individuals meet a potential partner characterized by assets, exogenous labor income, and a given personality type. Individuals generally meet partners of similar economic and social backgrounds. Therefore, we assume that an agent draws a potential spouse with akin wealth level (i.e., assets and labor income).[9]

Typically, the number of single individuals decreases as people get older. As in Low et al. (2018), we allow the meeting probability to decline as age (t) increases:

$$\lambda_t = \min\left\{\max\left\{\lambda_0 + \lambda_1(t-1) + \lambda_2(t-1)^2, 0\right\}, 1\right\}. \tag{11}$$

Once the meeting happens, individuals decide to marry or to stay single. As is further described below, whether a meeting between a single man and a single woman results in marriage depends on a feasible allocation that satisfies both spouses' participation constraints.

Household Problem of Singles. If an individual $i \in \{m, f\}$ of personality type $j \in \{R, O, U\}$ enters period t as a single, and decides to remain in that state, she solves a single-agent problem and chooses private consumption (c), labor supply (n), time spent on household production (h), and savings (A). In period $t+1$, the agent meets a potential partner of the opposite sex with probability λ_{t+1} and she can decide whether to enter a marriage or remain single, with the potential partner having to agree on this as well. If the two individuals decide to start a relationship, the variable M_{t+1} will take the value 1 in the case of marriage and 0 otherwise. Below we detailed how the decision to marry (M) occurs.

The state space for singles $\mathbf{\Omega}^S_t$ is then defined by assets ($A_{i,t-1}$), wages (w_{it}), and personality (j). The choice set of singles is $\mathbf{a}^S_t = \left(c_{it}, n_{it}, h_{it}, A_{it}, M_t\right)$. The value of singlehood for individual i at period t is defined by:

[9] We model sorting on wealth as a proxy of education since modeling endogenous educational choices is out of the scope of this paper.

$$V_{it}^{S}(\mathbf{\Omega}_{t}^{S}) = \max_{\mathbf{a}_{t}^{S}} \left\{ u_{it}(c, l, Q) + \beta \mathbb{E} \left\{ (1 - \lambda_{t+1}) \left[V_{i,t+1}^{S}(\mathbf{\Omega}_{t+1}^{S}) \right] + \lambda_{t+1} \left[M_{t+1} \left[V_{i,t+1}^{M}(\mathbf{\Omega}_{t+1}^{M}) \right] + (1 - M_{t+1}) \left[V_{i,t+1}^{S}(\mathbf{\Omega}_{t+1}^{S}) \right] \right] \right\} \right\} \quad (12)$$

subject to

$$A_{it} + x_{i,t}^{S} = (1 + r) A_{i,t-1} + w_{it} n_{it},$$

with β as the discount factor (which is the same for singles and couples) and r as the rate of return on assets.

Household Problem of Married Couples. If two individuals of the opposite gender enter period t as a married couple and decide to stay married, they make Pareto-efficient decisions within the limited commitment framework (Mazzocco, 2007). If the variable D equals 1, partners decide to divorce (i.e., participation constraints are not satisfied) and 0 otherwise. As agents live in a unilateral divorce regime, it is enough that one of the spouses wants to separate from her partner for the couple to divorce. The process that defines the variable D is described below.

The state space for married individuals $\mathbf{\Omega}_{t}^{M}$ is defined by household assets (A_{t-1}^{H}), the (normalized) bargaining power for one of the spouses ($\mu_{i,t-1}$), wages ($\mathbf{w}_t$), personality types ($\mathbf{j}$), and the household match quality (θ_{t}^{H}). Note that within-period bargaining weights enter the state space because spouses' participation constraints can make the household solution different than the Pareto optimal allocation. An individual chooses private consumption (c), labor supply (n), time on household production (h), savings (A^H), and whether to divorce or not (D). The choice set for couples is $\mathbf{a}_{t}^{M} = (\mathbf{c}_t, \mathbf{n}_t, \mathbf{h}_t, A_{t}^{H}, D_t)$.

The problem jointly solved by a marriage at period t is given by:

$$V_t^M(\mathbf{\Omega}_t^M) = \max_{\mathbf{a}_t^M} \Bigg\{ (1 - D_t)\Big\{ \mu_{ft} u_{ft}(c, l, Q, \theta^H) + \mu_{mt} u_{mt}(c, l, Q, \theta^H) + \beta \mathbb{E}\left[V_{t+1}^M(\mathbf{\Omega}_{t+1}^M) \right] \Big\} + D_t\Big\{ u_{it}(c, l, Q) + \beta \mathbb{E}\left[V_{i,t+1}^S(\mathbf{\Omega}_{t+1}^S) \right] \Big\} \Bigg\}$$

subject to

$$\begin{aligned} A_{t+1}^H + x_t^M &= (1 + r) A_t^H + \sum_i n_{it} w_{it} && \text{(if } D_t = 0\text{)}, \\ A_{i,t+1} + x_{i,t}^S &= (1 + r) A_{it} + n_{it} w_{it} && \text{(if } D_t = 1\text{)}. \end{aligned} \tag{13}$$

Given a sequence of optimal choices:

$$\forall \mathbf{\Omega}_t^M \quad \left\{ \mathbf{c}_t^*(\mathbf{\Omega}_t^M), \mathbf{n}_t^*(\mathbf{\Omega}_t^M), \mathbf{h}_t^*(\mathbf{\Omega}_t^M), A_t^{*H}(\mathbf{\Omega}_t^M), D_t^*(\mathbf{\Omega}_t^M) \right\}_{t=1}^{T}, \tag{14}$$

each partner $i \in \{m, f\}$ values the marriage in the following form:

$$V_{it}^M(\mathbf{\Omega}_t^M) = u_{it}(c^*, l^*, Q^*, \theta^H) + \beta \mathbb{E}\left[V_{i,t+1}^M(\mathbf{\Omega}_{t+1}^M) \right]. \tag{15}$$

The continuation value for each partner is computed recursively from the last period T:

$$V_{iT}(\mathbf{\Omega}_t^M) = u_{iT}(c^*, l^*, Q^*, \theta^H), \tag{16}$$

and for the remaining $t < T$ periods:

$$V_{it}(\mathbf{\Omega}_t^M) = u_{it}(c^*, l^*, Q^*, \theta^H) + \beta \mathbb{E}\left[(1 - D_{t+1}^*) V_{i,t+1}^M(\mathbf{\Omega}_{t+1}^M) + D_{t+1}^* V_{i,t+1}^S(\mathbf{\Omega}_{t+1}^S) \right]. \tag{17}$$

Marriage and Divorce Decisions. After a meeting in the marriage market occurs, potential spouses need to decide on getting married or not $\left(M \in [0, 1]\right)$. The decision to

marry is given by:

$$M_t = 1 \quad \forall \quad \left\{ \mu_{mt} : \; V^M_{mt}(\mathbf{\Omega}^M_t) \; \geq \; V^S_{mt}(\mathbf{\Omega}^S_t); \quad V^M_{ft}(\mathbf{\Omega}^M_t) \; \geq \; V^S_{ft}(\mathbf{\Omega}^S_t) \right\}, \tag{18}$$

with the bargaining weights normalized as $\mu_{mt} + \mu_{ft} = 1$. In other words, two individuals would opt for marriage if the set of Pareto weights (μ_m) is non-empty (see, e.g., Blasutto and Kozlov (2020),Low et al. (2018)).

A couple will decide to remain together if for both spouses the utility of being together is larger or equal than the utility of divorce:

$$D_t = 0 \quad \forall \quad \begin{cases} u_{ft}(c, l, Q, \theta^H) \; + \; \beta \mathbb{E}\left[V^M_{f,t+1}(\mathbf{\Omega}^M_{t+1}) \right] \; \geq \; V^S_{ft}(\mathbf{\Omega}^S_t), \\ u_{mt}(c, l, Q, \theta^H) \; + \; \beta \mathbb{E}\left[V^M_{m,t+1}(\mathbf{\Omega}^M_{t+1}) \right] \; \geq \; V^S_{mt}(\mathbf{\Omega}^S_t), \end{cases} \tag{19}$$

and $D_t = 1$ otherwise. If a couple decides to divorce, current assets are split proportionally to the spouses' relative incomes.

Bargaining Weights. Under the limited commitment, the Pareto weights that are used to make decisions in period t may differ from the Pareto weights of the following period. In other words, a couple solves an optimization problem subject to participation constraints (22) that determines whether is optimal for a married couple to divorce, remain married, and maintain the current allocation of resources, or renegotiate by changing the Pareto weights. More precisely, as in Marcet and Marimon (2019) dynamics of Pareto weights are given by :

$$\mu_{i,t+1} \; = \mu_{it} \; + \; \upsilon_{it}, \tag{20}$$

for $i \in \{m, f\}$ and where υ_{it} corresponds to the Lagrange multiplier associated with each spouse's sequential participation constraint in Problem (16). Moreover, we have that:

$$\mu_{m,1} = \mu_0 \quad \text{and} \quad \mu_{f,1} = (1 - \mu_0), \tag{21}$$

where $\mu_{m,0}$ is the *initial* Pareto weight. The vector of parameters $\boldsymbol{\mu}_{t+1}$ ensures that the next period's participation constraint is always satisfied in marriage (i.e., whenever $D_t = 0$).

The initial bargaining weight (μ_0) is obtained by solving the following Nash bargaining similar to Low et al. (2018) and Blasutto (2020b) problem with the value of singlehood as threat points:

$$\mu_{m,0} = \arg\max_{\mu} \left\{ \left[V^M_{mt}(\mathbf{\Omega}^M_t; \mu_m) - V^S_{mt}(\mathbf{\Omega}^S_t) \right] \times \left[(V^M_{ft}(\mathbf{\Omega}^M_t; (1-\mu_m)) - V^S_{ft}(\mathbf{\Omega}^S_t) \right] \right\}. \tag{22}$$

Summary of the Model. The difference between the choice set of couples and singles is that the former chooses the Pareto weight and whether to divorce or not, whereas the latter chooses whether to start a marriage or not. We add stochastic terms in tastes for marriage and the income process. The mechanisms by which personality enters our model are as follows. First, personality affects individual preferences directly via home production, leisure, and match quality. The disutility of working and taste for home production depend on spouses' personalities. The volatility of the match quality shock is a function of the couple's personality type. Second, personality also enters directly into budget constraints via wage offers. The stochastic volatility of income is associated with individuals' personality types. Finally, personality indirectly affects the bargaining process within couples by partially driving the chosen Pareto weights in married couples. Figure 15 in Appendix E provides an overview and the timing structure of the model.

4 Estimation and Identification

We follow a three-step process to estimate the structural parameters of our model. Firstly, we fix a subset of the model parameters based on prior literature. Secondly, we estimate several model parameters directly from the HILDA data without employing the structural model. Finally, we estimate the remaining parameters using the method of simulated moments (MSM) (Pakes and Pollard (1989); McFadden (1989)). Structural estimation involves utilizing numerical optimization techniques to find model parameters that closely match a set of simulated model moments with the corresponding moments from the data. The subsequent subsections provide a more detailed explanation of each step in the estimation process.

4.1 Pre-set parameters and values

Time Structure. We assume that men and women begin their life at age 25. Partnerships are formed between individuals of the same age. All agents retire at 65 (i.e., $T_r = 40$) and the life cycle ends at age 80 (i.e., $T_e = 55$).

Discount Factor, Risk Aversion, and Economies of Scale. Following the literature, the discount factor (β) is set to 0.98. The coefficient of relative aversion (γ_c) is fixed to 1.50 and the economies of scale in couples (ρ_c) is set to 1.40

Assets and Interest Rate. We assume that individuals at the age of 25 commence the model with zero assets ($A_0 = 0$). The annual interest rate (r) is set to 2%.

Time Endowment. The weekly work domain is set symmetrically across genders. Each individual has a fixed time budget, normalized to one. For both partners, labor supply choices are limited to working full-time (50 hours), part-time (20 or 35 hours), or not working at all. Additionally, we apply a symmetric grid for both genders regarding non-paid work. The preset parameters and values are displayed in Table 1.

Table 1: Preset parameters and values of the model

Parameter	Value	Source
Annual discount factor (β)	0.98	Attanasio et al., (2008)
Risk aversion (γ_c)	1.50	Attanasio et al., (2008)
Economies of scale (ρ_c)	1.40	Voena (2015)
Interest rate (r)	2%	-
Weekly work hours domain	$\{0, \quad 20, \quad 35, \quad 50\}$	HILDA
Weekly non-paid work domain	$\{5.5, \quad 25, \quad 50\}$	HILDA

Notes: The table displays all model parameters and values that are pre-set. For ease of interpretation the table presents the implied annual discount factor and interest rate, and the implied weekly work hours domain.

4.2 Spouses' wage processes

We estimate the spouses' wage processes using time series data on real hourly wage rates. We account for the endogeneity due to selection in the labor market of both males

and females estimating a two-step Heckman procedure. The estimated log (normalized) wage offer equation for individual $i \in \{m, f\}$ of personality type $j \in \{R, O, U\}$ takes the form:

$$\ln(w)^j_{it} = \alpha_0^{i,j} + \alpha_1^{i,j} t_{it} + \alpha_1^{i,j} t_{it}^2 + \alpha_2^{i,j} E_{it} + \alpha_3^{i,j} m_{it} + \omega_t^{i,j} + \nu_i^{i,j} + \varepsilon^j_{it}, \tag{23}$$

where E is the educational level, m is individual i's marital status, ω are survey year fixed effects, ν are state fixed effects, and:

$$\begin{aligned} \varepsilon^j_{it} &= z^j_{it} + \xi^j_{it}, \\ &= z^j_{i,t-1} + \zeta^j_{it} + \xi^j_{it}, \end{aligned} \tag{24}$$

with z as the permanent component of the income process, ζ permanent income shocks, and ξ denoting measurement error. The estimates of parameters $\alpha_0^{i,j}$, $\alpha_1^{i,j}$, and $\alpha_2^{i,j}$ are used to construct the trends in productivity. All coefficients are allowed to vary by personality and gender.

Wages are only observed if individuals are part of the labor force, which occurs when:

$$W^j_{it} = 1 \Leftrightarrow \mathbf{z}^\intercal_{it} \boldsymbol{\varphi}^{i,j} + \delta_1^{i,j} k_{it} + \kappa^j_{it} > 0, \tag{25}$$

where $\mathbf{z}$ are all the regressors of the offer wage equation, k is the number of children the individual has (that is excluded from Equation (26)), and κ_t are unobserved shocks. The first step in the Heckman procedure estimates the probability of labor market participation using the additional variation provided by the number of children inside the household. This is estimated by a Probit model:

$$\mathbb{P}(W^j_{it} = 1) = \mathbb{P}(\kappa^j_{it} > \Upsilon^j_{it}), \tag{26}$$

with $\Upsilon^j_{it} = -\mathbf{z}^\intercal_{it} \boldsymbol{\varphi}^{i,j} - \delta_1^{i,j} k_{it}$. Next, we estimate the wage offer equation for those who work controlling for the inverse of the Mills ratio of the fitted values from Equation (26). We follow Low et al. (2018) and estimate the variance of the permanent income component of the log income ($\sigma^2_{\zeta^j}$) using the residuals from the second step ($\hat{\varepsilon}^j_{it}$) and solving the

following system of moment conditions:

$$\begin{aligned}
\mathbb{E}\left[\Delta\hat{\varepsilon}^j_{it} \mid W^j_{it}=1, W^j_{i,t-1}=1\right] &= \sigma^2_{\kappa^j}\frac{\phi(\Upsilon^j_{it})}{1-\Phi(\Upsilon^j_{it})},\\
\mathbb{E}\left[(\Delta\hat{\varepsilon}^j_{it})^2 \mid W^j_{it}=1, W^j_{i,t-1}=1\right] &= 2\sigma^2_{\zeta^j}+\sigma^2_{\kappa^j}\frac{\phi(\Upsilon^j_{it})}{1-\Phi(\Upsilon^j_{it})}\Upsilon^j_{it}+2\sigma^2_{\xi^j},\\
\mathbb{E}\left[\Delta\hat{\varepsilon}^j_{it}\Delta\hat{\varepsilon}^j_{i,t-2} \mid W^j_{it}=1, W^j_{i,t-1}=1, W^j_{i,t-2}=1\right] &= -\sigma^2_{\xi^j},
\end{aligned} \tag{27}$$

where $\Delta\hat{\varepsilon}^j_{it} = \hat{\varepsilon}^j_{it} - \hat{\varepsilon}^j_{i,t-1}$, and $\phi(\cdot)$ and $\Phi(\cdot)$ are, respectively, the density and distribution function of a standardized normal distribution, that where used to compute the Mills ratio. We assume zero covariance in the shocks between spouses.

The results are shown in Table 2. Overall, we observe an inverted U-shaped in the returns to experience across gender and personality types. Returns to experience differ across personality types. Across gender, Resilient women and Undercontrolled men experience the highest returns to experience (in line with Figure 5). Overall, women have a higher volatility in wages as compared to men. Interestingly, in the case of women, is not Resilient women who experience the largest labor income volatility but Overcontrolled women. The magnitudes of our results are in line with Voena (2015) and Blasutto (2020a).

Table 2: Parameters of the wage process

		Personality type		
	Parameter	**Resilient**	**Undercontrolled**	**Overcontrolled**
Women's return to experience (constant)	α^f_0	2.858	2.787	3.200
Women's return to experience (age)	α^f_1	0.027	0.020	0.011
Women's return to experience (age^2)	α^f_2	-0.0003	-0.0002	-0.0001
Variance of women's income shock	$\sigma^2_{\zeta^f}$	0.056	0.055	0.060
Men's return to experience (constant)	α^m_0	2.293	0.960	1.875
Men's return to experience (age)	α^m_1	0.039	0.062	0.048
Men's return to experience (age^2)	α^m_2	-0.0004	-0.0008	-0.0006
Variance of men's income shock	$\sigma^2_{\zeta^m}$	0.052	0.046	0.041

Notes: Bootstrapped income process parameters estimated by nonlinear least squares using HILDA data of men and women between 25 and 55 years old. Number of replications: 1000.

4.3 Structural parameters

By means of the MSM, we estimate the remaining 23 unknown parameters, namely:

1. $\gamma_{i,l}$: the curvature parameter for leisure by gender.
2. ρ_Q: the elasticity of substitution for home production inputs.
3. ψ_i^j: the productivity in home production by gender and an individual's personality type.
4. μ_θ^H: the mean of the match quality shock by personality type of the couple.
5. σ_θ: the mean of the match quality.
6. λ_p with $p \in \{1, 2, 3\}$: parameters associated with the probability of meeting a partner over the life cycle.

Empirical moments, denoted as $\widehat{\mathbf{m}}$, are computed using the HILDA sample, which includes data from 2001 to 2019 (see Section 3 for a description of the sample). The analysis focuses on individuals who are between the ages of 25 and 55. We denote the vector of structural model parameters by $\boldsymbol{\Theta}$. For a given $\boldsymbol{\Theta}$, we solve the structural model by backward recursion, simulate data for 20.000 hypothetical individuals, and compute the vector of simulated moments $\mathbf{m}(\boldsymbol{\Theta})$. We use the inverse of the variance-covariance matrix of the empirical moments computed using the bootstrap method as a weighting matrix ($\mathbf{W}$). The estimation problem is defined by:

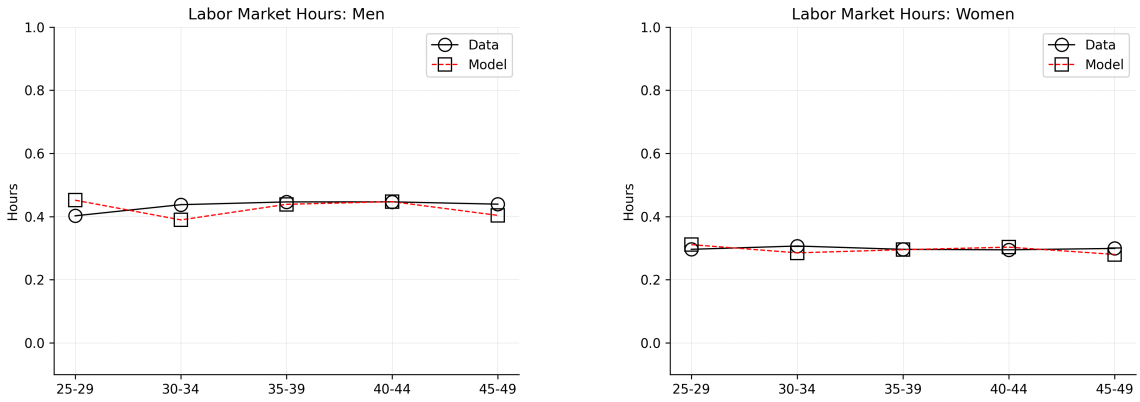
$$\min_{\boldsymbol{\Theta}} \left\{ \left[\mathbf{m}(\boldsymbol{\Theta}) - \widehat{\mathbf{m}} \right]^\intercal \mathbf{W} \left[\mathbf{m}(\boldsymbol{\Theta}) - \widehat{\mathbf{m}} \right] \right\}. \tag{28}$$

Identification. This section explains the process through which the parameters of the structural model are identified using heuristic arguments. As it is known, formal proofs of semiparametric identification are rather complex in dynamic models (see, e.g., Eckstein, Keane, and Lifshitz (2019)). While all data moments jointly contribute to estimating the structural parameters, each set of moments is more closely tied to a particular corresponding set of parameters.

The first set of moments we target includes the fraction of individuals employed by marital status and gender, and the hours worked on the labor market by marital status

and gender. These moments are primarily responsible for pinning down the disutility of work (η) and the curvature parameter of leisure (γ_l). For example, the higher the disutility of work, holding other parameters fixed, the lower the employment and hours worked on the labor market. The match is shown in Figure 6.

Figure 6: Targeted moments. Labor market.



The second set of moments we focus on corresponds to the hours spent working at home (Figure 7). For couples, we take into account the personality types of both spouses. The parameters τ_i, ψ^H, and ρ_Q are jointly identified based on the working hours at home. The reasoning behind this identification strategy is that higher values of these parameters indicate a greater desire for the household to produce public goods or substitute across inputs. As a result, more time input is required to meet the increased demand for public goods production.

The last set of moments relates to the marriage market (Figure 8). Parameters λ_0, λ_1, and λ_2 are intuitively identified by the share of people in a relationship. Ceteris paribus, as λ_t increases there is a higher chance of marriage at time t. A faster decline in λ_t increases the probability of marrying early, given the heightened risk of not encountering a partner in the future. Table 14 in Appendix E reports the complete set of targeted and simulated moments.

Structural Estimates. The estimates of the structural parameters are presented in Table 3.

Figure 7: Targeted moments. Non labor market.

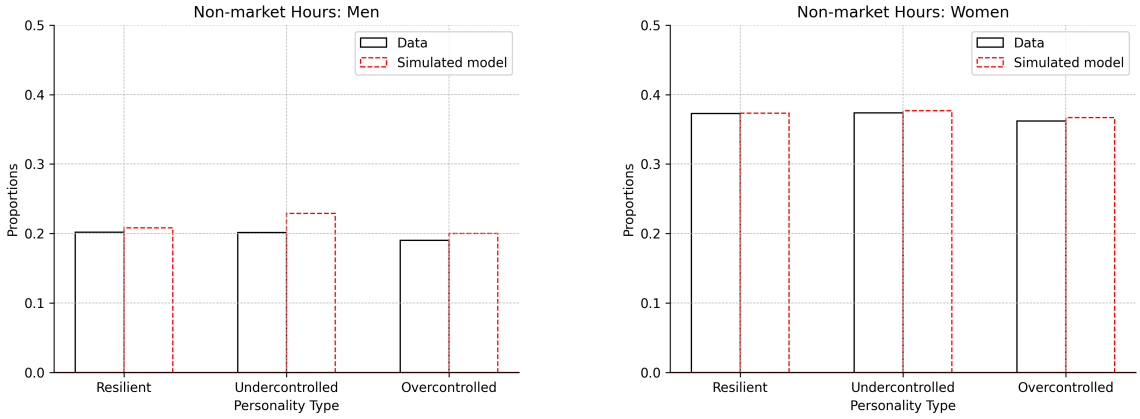
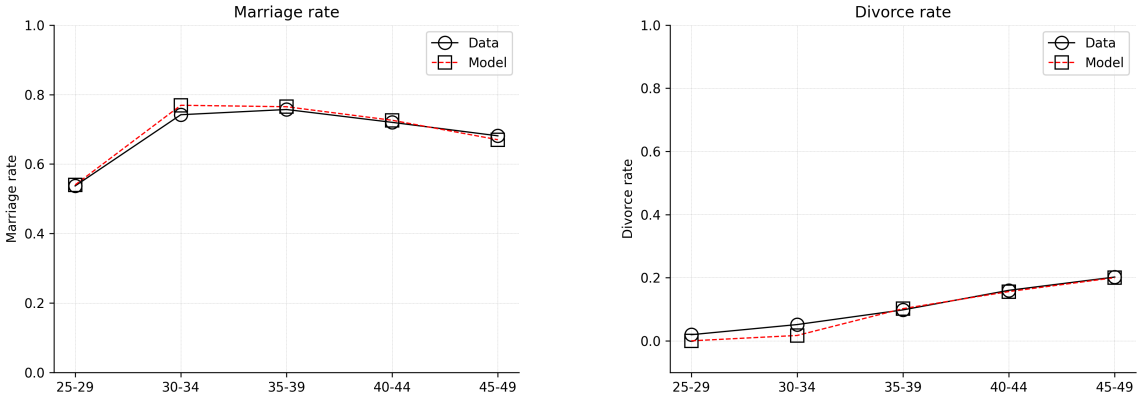


Figure 8: Targeted moments. Marriage market.



In panel B we show the estimates of the parameters associated with home production. In general, married women have a higher productivity at home home than married men. For the case of men, we do not observe large differences across personality types. Interestingly, Overcontrolled women have the highest productivity at home across all types, which is likely related to the large amount of non-paid hours allocated by these women over the lifecycle.

Lastly, Panel C of Table 3 presents estimates related to meetings in the marriage market and the variance of the match quality process. The arrival rate of marital offers

declines with age, albeit at a decreasing rate. Regarding the mean of match quality, we observe a nuanced influence of personality on the average match quality within couples. We have normalized the mean match quality of Resilient couples to 0, making all other household types relative to this baseline. Notably, the highest average match quality is observed between Undercontrolled women and Overcontrolled men, as well as in couples with Resilient men. Interestingly, the average match quality is relatively low for couples with Undercontrolled men, aligning with empirical findings.

Table 3: Estimated structural parameters

A. Labor Market		**B. Home Production**		**C. Marriage Market**	
		Productivity at home		Meeting probability:	
$\gamma_{f,l}$	2.69	$\psi^{R}_{f,M}$	0.97	λ_0	0.72
$\gamma_{m,l}$	2.85	$\psi^{U}_{f,M}$	0.98	λ_1	-0.06
		$\psi^{O}_{f,M}$	1.03	λ_2	0.11
		$\psi^{R}_{m,M}$	0.106		
		$\psi^{U}_{m,M}$	0.107	Match quality:	
		$\psi^{O}_{m,M}$	0.107	μ^{RR}_{θ}	0.0
		$\psi_{f,S}$	1.19	μ^{UR}_{θ}	0.19
		$\psi_{m,S}$	0.97	μ^{OR}_{θ}	0.20
		ρ^{Q}	0.3	μ^{RU}_{θ}	0.08
				μ^{UU}_{θ}	-0.02
				μ^{OU}_{θ}	-0.17
				μ^{RO}_{θ}	-0.06
				μ^{UO}_{θ}	0.22
				μ^{OO}_{θ}	0.05
				σ_{θ}	0.22

Notes: Parameters estimated using Method of Simulated Moments (MSM). *M*: married individual; *S*: single; *R*: Resilient; *U*: Undercontrolled; *O*: Overcontrolled. Regarding the mean of match quality, a woman's personality type is listed first. For example, the parameter μ^{RO}_{θ} corresponds to the average match quality of a couple where the woman is Resilient and the man is Overcontrolled. The mean match quality where both individuals are Resilient, denoted as μ^{RR}, is normalized to 0.

4.4 Non-targeted moments match

We now shift our focus to the non-targeted moments that are not explicitly addressed in the model. Table 4 shows the fit of the model for divorce rates and unpaid female work hours by household personality type. The table presents a comparison between actual data and its model-simulated counterparts (which are based on the estimated parameters). The divorce rate seems to vary based on the couple's personality type, as observed in both empirical data and model simulations. This variation highlights the heterogeneity in marital stability. For example, Undercontrolled married women are characterized by the highest divorce rates. The model also reproduces the relatively low divorce rate associated with Overcontrolled women. However, for a few household types, the model faces challenges in replicating the observed divorce rates (e.g., when both individuals are Overcontrolled). Regarding the out-of-sample fit associated with female non-paid hours, the model's estimates closely match empirical findings. The values consistently fall between 43 and 47 hours, indicating that the model effectively captures the unpaid labor patterns among women. Moreover, the model accurately reflects observed variations in hours for Resilient and Undercontrolled women (conditional on their partner's type).

Table 4: Out-of-sample fit

	Average divorce rates		**Female non-paid hours**	
Household type	**Model**	**Data**	**Model**	**Data**
Woman R & Man R	8.96	8.45	46.4	46
Woman U & Man R	9.73	8.93	45.8	46
Woman O & Man R	7.31	6.89	44.5	44
Woman R & Man U	8.12	8.18	46.3	45
Woman U & Man U	9.67	9.90	42.6	43
Woman O & Man U	7.45	6.59	42.6	42
Woman R & Man O	7.03	6.58	44.9	45
Woman U & Man O	7.94	7.31	46.5	47
Woman O & Man O	6.43	6.14	44.4	44

Notes: The table shows annual divorce rates and female weekly non-paid hours. Data moments come from the HILDA sample and the model moments are based on simulations of 20000 individuals. *R*: Resilient; *U*: Undercontrolled; *O*: Overcontrolled.

5 Quantifying the role of personality

In this section, we quantify the relevance that accounting for personality traits has when modeling individual and collective behavior associated with mating and household choices.

5.1 Decomposing the role of personality in time-use and marriage market outcomes

Table 5 offers a detailed examination of how including personality traits, specifically through earnings, preference heterogeneity, and match quality, impacts key outcomes of our economic setting. This exercise features the comparison of results using three model specifications: the *Base model* in column (3), which does not account for personality types; the *+Earnings model*, which adds heterogeneity in personality types exclusively in spouses' wage processes; and the *+Preference model*, which adds personality type heterogeneity in both earnings and preferences for leisure and home production. For each of these specifications, we show how the model deviates from the *Full model*, which includes all relevant variables and interactions. The results are expressed in percentages for time-use outcomes (Panel A) and percentage points for marriage market outcomes (Panel B).[10]

Looking at Panel A of Table 5, the impact of adding personality type into the modeling approach is profound and varies across different age categories. For instance, the *Full model* estimates 31.1 weekly paid work hours for married women aged 25-29 years old. When compared to the *Base model*, which does not include personality types, we observe a deviation of -8.88%. This deviation becomes even more pronounced in the *+Earnings model* (-18.93%), indicating how personality traits, when factored into personal preferences and match quality, significantly alter the time use patterns. Similar patterns are observed in older age groups. For instance, in the 30-34 age bracket, the deviation from the *Base model* is -31.07%, and for the *+Earnings model*, is -36.76%. This trend suggests a consistent impact of personality traits on work hours across different stages of a woman's life. In the case of married men aged 25-29, the *Full model* shows an average of 41.8 hours worked per week. Interestingly, the positive deviation from the *Base model* is 17.22%, indicating an increase in work hours when personality traits are excluded. This trend is

[10]The *Full model* features estimated moments based on simulations of 20,000 individuals. It is equivalent to the *+Preference model*, with the addition of accounting for the personality-dependent match quality process. Data in Panel A of Table 5 are presented in hours, whereas Panel B shows the shares.

consistent in the *+Earnings model* (17.40%).

Table 5: Decomposing the role of personality: earnings processes, preferences heterogeneity, and match quality

	Model specification			
	Full model	**Base model**	**+Earnings**	**+Preferences**
	Panel A: Time use			
Paid work hours married women				
25 - 29	31.1	-8.88%	-18.93%	0.77%
30 - 34	28.5	-31.07%	-36.76%	-20.2%
35 - 39	29.5	-35.23%	-41.40%	-24.55%
40 - 44	30.3	-30.19%	-34.21%	-11.09%
45 - 49	28.3	28.60%	19.40%	-5.99%
Paid work hours married men				
25 - 29	41.8	17.22%	17.40%	16.95%
30 - 34	42.0	4.53%	5.59%	4.82%
35 - 39	43.8	-11.35%	-6.64%	-11.54%
40 - 44	44.7	-8.64%	-7.85%	-11.52%
45 - 49	40.3	-9.66%	12.36 %	7.90%
	Panel B: Marriage market			
Share married individuals				
25 - 29	0.53	2.59	2.59	2.59
30 - 34	0.76	2.66	2.62	2.49
35 - 39	0.76	0.62	0.90	0.45
40 - 44	0.72	1.34	1.24	0.77
45 - 49	0.67	-2.88	0.86	-0.11
Share divorced individuals				
25 - 29	0.00	0.0	0.0	0.0
30 - 34	0.01	-1.15	-1.32	-1.49
35 - 39	0.10	-5.34	-4.39	-5.74
40 - 44	0.15	-5.77	-2.14	-2.48
45 - 49	0.20	-3.37	-4.92	-7.19

Looking at Panel B of Table 5 highlights the influence that personality heterogeneity has on closing the observed deviations in marriage and divorce rates across various model specifications. For instance, the *Full model* estimates a marriage rate of 53.7% in the first age bin. The deviation of 2.59 p.p. remains unchanged across additional specifications, emphasizing the role of the personality-dependent match quality process in bridging the gap in the marriage rate. For couples in their early thirties, the marriage rate deviation from the full estimation slightly decreases from 2.66 p.p. to 2.49 p.p., indicating a marginal improvement in estimation accuracy after incorporating heterogeneity in preferences. In other words, this result suggests that the complete

absence of modeling personality in preferences for leisure and home production, as well as in the earnings process, does not significantly alter the marriage rate prediction. For later age groups, the deviation in marriage rate decreases more noticeably, such as moving from a deviation of 0.62 p.p. in the *Base model* to 0.45 p.p. in the *+Preferences model*. This trend indicates that as individuals age, the inclusion of preferences and match quality becomes increasingly important for accurately predicting marriage rates. Interestingly, in the last age group, the *Base model* overestimates the marriage rate by 2.88 p.p., while the *+Preferences model* underestimates it by 0.11 p.p., demonstrating a significant improvement in predictive accuracy with the inclusion of personality traits in spouses' wage processes and preferences. Regarding divorce rates, the results suggest that the inclusion of personality types, especially in preferences for leisure, home production, and match quality, is critical for accurately estimating divorce rates among older individuals.

6 Counterfactual exercises

The economic literature has predominantly focused on labor and consumption responses to exogenous income changes (Blundell, Costa Dias, Meghir, & Shaw, 2016). This focus is consistent with collective models of labor supply, which emphasize how individuals within households adjust their work hours in response to economic shocks, aiming to smooth consumption given a fixed wage rate. However, recent findings challenge some traditional assumptions. For instance, For example, De Nardi (2021) found no evidence of the added-worker effect, suggesting that the presence of spousal earnings might reduce the variability of household income relative to male earnings alone. Our study builds on this by exploring whether psychological traits influence how households respond to economic shocks, examining if these traits modulate the adjustments made in time allocation decisions of both partners within the couple. To answer this question, we conduct two exercises. First, we exploit variations in husbands' permanent income to assess differential responses across household types, categorized by psychological traits. We analyze these responses across different couple types within deciles of the match quality distribution. Second, we examine household sensitivity to shocks in the quality of marital relationships. Understanding household responses to uncertainty helps address key policy questions: Does a decline in match quality lead to a shift from home tasks to labor market work? Does low commitment reduce investment in household goods?

Which households best adapt to income and match quality shocks, and how do their responses compare?

6.1 Permanent shock to male's earnings, commitment levels, and personality types

We start by examining the influence of changes in income on intrahousehold dynamics across household types. Table 6 shows men and women time use responses in weekly

Table 6: Time use responses after a negative permanent income shock in husband's earnings

	Time use responses			
Couple type	$\triangle n_f$	$\triangle h_f$	$\triangle n_m$	$\triangle h_m$
Woman R & Man R	1.68	-2.28	-0.31	1.57
Woman U & Man R	1.84	-3.19	-0.11	-0.68
Woman O & Man R	-0.66	-2.82	-0.39	-2.00
Woman R & Man U	0.31	-0.7	-0.00	-4.32
Woman U & Man U	0.37	-0.96	0.17	-11.17
Woman O & Man U	-0.21	-0.19	0.20	-10.29
Woman R & Man O	1.39	-3.14	-0.00	-3.22
Woman U & Man O	-0.83	-1.22	-0.4	-2.31
Woman O & Man O	0.04	-0.92	-0.5	-9.76

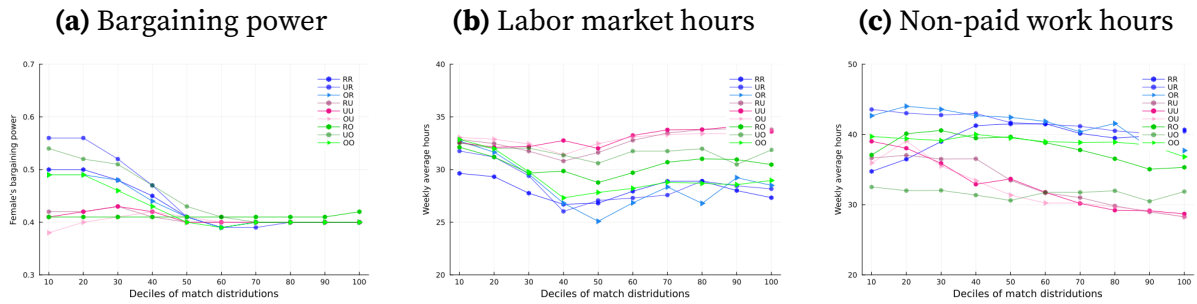
Notes: This table presents the effects of a decrease of one standard deviation in the male's earnings. n: labor market hours; h: non-market labor hours. These deviations are tracked over the five years following the shock, which is unexpected to the individual and assumed to occur at age 35.

hours after the husband's earnings are negatively affected by an income shock. Overall, males intensive labor supply do not significantly adjust. On the other hand, female market hours increase by up to 1.84 weekly hours (Woman U & Man R) and female non-market hours decrease by as much as -3.19 weekly hours (Woman U & Man R), suggesting that female labor supply effectively act as a household consumption smoothing device. Moreover, we observe significant and systematic heterogeneity in wife's time use responses across husbands with different personality types. Couples where the husband is resilient (Man R) and the wife is either resilient (Woman R) or uncontrolled (Woman U) appear to adjust more effectively to the shock, as the wives significantly increase market hours and reduce non-market work, helping to stabilize household income. In contrast, households with Undercontrolled husbands (Man U) exhibit less efficient time

restructuring, particularly among women, suggesting they may struggle more to adapt to the income shock. Interestingly, males's non-market hours significantly decrease in most of the cases.

The effect of a negative income shock, as reported above, can be difficult to interpret, since the observed responses depend not only on the shock itself but also on pre-shock household income, savings behavior, and the distribution of bargaining power within the household. Given this complexity, we aim to explore how personality types and match quality levels interact in shaping these responses. To investigate this, we begin by documenting trends in time allocation and the distribution of bargaining power across different household types, categorized by match quality deciles. Subsequently, we explore the implications of these trends on labor market adjustments (see, Table 7).

Figure 9: Female time use and power by household type across household match quality distribution.



Notes: Female power is calculated across the match quality distribution for individuals aged 35-40 years within each distinct household type. This analysis includes Resilient couples (RR), Undercontrolled women with Resilient men (UR, marked in blue), and Overcontrolled women with Resilient men (OR); Resilient women with Undercontrolled men (RU), Undercontrolled couples (UU), Overcontrolled women with Undercontrolled men (OU), Resilient women with Overcontrolled men (RO), Undercontrolled women with Overcontrolled men (UO), and Overcontrolled couples (OO). Power measurements are based on simulated data.

As shown in Figure 9, there is heterogeneity in the intrahousehold bargaining power and female time use decisions. First, we observe a negative correlation between the household match quality and female bargaining power, that is strongly pronounced for couples with a Resilient men. Second, the utility of marriage is negatively correlated with non-paid work hours for couples with Undercontrolled men but positively correlated for couples with Resilient men. Next, we focus on households aged 35-40 that experience an unexpected shock to permanent income of married men at age 35. Table 7 presents the differences in time allocation decisions, comparing the counterfactual with the baseline scenarios for both genders. We observe differential trends in these outcomes across men and women, and across household personality types. Interestingly, while there is

no evidence of adjustments in the hours worked by men when earnings decrease by one standard deviation, we do observe a significant impact on the hours worked by spouses. This effect varies depending on household type and match quality level. For instance, in households where both partners are characterized as resilient or where the woman is Resilient and the man is Undercontrolled, there tends to be an increase in labor market hours aimed at smoothing consumption. This is indicative of an added worker effect but is only observed in the highest tercile of match quality.

Table 8 presents the results of changes in female bargaining power across different match quality deciles. The data indicate that responses to changes in husbands' income vary significantly, demonstrating substantial heterogeneity based on household type and commitment level. For example, the largest shifts occur in the lowest deciles, with an approximate 10% change observed in households comprising Undercontrolled women with Resilient and Overcontrolled men, whereas, in the highest deciles, the shifts are negligible across all household types.

Table 7: Time use responses after a negative permanent income shock to husband's earnings by household type and match quality deciles

	Deciles of the match quality distribution									
	D1	**D2**	**D3**	**D4**	**D5**	**D6**	**D7**	**D8**	**D9**	**D10**
Panel A: *Resilient women & Resilient men*										
Labor hours women	0.7	0.59	0.71	-0.69	-0.17	1.38	2.15	2.92	4.02	4.54
Home hours women	1.22	2.56	1.3	0.12	-1.3	-3.32	-3.4	-5.79	-7.37	-8.6
Labor hours men	0.0	-0.26	-0.07	-0.27	-0.08	-0.1	-0.4	-0.08	0.0	0.0
Home hours men	3.02	5.31	5.19	3.76	4.79	3.79	1.34	-0.52	-1.33	-0.28
Panel B: *Undercontrolled women & Resilient men*										
Labor hours women	-1.43	-0.21	-0.08	2.63	1.08	1.11	3.04	1.7	2.76	2.44
Home hours women	-3.94	-3.02	-0.75	-2.06	-1.04	-0.82	-4.03	-4.07	-4.26	-5.65
Labor hours men	-0.03	-0.56	-0.43	-0.81	-0.18	-0.08	-0.1	-0.1	0.02	0.0
Home hours men	-0.48	2.48	3.5	-0.83	2.42	2.63	0.79	1.17	0.17	-0.52
Panel B: *Overcontrolled women & Resilient men*										
Labor hours women	-1.94	-1.4	-0.39	0.83	-1.11	-1.98	-2.58	-0.17	-3.67	-2.19
Home hours women	-8.38	-8.45	-6.17	-3.14	1.48	2.58	2.73	0.99	4.68	3.85
Labor hours men	0.01	0.1	0.41	0.81	0.95	0.31	0.4	0.0	0.0	0.0
Home hours men	-7.49	-9.1	-2.77	-3.69	1.72	1.0	-0.6	1.56	-4.88	-3.23
Panel D: *Resilient women & Undercontrolled men*										
Labor hours women	-1.11	-0.39	-0.42	0.34	0.37	0.07	0.55	0.38	0.43	0.39
Home hours women	5.16	2.79	2.62	0.08	-0.38	-0.55	-1.26	-1.22	-1.43	-1.7
Labor hours men	0.07	0.17	-1.08	-1.23	-1.32	-0.27	-0.04	-0.17	0.01	0.02
Home hours men	6.68	5.05	5.71	1.25	0.4	-0.4	-0.6	0.21	-0.87	-0.94
Panel E: *Undercontrolled women & Undercontrolled men*										
Labor hours women	1.27	1.02	1.14	0.01	0.56	-0.37	-0.33	0.4	-0.18	0.19
Home hours women	-0.59	-1.12	0.04	-0.06	-0.44	0.69	0.23	-0.43	-0.53	-0.66
Labor hours men	0.35	0.20	-0.11	-1.33	-1.42	-0.28	-1.15	-0.02	0.0	0.0
Home hours men	1.93	6.02	3.28	1.10	2.80	0.67	1.29	0.39	0.80	-2.87
Panel F: *Overcontrolled women & Undercontrolled men*										
Labor hours women	-0.63	-0.13	0.42	2.0	0.53	-0.91	0.0	-0.33	-0.34	-0.71
Home hours women	1.7	-3.5	-1.68	-3.19	-1.15	1.22	0.08	0.26	1.08	0.7
Labor hours men	0.0	0.0	2.79	2.51	1.52	0.53	-0.13	0.14	0.0	0.0
Home hours men	-4.74	-2.33	1.77	-0.83	1.7	0.35	-0.17	2.4	-2.23	-2.22
Panel G: *Resilient women & Overcontrolled men*										
Labor hours women	-2.99	-2.52	-2.29	-1.87	-2.01	-1.28	1.55	3.14	5.87	9.73
Home hours women	2.61	3.56	4.19	1.23	0.28	-2.48	-4.24	-5.98	-9.08	-12.21
Labor hours men	-0.38	-0.44	-0.59	-0.10	-0.18	-0.46	-0.31	-0.31	-0.16	-0.11
Home hours men	6.24	4.52	3.55	-0.82	-1.77	-4.48	-4.73	-3.88	-1.91	0.95
Panel H: *Undercontrolled women & Overcontrolled men*										
Labor hours women	-1.66	-1.78	-1.38	-0.67	0.29	-0.53	0.79	-0.69	1.43	-1.79
Home hours women	-2.21	0.15	1.55	0.77	1.16	2.58	-1.82	1.07	-2.01	0.62
Labor hours men	0.0	-0.41	-1.53	-0.34	-1.92	-0.01	0.42	0.17	-0.06	0.0
Home hours men	0.55	0.90	2.31	1.78	2.56	-1.49	-1.72	-1.22	-1.77	-11.68
Panel I: *Overcontrolled women & Overcontrolled men*										
Labor hours women	-1.51	-1.36	0.82	2.29	0.74	0.22	-0.8	-0.91	-0.11	-1.31
Home hours women	-5.00	-4.06	-1.76	-3.46	-0.04	0.20	2.18	1.63	0.42	2.84
Labor hours men	0.38	-0.37	0.30	-0.12	0.76	0.04	-0.09	-0.10	0.00	0.00
Home hours men	-5.26	-6.39	-2.93	-3.16	-1.41	0.54	-1.89	-2.76	-2.04	-7.59

This table presents spouses' labor supply and non-market hours responses by household personality types (Panels A to I) across the match quality distribution (deciles D1 - D10). The responses are calculated for the age range of 35-40 years and are expressed in hours.

Table 8: Bargaining power responses after a negative permanent income shock to husband's earnings by household type and match quality deciles

	Deciles of the match quality distribution									
	D1	**D2**	**D3**	**D4**	**D5**	**D6**	**D7**	**D8**	**D9**	**D10**
Panel A: *Resilient women & Resilient men*										
Power Base (share)	0.5	0.5	0.48	0.45	0.41	0.39	0.4	0.4	0.4	0.4
△ power (%)	-0.66	-1.97	-2.39	-3.57	-3.09	-2.09	-0.34	-0.25	0.0	0.0
Panel B: *Undercontrolled women & Resilient men*										
Power Base (share)	0.56	0.56	0.52	0.47	0.41	0.39	0.39	0.4	0.4	0.4
△ power (%)	-10.27	-12.81	-8.15	-5.85	-1.22	-0.28	-0.39	-0.71	-0.0	0.0
Panel C: *Overcontrolled women & Resilient men*										
Power base (share)	0.49	0.49	0.48	0.44	0.4	0.39	0.4	0.4	0.4	0.4
△ power (%)	-5.43	-5.59	-3.29	5.0	10.26	15.96	17.09	16.14	16.53	15.11
Panel D: *Resilient women & Undercontrolled men*										
Power base (share)	0.42	0.42	0.43	0.41	0.4	0.4	0.4	0.4	0.4	0.4
△ power (%)	-4.57	-4.61	-6.78	-3.46	0.5	0.35	0.47	-0.2	0.0	-0.0
Panel E: *Undercontrolled women & Undercontrolled men*										
Power Base (share)	0.41	0.42	0.43	0.42	0.4	0.4	0.4	0.4	0.4	0.4
△ power (%)	-4.57	-4.61	-6.78	-3.46	0.5	0.35	0.47	-0.2	0.0	-0.0
Panel F: *Overcontrolled women & Undercontrolled men*										
Power Base (share)	0.38	0.4	0.41	0.42	0.41	0.4	0.4	0.4	0.4	0.4
△ power (%)	6.52	0.1	-2.94	-5.76	-1.44	0.65	0.26	0.0	0.0	0.0
Panel G: *Resilient women & Overcontrolled men*										
Power Base (share)	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.42
△ power (%)	-0.05	0.51	-0.94	1.0	-0.53	-1.73	0.57	-1.11	-0.75	-3.04
Panel H: *Undercontrolled women & Overcontrolled men*										
Power Base (share)	0.54	0.52	0.51	0.47	0.43	0.41	0.4	0.4	0.4	0.4
△ power (%)	-10.54	-7.95	-8.2	-5.05	-3.64	-3.83	-1.12	-0.11	0.0	0.0
Panel I: *Overcontrolled women & Overcontrolled men*										
Power Base (share)	0.49	0.49	0.46	0.43	0.4	0.3	0.4	0.4	0.4	0.4
△ power (%)	-5.79	-4.55	-2.15	-3.73	-2.54	2.33	0.77	0.26	-0.1	0.0

Notes: This table presents baseline bargaining power and its responses by household personality types (Panels A to I) across the match quality distribution (deciles D1 - D10). Power responses in percentage change after an income shock at age 35. The responses are calculated for the age range of 35-40 years.

6.2 Shock to match quality, household dynamics and personality types

Recognizing the significant roles that match quality and psychological traits play on the way households respond to uncertainty in wages, we leverage our setting to explore how shocks to match quality influence the behavior of married individuals. Table 9 details the differences observed in a counterfactual scenario where the permanent component of match quality is subjected to an unexpected shock at age 35.

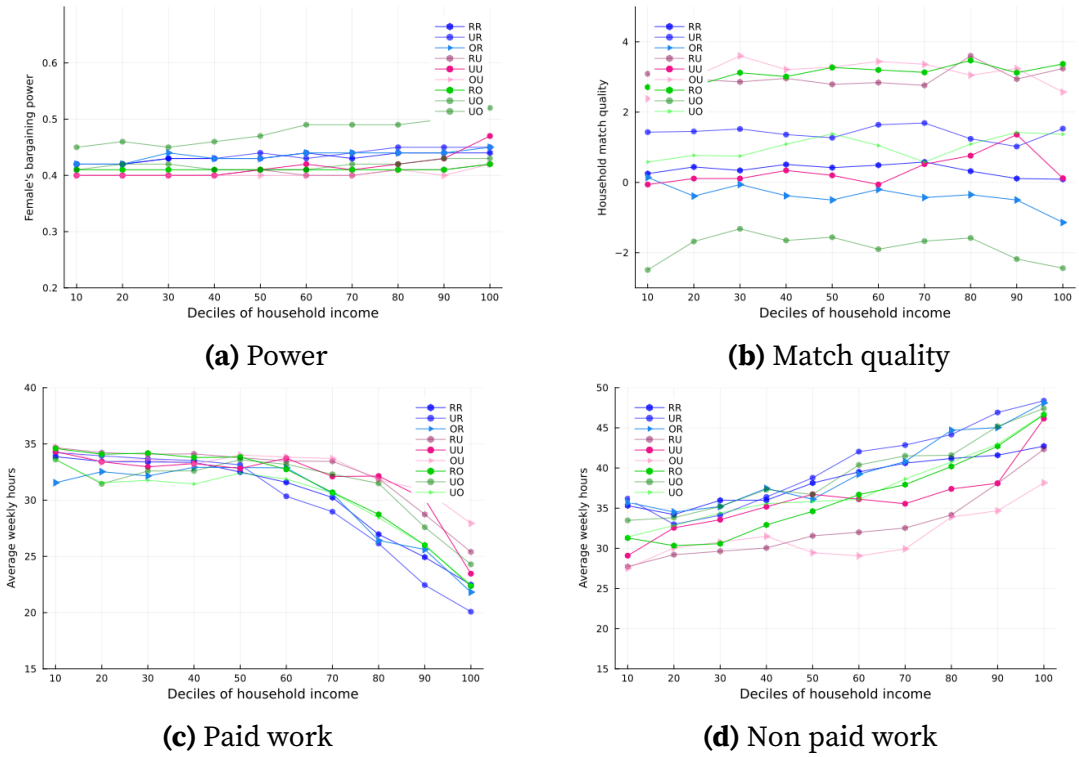
Table 9: Time use responses after a negative shock to the household match quality

	Time use responses			
Couple type	$\triangle\, n_f$	$\triangle\, h_f$	$\triangle\, n_m$	$\triangle\, h_m$
Woman R & Man R	-1.74	1.77	-0.45	-3.00
Woman U & Man R	-0.68	-1.04	-0.20	-6.55
Woman O & Man R	-4.30	3.15	-0.76	-0.15
Woman R & Man U	0.59	-3.50	0.31	-5.05
Woman U & Man U	-0.65	1.52	-1.57	2.50
Woman O & Man U	0.31	-2.71	0.55	-1.78
Woman R & Man O	0.18	-2.61	0.16	-7.03
Woman U & Man O	-1.29	1.32	-0.21	-0.05
Woman O & Man O	-0.05	-1.96	-1.13	-4.55

Notes: This table illustrates the impact of a one standard deviation decrease in household match quality. Household responses are computed as the difference in weekly hours between the baseline scenario (without a shock) and the counterfactual scenario. These deviations are tracked over the five years following the shock, which is unexpected to the individual and assumed to occur at age 35.

We find evidence on the sensitivity of labor supply decisions and time allocated to home duties in response to a permanent shock in household match quality. The primary challenge lies in isolating the *personality effect*, given the significant impact of personality on income, as demonstrated by Todd and Zhang (2020), among others. To isolate *personality effect* from income effect we categorize the sample by household types and across income deciles. We first provide the statistics similar to the 9 complementing it with match quality. As evident from Figure 10 income distribution is actually affect less the power allocation within household. Labor market hours are negatively correlated with the household income (the higher the income distribution the less hours women work at labor market) and positively correlated with hours provided by home work (Panels C and D in Figure 10). The find substantial heterogeneity in time use and match quality across the household types.

The variation in Table 10 suggest that individual and combined personality traits



(a) Power **(b)** Match quality

(c) Paid work **(d)** Non paid work

Figure 10: Female time use and power by household type across household match quality distribution.

Notes: Female power is calculated across the match quality distribution for individuals aged 35-40 years within each distinct household type. This analysis includes Resilient couples (RR), Undercontrolled women with Resilient men (UR, marked in blue), and Overcontrolled women with Resilient men (OR); Resilient women with Undercontrolled men (RU), Undercontrolled couples (UU), Overcontrolled women with Undercontrolled men (OU), Resilient women with Overcontrolled men (RO), Undercontrolled women with Overcontrolled men (UO), and Overcontrolled couples (OO). Power measurements are based on simulated data.

within households drive the allocation of labor and home hours in response to relational stress.

Among diagonal personality pairings, Resilient-Resilient couples notably allocate more hours to home activities while reducing labor hours, accompanying an increase in household power. This pattern implies a mutual decision to prioritize domestic tasks over economic activities, enhancing their collective influence within the home. In contrast, Undercontrolled-Undercontrolled pairs also increase home hours, but the reduction in labor hours predominantly affects men, with stable power dynamics. This suggests a gender-specific adaptation to household with decreased match quality does not shift the overall power balance. Overcontrolled-Overcontrolled couples exhibit minimal changes in time allocation, with slight reductions in both home and labor hours for men, paired

with a decrease in power for women. This indicates that adjustments match quality can strain the power dynamics, particularly diminishing women's influence, suggesting a fragile balance between the types.

Focusing on off-diagonal interactions, Resilient women paired with either Undercontrolled or Overcontrolled (*Panel B* and *Panel G*) men observe a decrease in home hours for both partners alongside stable labor hours, accompanied by a reduction in women's power. The decrease in women's power notably correlates with a reduction in home hours, suggesting that diminished influence at home may lead these women to allocate less time to domestic responsibilities. Overcontrolled women paired with Resilient men (*Panel G*) experience increased home hours and a boost in power. This increase in women's power likely results from Resilient men prioritizing relational stability and emotional support over traditional match quality metrics, amplifying the women's influence at home. Conversively, Overcontrolled women with Undercontrolled men face fluctuating power dynamics, despite a decrease in labor and home hours for men and men gaining the leisure.

As economic conditions stabilize in the middle income deciles, *personality effects* continue to shape household dynamics, albeit with less extreme shifts. We turn our attention to the middle of household income ditribution (D 4 - D7 in Table 10). In these settings, Undercontrolled couples shift their focus from labor market participation to increased domestic involvement, suggesting a strategic enhancement of home life. Overcontrolled-Overcontrolled pairings at the same time demonstrate a substantial reduction in both home and labor hours for men, with women's power remaining stable, posing intriguing questions about the resilience of power dynamics despite reduced male participation. Undercontrolled Women with Resilient Men reduce their home worked hours due to lowered match quality, which diminishes their incentive to contribute to the public good, simultaneously leading to a loss of power and an increase in leisure time affecting labor market participation. Conversely, Resilient Women paired with Undercontrolled Men observe a slight increase in women's labor hours against a backdrop of reduced men's home hours, highlighting a reshuffling of household responsibilities.

In the higher income deciles, where financial flexibility is greater, the responses become more varied. Across all household types expect OR women loose power. However this results in distinct hours allocation. Resilient-Resilient couples see a significant reduction in men's home hours, while women slightly increase theirs, attempting to maintain household functionality. Across all types, the trend of decreasing home hours,

particularly pronounced among men, highlights a shift away from domestic responsibilities and suggests a restructuring of household roles and power dynamics in response to decreased match quality.

Overall, match quality emerges as a crucial factor in shaping responses, with its impact varying significantly across different household and individual types. Social policies may need to be tailored to support households in the lower deciles and those identified as vulnerable (e.g., UR and RO categories), where the impact of relational disruptions appears most detrimental. This comparative analysis not only highlights the differential impacts of match quality shocks across various household psychological types but also suggests the need for nuanced policy and intervention approaches tailored to specific household dynamics.

Given the significant influence of match quality on household choices, we now examine the responses to an income shock across the match quality distribution, aiming to isolate the channel through which this shock impacts household dynamics. This approach helps clarify how varying levels of match quality modulate the household's reaction to changes in economic circumstances.

7 Conclusion

This study presents a framework for understanding how personality influence household dynamics, marriage market outcomes, and time allocation decisions across the life cycle. We integrate personality into a dynamic structural household model to examine their impact on individual and family behavior, providing insights into how different personality types influence marriage and divorce decisions, labor market participation, and non-market activities.

Our paper provides new insights into how personality traits shape household responses to economic and relational shocks. By considering permanent negative shocks to both primary earner income and household match quality, we highlight how individual behavior is influenced by personality traits and the interaction of these traits within a couple. Resilient couples, especially resilient women, effectively adjust their labor supply in the face of negative income or match quality shocks, helping to stabilize household consumption. In contrast, undercontrolled individuals face challenges in reallocating their time efficiently, leaving them more vulnerable to disruptions. These findings emphasize the need for policy interventions that are tailored to different types of households, particularly those with undercontrolled individuals, who may benefit from additional support in managing such shocks.

We aim at further studies that examine how personality traits affect intra-household negotiations in areas such as investment in children's education or retirement planning, offering a more comprehensive view of household decision-making under limited commitment frameworks.

References

Alderotti, G., Rapallini, C., & Traverso, S. (2023). The big five personality traits and earnings: A meta-analysis. *Journal of Economic Psychology*, *94*, 102570.

Almlund, M., Duckworth, A. L., Heckman, J., & Kautz, T. (2011). Personality psychology and economics. In *Handbook of the economics of education* (Vol. 4, pp. 1–181). Elsevier.

Asendorpf, J. B., Borkenau, P., Ostendorf, F., & Van Aken, M. A. (2001). Carving personality description at its joints: Confirmation of three replicable personality prototypes for both children and adults. *European Journal of personality*, *15*(3), 169–198.

Back, M. D., & Vazire, S. (2015). The social consequences of personality: Six suggestions for future research. *European Journal of Personality*, *29*(2), 296–307.

Barry, W. A. (1970). Marriage research and conflict: an integrative review. *Psychological bulletin*, *73*(1), 41.

Blasutto, F. (2020a). *Cohabitation vs marriage: Mating strategies by education in the usa* (Tech. Rep.). Institut de recherche économiques et sociales, UC Louvain.

Blasutto, F. (2020b, July). *Cohabitation vs Marriage: Mating Strategies by Education in the USA* (LIDAM Discussion Papers IRES No. 2020023). Université catholique de Louvain, Institut de Recherches Economiques et Sociales (IRES). Retrieved from https://ideas.repec.org/p/ctl/louvir/2020023.html

Blasutto, F., & Kozlov, E. (2020, November). *(Changing) Marriage and Cohabitation Patterns in the US: do Divorce Laws Matter?* (2020 Papers No. pbl245). Job Market Papers. Retrieved from https://ideas.repec.org/p/jmp/jm2020/pbl245.html

Blau, F. D., & Kahn, L. M. (2017). The gender wage gap: Extent, trends, and explanations. *Journal of economic literature*, *55*(3), 789–865.

Block, J. (2014). *Lives through time*. Psychology Press.

Blundell, R., Costa Dias, M., Meghir, C., & Shaw, J. (2016). Female labor supply, human capital, and welfare reform. *Econometrica*, *84*(5), 1705-1753. Retrieved from https://onlinelibrary.wiley.com/doi/abs/10.3982/ECTA11576 doi: https://doi.org/10.3982/ECTA11576

Browning, M., Cherchye, L., De Rock, B., Vermeulen, F., & Demuynck, T. (2021). Stable marriage, household consumption and unobserved match quality.

Calvo, P. A., Lindenlaub, I., & Reynoso, A. (2021, June). *Marriage market and labor market sorting* (Working Paper No. 28883). National Bureau of Economic Research. Retrieved from http://www.nber.org/papers/w28883 doi: 10.3386/w28883

Cherchye, L., De Rock, B., & Vermeulen, F. (2012, December). Married with children: A collective labor supply model with detailed time use and intrahousehold expenditure information. *American Economic Review*, *102*(7), 3377-3405. Retrieved from https://www.aeaweb.org/articles?id=10.1257/aer.102.7.3377 doi: 10.1257/aer.102.7.3377

Cherchye, L., De Rock, B., Vermeulen, F., & Walther, S. (2021). Where did it go wrong? marriage and divorce in malawi. *Quantitative Economics*, *12*(2), 505–545.

Chiappori, P.-A. (1988). Rational household labor supply. *Econometrica: Journal of the Econometric Society*, 63–90.

Chiappori, P.-A. (1992). Collective labor supply and welfare. *Journal of political Economy*, *100*(3), 437–467.

Choo, E., & Siow, A. (2006). Who marries whom and why. *Journal of political Economy*, *114*(1), 175–201.

Ciscato, E., & Weber, S. (2020). The role of evolving marital preferences in growing income inequality. *Journal of Population Economics*, *33*(1), pp. 307–347. Retrieved 2024-01-14, from https://www.jstor.org/stable/48741055

Cobb-Clark, D. A., & Schurer, S. (2012). The stability of big-five personality traits. *Economics Letters*, *115*(1), 11–15.

De Rock, B., Kovaleva, M., & Potoms, T. (2023, October). *A Spouse and a House are all we need? Housing Demand, Labor Supply and Divorce over the Lifecycle* (Working Papers ECARES No. 2023-18). ULB – Universite Libre de Bruxelles. Retrieved from https://ideas.repec.org/p/eca/wpaper/2013-364446.html

Donnellan, M. B., Conger, R. D., & Bryant, C. M. (2004). The big five and enduring marriages. *Journal of Research in personality*, *38*(5), 481–504.

Donnellan, M. B., & Robins, R. W. (2010). Resilient, overcontrolled, and undercontrolled personality types: Issues and controversies. *Social and Personality Psychology Compass*, *4*(11), 1070–1083.

Dupuy, A., & Galichon, A. (2014). Personality traits and the marriage market. *Journal of Political Economy*, *122*(6), 1271–1319. Retrieved 2022-10-17, from http://www.jstor.org/stable/10.1086/677191

Eckstein, Z., Keane, M., & Lifshitz, O. (2019). Career and family decisions: Cohorts born 1935–1975. *Econometrica*, *87*(1), 217–253.

Fernández, G. P. (2023). Does personality affect the allocation of resources within households? *KU Leuven, Department of Economics, Discussion Paper Series DPS*(23.11).

Fitzenberger, B., Mena, G., Nimczik, J., & Sunde, U. (2022). Personality traits across the life cycle: Disentangling age, period and cohort effects. *The Economic Journal*, *132*(646), 2141–2172.

Flinn, C., Todd, P., & Zhang, W. (2020). Personality traits, job search and the gender wage gap.

Flinn, C., Todd, P. E., & Zhang, W. (2018). Personality traits, intra-household allocation and the gender wage gap. *European Economic Review*, *109*, 191-220. Retrieved from https://www.sciencedirect.com/science/article/pii/S0014292117302143 (Gender Differences in the Labor Market) doi: https://doi.org/10.1016/j.euroecorev.2017.11.003

Gerlach, M., Farb, B., Revelle, W., & Nunes Amaral, L. A. (2018). A robust data-driven approach identifies four personality types across four large data sets. *Nature human behaviour*, *2*(10), 735–742.

Goldberg, L. R. (1992). The development of markers for the big-five factor structure. *Psychological assessment*, *4*(1), 26.

Goussé, M., Jacquemet, N., & Robin, J.-M. (2017). Marriage, labor supply, and home production. *Econometrica*, *85*(6), 1873–1919.

Greenwood, J., Guner, N., Kocharkov, G., & Santos, C. (2014, May). Marry your like: Assortative mating and income inequality. *American Economic Review*, *104*(5), 348-53. Retrieved from https://www.aeaweb.org/articles?id=10.1257/aer.104.5.348 doi: 10.1257/aer.104.5.348

Heckman, J. J., Jagelka, T., & Kautz, T. D. (2019). *Some contributions of economics to the study of personality* (Tech. Rep.). National Bureau of Economic Research.

Lattin, J. M., Carroll, J. D., & Green, P. E. (2003). *Analyzing multivariate data* (Vol. 1). Thomson Brooks/Cole Pacific Grove, CA.

Ligon, E., Thomas, J. P., & Worrall, T. (2002). Informal insurance arrangements with limited commitment: Theory and evidence from village economies. *The Review of Economic Studies*, *69*(1), 209–244. Retrieved 2024-01-14, from http://www.jstor.org/stable/2695959

Low, H., Meghir, C., Pistaferri, L., & Voena, A. (2018). *Marriage, labor supply and the dynamics of the social safety net* (Tech. Rep.). National Bureau of Economic Research.

Lundberg, S. (2012, 12). Personality and marital surplus. *, 1*. doi: 10.1186/2193-8997-1-3

Marcet, A., & Marimon, R. (2019). Recursive contracts. *Econometrica*, *87*(5), 1589–1631.

Mazzocco, M. (2007, 07). Household Intertemporal Behaviour: A Collective Charac-

terization and a Test of Commitment. *The Review of Economic Studies, 74*(3), 857-895. Retrieved from https://doi.org/10.1111/j.1467-937X.2007.00447.x doi: 10.1111/j.1467-937X.2007.00447.x

Mazzocco, M., Ruiz, C., & Yamaguchi, S. (2014). Labor supply and household dynamics. *American Economic Review*, *104*(5), 354–359.

McFadden, D. (1989). A method of simulated moments for estimation of discrete response models without numerical integration. *Econometrica, 57*(5), 995–1026. Retrieved 2022-11-15, from http://www.jstor.org/stable/1913621

Pakes, A., & Pollard, D. (1989). Simulation and the asymptotics of optimization estimators. *Econometrica, 57*(5), 1027-57. Retrieved from https://EconPapers.repec.org/RePEc:ecm:emetrp:v:57:y:1989:i:5:p:1027-57

Reynoso, A. (2018). The impact of divorce laws on the equilibrium in the marriage market. *Unpublished manuscript*.

Robins, R. W., Caspi, A., & Moffitt, T. E. (2000). Two personalities, one relationship: both partners' personality traits shape the quality of their relationship. *Journal of personality and social psychology*, *79*(2), 251.

Robins, R. W., John, O. P., Caspi, A., Moffitt, T. E., & Stouthamer-Loeber, M. (1996). Resilient, overcontrolled, and undercontrolled boys: three replicable personality types. *Journal of Personality and Social psychology*, *70*(1), 157.

Shephard, A. (2019). Marriage market dynamics, gender, and the age gap.

Specht, J., Luhmann, M., & Geiser, C. (2014). On the consistency of personality types across adulthood: latent profile analyses in two large-scale panel studies. *Journal of personality and social psychology*, *107*(3), 540.

Todd, P. E., & Zhang, W. (2020). A dynamic model of personality, schooling, and occupational choice. *Quantitative Economics*, *11*(1), 231–275.

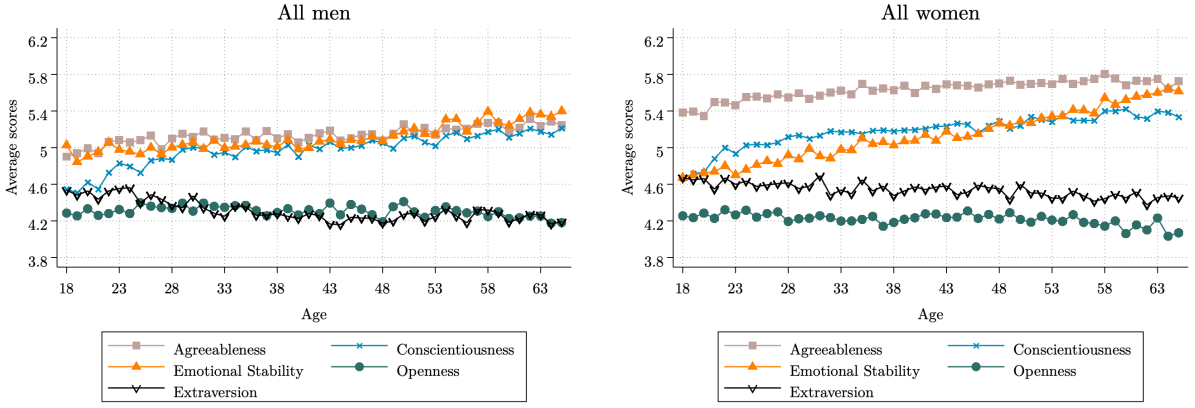
Voena, A. (2015, August). Yours, mine, and ours: Do divorce laws affect the intertemporal behavior of married couples? *American Economic Review*, *105*(8), 2295-2332. Retrieved from https://www.aeaweb.org/articles?id=10.1257/aer.20120234 doi: 10.1257/aer.20120234

A Descriptive statistics

B Stability of personality

Figure B2 showcases the average "Big Five" personality scores over the life cycle, using data from the 2005, 2009, 2013, and 2017 waves. The left panel illustrates the levels of the Big Five (B5) personality traits for men, whereas the right panel displays the B5 personality traits for women. On average, women have higher agreeableness and conscientiousness scores than men. For men, there is a slight decrease in the level of extraversion over time. Among all traits for women, conscientiousness stands out as the only personality trait that exhibits a minor increase with age.

Figure B2: Stability of personality traits over the life cycle



Notes: This figure illustrates the average personality scores by age and gender across all waves.

C Construction and description of personality types

C.1 Cluster analysis

The objective of clustering is to divide observations into groups where observations within a group are relatively similar, and observations of different groups are dissimilar. The clustering method that we use corresponds to K-means with hierarchical's centroids as starting values. K-means clustering aims to split the sample into non-overlapping

groups so that within-cluster variation is as small as possible. For further details, see Lattin, Carroll, and Green (2003).

Figure C1 illustrates the categorization of the sample after clustering the data. Table C1 displays the average and standard deviation of the Big Five traits for each personality type, for both men and women and the proportion of each type in the sample. Overall, Resilient individuals have high values across all five personality traits across types. Undercontrolled individuals have the highest value in openness to new experiences and the lowest in emotional stability and conscientiousness. Undercontrolled individuals also present relatively high values in agreeableness and extraversion. Overcontrolled individuals score the lowest in agreeableness, extraversion, and openness. They also present relatively low values in conscientiousness but are above the sample average in emotional stability. These findings are consistent with previous studies (see, e.g., Donnellan and Robins (2010)). Finally, on average, women are more agreeable, extraverted, and conscientious than men whereas men are more open to new experiences than women. Overall, there are no differences across genders in emotional stability.

C.2 Clusters validation

In general, selecting a cluster solution is based on the interpretation that can be given to the chosen clusters, summary statistics trading-off between adequacy and complexity, and the stability of the solution. Table C2 compares fit measures across several cluster solutions. The pseudo–F statistic captures the trade-off between the number of clusters and within-cluster heterogeneity. The hit rate provides the percentage of correct classified observations when verifying the generalizability of the cluster solution. Finally, the Adjusted Rand Index gives an indication of how far the cluster solution is from a random classification of observations. For further information, see Lattin et al. (2003).

As seen in Table C2, the cluster solutions with the better fit are those with two and three clusters. However, a cluster solution with two clusters would be too general to capture differences found in the literature between Overcontrolled and Undercontrolled individuals (see, e.g., Robins et al. (1996)).

C.3 Stability of the cluster solution

In this subsection, we analyze whether the personality type of an individual is stable over time. To ease the computational burden when computing the cluster solution, we

Figure C1: Three-cluster solution based on Big Five personality traits

Notes: Personality types were constructed by K-means clustering with hierarchical centroids.

divide the full sample (waves 2 to 19) into subsamples with fewer number of waves and extracted the cluster solution for each subsample. Within these subsamples, we check the evolution of personality types for each person by computing different measures of variability.

As shown in table C3, there is very small within-individual variation in each subsample as illustrated by the standard deviation, coefficient of variation, and range. As a further exercise, we check the variation of the cluster solution in a subsample with a few initial waves (2 to 4) and few final waves (17 to 19). Overall, we observe even less within-individual variation in personality types than for the other subsamples. This information provides evidence supporting that the personality type of an individual remains stable over time.

C.4 Description of personality types

Table C4. Demographic information by personality types

	Resilient	**Undercontrolled**	**Overcontrolled**	**All**
Average age	41.52	37.95	40.11	40.07
Fraction of young adults	0.34	0.45	0.38	0.39
Fraction of middle-aged adults	0.50	0.44	0.49	0.48
Fraction of old-aged adults	0.16	0.10	0.13	0.13
Fraction of highly educated	0.48	0.44	0.31	0.42
Fraction of only highschool	0.15	0.15	0.23	0.17
Average number of children	1.85	1.86	1.93	1.88
Fraction of childless households	0.53	0.53	0.51	0.53
Fraction of married	0.63	0.55	0.64	0.61
Fraction of singles	0.22	0.34	0.26	0.27
Fraction of divorced	0.15	0.11	0.10	0.13
Average duration of marriage	14.92	12.94	15.18	14.48
Average number of marriages	0.93	0.76	0.84	0.86

Notes: This table displays averages and fractions of demographic characteristics across personality types for the full sample.

D Duration models

Table 12: Likelihood to marriage by personality types and gender

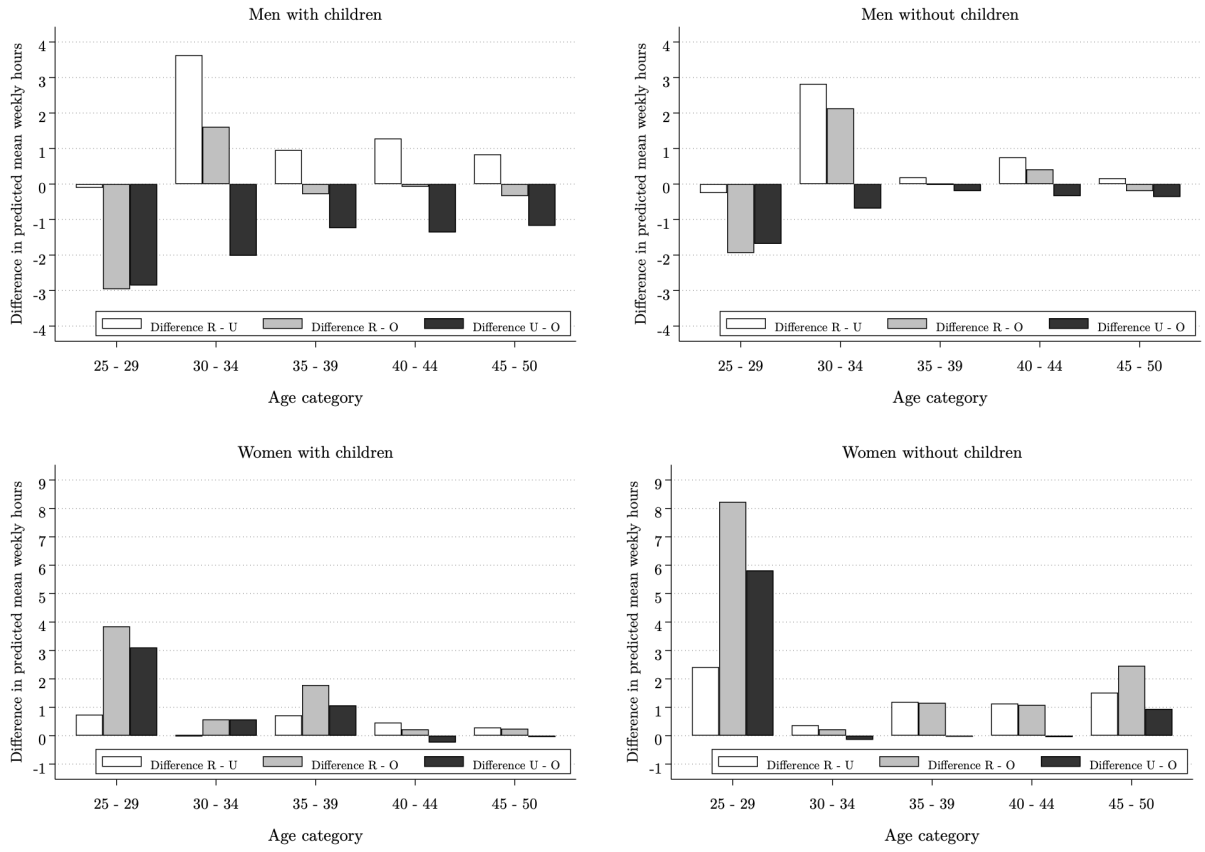
	Hazard of marriage					
	Women			Men		
	(1)	(2)	(3)	(4)	(5)	(6)
Undercontrolled	-	-0.20**	-0.42***	-	-0.05	-0.32***
	-	(0.10)	(0.08)	-	(0.09)	(0.08)
0vercontrolled	0.20**	-	-0.22**	0.05	-	-0.27***
	(0.10)	-	(0.09)	(0.09)	-	(0.09)
Resilient	0.42***	0.22**	-	0.32***	0.27***	-
	(0.08)	(0.09)	-	(0.08)	(0.09)	-
Demographic controls	Yes	Yes	Yes	Yes	Yes	Yes
Regional dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3706	3706	3706	3506	3506	3506

Notes: The results correspond to hazard ratios of Cox regressions. Demographic controls: age, sex, the number of children, educational level, previous marriages and de facto relationships. Regional dummies: indicators for the region of residence and of the country of birth. Observations correspond to singlehood spells. Robust standard errors are in parentheses.

E Further empirical results

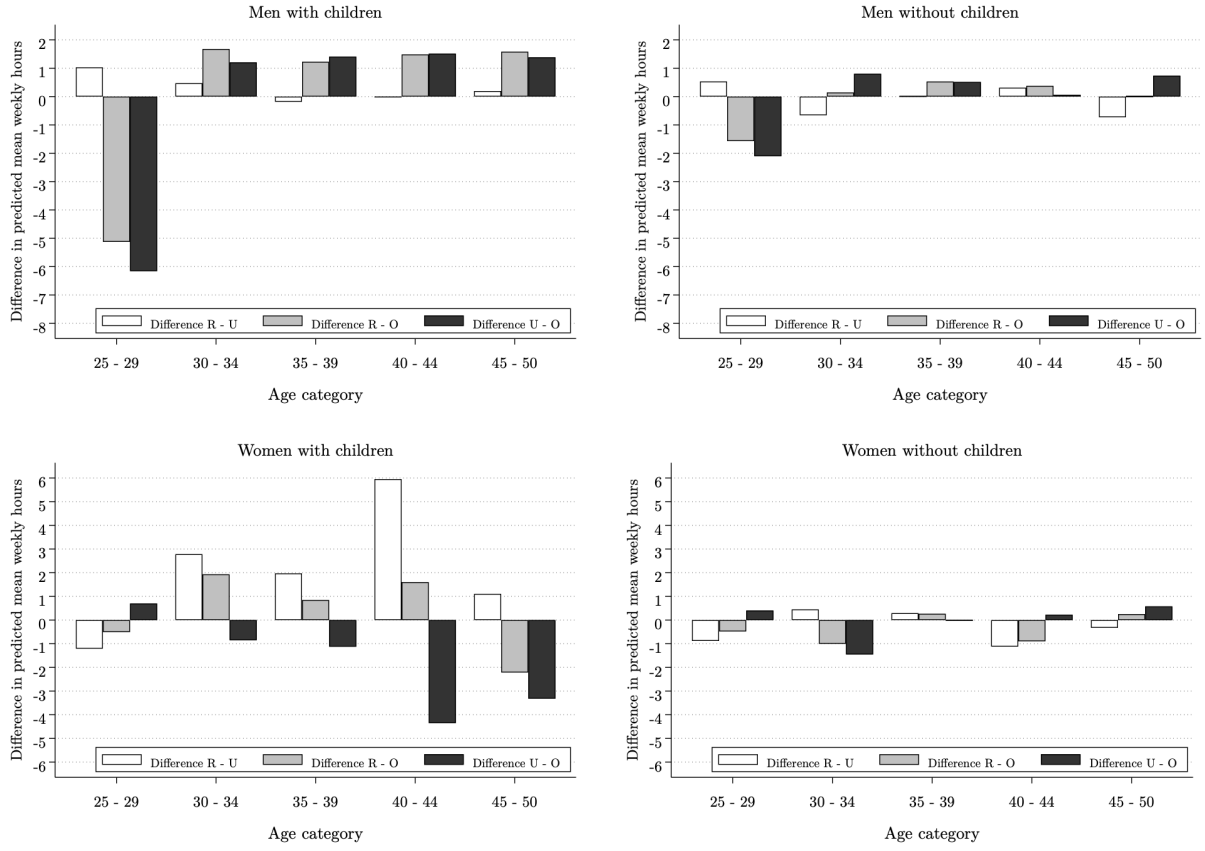
E.1 Personality and time use

Figure 13: Differences in predicted market labor hours, with and without children.



Notes: Figure 11 reports differences in predicted market labor hours across personality types for men and women with and without children. The predicted hours are obtained estimating Equation 2 by OLS for each gender and pooling up all HILDA waves. Explanatory variables include personality types, schooling, age, marital status, number of children, and year and state dummies. In the estimation, standard errors are clustered at the individual level.

Figure 14: Differences in predicted non-market labor hours, with and without children.



Notes: Figure 12 reports differences in predicted non-market labor hours across personality types for men and women with and without children. The predicted hours are obtained estimating Equation 2 by OLS for each gender and pooling up all HILDA waves. Explanatory variables include personality types, schooling, age, marital status, number of children, and year and state dummies. In the estimation, standard errors are clustered at the individual level.

Table 10: Change in weekly average hours due to the match quality shock.

	Deciles of the income distribution									
	D1	**D2**	**D3**	**D4**	**D5**	**D6**	**D7**	**D8**	**D9**	**D10**
***Panel A**: Resilient women & Resilient men*										
Labor hours women	-1.71	-0.27	-2.1	-2.22	-1.07	-1.24	-2.04	-1.21	-1.47	-0.96
Home hours women	3.12	1.1	1.38	1.57	0.53	0.83	0.68	1.36	2.43	3.03
Labor hours men	-1.13	-1.15	-1.67	-1.2	-1.39	-0.84	-0.28	-0.09	-0.03	0.3
Home hours men	4.17	1.12	0.65	0.7	-1.45	-2.54	-3.22	-4.54	-4.87	-6.9
***Panel B**: Undercontrolled women & Resilient men*										
Labor hours women	0.61	0.12	0.11	-1.11	0.07	0.49	-1.32	-0.2	0.35	0.89
Home hours women	-2.37	-1.49	-1.2	-1.26	-1.17	-2.05	-1.2	-1.42	-0.66	-0.09
Labor hours men	0.22	-0.22	-0.18	-0.12	-0.43	-0.3	-1.09	-0.29	-0.1	0.16
Home hours men	-5.02	-2.6	-3.22	-3.57	-3.86	-5.65	-6.14	-5.99	-9.37	-11.82
***Panel C**: Overcontrolled women & Resilient men*										
Labor hours women	0.37	-2.23	-1.8	-1.36	-1.84	-1.91	-2.21	-3.05	-4.24	-4.43
Home hours women	5.12	5.99	6.0	3.8	6.17	5.43	3.16	1.63	1.96	1.07
Labor hours men	-1.01	-1.18	-1.03	-1.19	-3.45	-2.18	-2.18	-1.13	-0.16	0.05
Home hours men	9.26	8.22	6.3	2.48	1.63	0.14	-0.91	-2.47	-1.89	-3.65
***Panel D**: Resilient women & Undercontrolled men*										
Labor hours women	0.3	0.78	0.87	0.84	1.16	1.16	0.43	0.55	0.89	0.54
Home hours women	-1.44	-3.54	-4.08	-4.28	-5.39	-4.93	-4.13	-3.91	-3.4	-2.06
Labor hours men	0.12	0.18	0.32	0.49	0.92	0.88	0.45	0.72	0.49	0.01
Home hours men	-2.46	-5.16	-5.2	-5.46	-6.4	-5.91	-5.33	-6.03	-6.83	-6.14
***Panel E**: Undercontrolled women & Undercontrolled men*										
Labor hours women	-0.45	-0.3	-0.0	-0.2	-0.46	-1.25	0.72	-1.3	-1.34	1.31
Home hours women	4.88	1.66	1.61	-0.57	-0.97	-0.44	1.54	-0.44	1.3	-3.07
Labor hours men	-1.51	-0.57	-1.21	-0.02	-0.76	-5.18	-3.61	-1.58	-4.86	-1.11
Home hours men	5.22	3.29	3.62	0.93	-1.02	0.46	0.43	0.66	0.13	2.65
***Panel F**: Overcontrolled women & Undercontrolled men*										
Labor hours women	0.15	0.65	0.36	0.65	0.34	0.43	0.01	0.86	0.34	-0.12
Home hours women	-1.68	-3.15	-3.78	-3.87	-2.58	-2.04	-2.14	-4.08	-2.82	-1.19
Labor hours men	-2.16	-2.63	-3.15	-1.3	-1.12	-0.5	-1.31	-1.0	-1.3	-3.3
Home hours men	-2.16	-2.63	-3.15	-1.3	-1.12	-0.56	-1.31	-1.04	-1.35	-3.3
***Panel G**: Resilient women & Overcontrolled men*										
Labor hours women	0.39	0.92	0.82	1.16	0.71	0.74	0.58	0.21	-0.38	0.14
Home hours women	-1.83	-3.28	-2.78	-3.58	-4.01	-4.19	-3.52	-2.76	-1.14	-0.66
Labor hours men	0.0	0.26	0.11	0.03	0.21	0.11	0.03	0.0	0.22	0.4
Home hours men	-4.07	-5.76	-4.62	-6.08	-6.4	-7.63	-7.52	-7.85	-8.56	-9.47
***Panel H**: Undercontrolled women & Overcontrolled men*										
Labor hours women	-2.93	-1.71	-2.82	-2.45	-3.1	-1.73	-1.35	-0.39	2.65	6.03
Home hours women	11.83	5.73	5.24	4.4	7.03	4.06	0.58	-3.11	-6.56	-10.9
Labor hours men	-0.84	-0.12	-0.72	0.03	-0.25	0.09	-0.38	-0.2	-0.35	0.17
Home hours men	17.38	9.26	5.24	0.83	0.92	-2.04	-2.04	-6.44	-7.69	-10.03
***Panel I**: Overcontrolled women & Overcontrolled men*										
Labor hours women	0.43	1.26	1.49	0.98	0.4	1.16	0.26	0.48	0.2	-0.48
Home hours women	-0.77	-1.06	-2.22	-1.93	-2.79	-2.57	-2.31	-3.0	-2.35	-0.65
Labor hours men	-0.28	-0.76	-1.16	-2.02	-1.8	-4.45	-4.08	-1.94	0.19	0.1
Home hours men	-1.8	-1.63	-2.66	-2.57	-3.36	-2.19	-2.41	-4.41	-5.76	-10.66

This table presents descriptive statistics for each household type (Panels A - I) across the income distribution (Deciles D1 - D10). It details changes in paid work hours and non-paid work hours for both spouses. The responses are calculated for the age range of 35-40 years and are expressed in hours.

Table 11: Bargaining power responses after a negative shock to the household match quality by household type and match quality deciles

	Deciles of the income distribution									
	D1	**D2**	**D3**	**D4**	**D5**	**D6**	**D7**	**D8**	**D9**	**D10**
***Panel A**: Resilient women & Resilient men*										
Power Base (share)	0.4	0.4	0.4	0.4	0.41	0.4	0.4	0.41	0.41	0.42
Match base (level)	0.25	0.44	0.34	0.51	0.42	0.49	0.58	0.32	0.11	0.09
△ power	3.35	4.52	1.79	1.11	-0.36	-1.61	-2.35	-2.4	-5.56	-5.96
***Panel B**: Undercontrolled women & Resilient men*										
Power Base (share)	0.42	0.42	0.43	0.43	0.44	0.43	0.4	0.45	0.45	0.45
Match base (level)	1.43	1.45	1.52	1.36	1.27	1.64	1.69	1.24	1.02	1.53
△ power	-3.18	-1.41	-3.69	-5.09	-6.99	-5.35	-7.28	-10.89	-10.81	-12.44
***Panel C**: Overcontrolled women & Resilient men*										
Power base (share)	0.42	0.42	0.44	0.43	0.43	0.44	0.44	0.44	0.44	0.45
Match base (level)	0.14	-0.39	-0.06	-0.38	-0.5	-0.2	-0.43	-0.35	-0.5	-1.14
△ power	6.1	9.3	6.5	8.75	6.21	6.45	5.65	3.61	6.0	1.41
***Panel D**: Resilient women & Undercontrolled men*										
Power	0.4	0.4	0.4	0.4	0.41	0.4	0.4	0.41	0.41	0.42
Match base	3.09	2.93	2.86	2.96	2.79	2.84	2.76	3.6	2.94	3.24
△ power	-0.25	-0.51	0.1	-0.1	-1.25	-1.2	-0.89	-1.79	-2.27	-4.4
***Panel E**: Undercontrolled women & Undercontrolled men*										
Power	0.4	0.4	0.4	0.4	0.41	0.42	0.41	0.42	0.43	0.47
Match	-0.06	0.11	0.11	0.34	0.2	-0.06	0.52	0.76	1.36	0.12
△ power	-0.25	-0.51	0.1	-0.1	-1.25	-1.2	-0.8	-1.79	-2.27	-4.4
***Panel F**: Overcontrolled women & Undercontrolled men*										
Power	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.42
Match	2.38	3.0	3.6	3.21	3.28	3.44	3.36	3.05	3.24	2.57
△ power	0.29	0.16	0.48	0.41	-0.77	0.24	-0.88	-1.51	-0.85	-4.38
***Panel G**: Resilient women & Overcontrolled men*										
Power	0.41	0.41	0.41	0.4	0.41	0.41	0.41	0.41	0.41	0.42
Match	2.71	2.74	3.12	3.01	3.27	3.2	3.13	3.47	3.12	3.37
△ power	-1.49	-1.79	-3.09	-2.09	-2.52	-2.6	-1.71	-3.07	-3.46	-4.79
***Panel H**: Undercontrolled women & Overcontrolled men*										
Power	0.45	0.46	0.45	0.46	0.47	0.49	0.49	0.49	0.5	0.52
Match	-2.49	-1.68	-1.32	-1.65	-1.56	-1.9	-1.67	-1.58	-2.18	-2.44
△ power	9.13	6.83	8.85	6.66	6.68	4.67	2.41	1.16	-0.1	-5.83
***Panel I**: Overcontrolled women & Overcontrolled men*										
Power	0.41	0.42	0.4	0.41	0.41	0.41	0.42	0.42	0.43	0.43
Match	0.58	0.77	0.75	1.09	1.38	1.05	0.58	1.09	1.42	1.37
△ power	-0.17	-1.31	-0.54	0.94	-0.13	2.09	0.01	-3.48	-5.47	-6.6

Notes: This table presents descriptive statistics for each household type (Panels A - I) across the income distribution (Deciles D1 - D10). It includes computed baseline power levels for women, match quality at various levels, and the percentage change in power resulting from an unexpected match quality shock at age 35. The responses are calculated for the age range of 35-40 years and are expressed in percentages.

Table A1. Descriptive statistics

	Men		**Women**	
	Mean	Std. dev.	Mean	Std. dev.
Age	41.00	12.66	39.20	12.33
Schooling	12.91	2.26	13.11	2.36
Number children	0.83	1.03	0.88	1.04
Single	0.26	0.44	0.26	0.44
Married	0.63	0.48	0.58	0.49
Market labor weekly hours	40.74	11.90	30.40	12.47
Non-market labor weekly hours	18.23	12.88	32.09	25.88
Real weekly wage rate	30.97	15.63	27.15	12.88
Observations	42,731		41,476	

Notes: Pooled sample, waves 2001 - 2019.

Table C1. Big Five personality traits by personality types

	Resilient		**Undercontrolled**		**Overcontrolled**		**All Individuals**	
Big Five traits:	Women	Men	Women	Men	Women	Men	Women	Men
Extraversion	4.93 (1.02)	4.65 (0.98)	4.25 (1.07)	4.09 (0.94)	4.36 (1.03)	4.11 (0.88)	4.59 (1.08)	4.33 (0.98)
Agreeableness	5.91 (0.62)	5.47 (0.74)	5.60 (0.69)	5.17 (0.69)	5.33 (0.78)	4.75 (0.78)	5.66 (0.73)	5.17 (0.80)
Conscientiousness	5.62 (0.81)	5.40 (0.80)	4.83 (0.98)	4.71 (0.91)	5.12 (0.88)	4.89 (0.82)	5.26 (0.94)	5.05 (0.91)
Openness	4.38 (0.93)	4.48 (0.90)	4.53 (0.90)	4.70 (0.83)	3.64 (0.91)	3.73 (0.80)	4.22 (0.98)	4.32 (0.94)
Emotional Stability	5.51 (0.82)	5.51 (0.84)	4.52 (0.97)	4.53 (0.89)	5.23 (0.85)	5.27 (0.78)	5.16 (0.96)	5.16 (0.94)
Proportion	42.48%		29.48%		28.04%		100%	

Notes: Standard deviation in parentheses. Sample size of 80207 observations.

Table C2. Cluster solution validation

Clusters:	**Pseudo–*F***	**Hit Rate**	**Adjusted Rand Index**
2	5268.1	0.991	0.964
3	4565.7	0.966	0.903
4	4041.6	0.833	0.634
5	3704.3	0.945	0.869
6	3377.1	0.781	0.588

Notes: Cluster solutions were constructed by K-means clustering with hierarchical centroids. The pseudo–*F* statistic trade-offs between simplicity (number of clusters) and adequacy (within-cluster heterogeneity). The hit rate corresponds to the percentage of correct classification when verifying the generalizability of the cluster solution. The Adjusted Rand Index will be zero in case of random classification and 1 in case of perfect agreement. See Lattin et al., (2001) for further details.

Table C3. Stability of personality types

			Measures of variation:		
Subsamples:	**Size**	**Mean**	**Std. Dev.**	**Coef. Var.**	**Range**
Waves 2–6	45,565	1.98	0.10	5.62	0.23
Waves 7–11	52,569	1.92	0.09	5.58	0.20
Waves 12–15	52,481	2.07	0.10	5.98	0.20
Waves 16–19	50,867	1.92	0.10	5.62	0.20
Waves 2–4 and 17–19	63,788	2.07	0.08	4.97	0.18

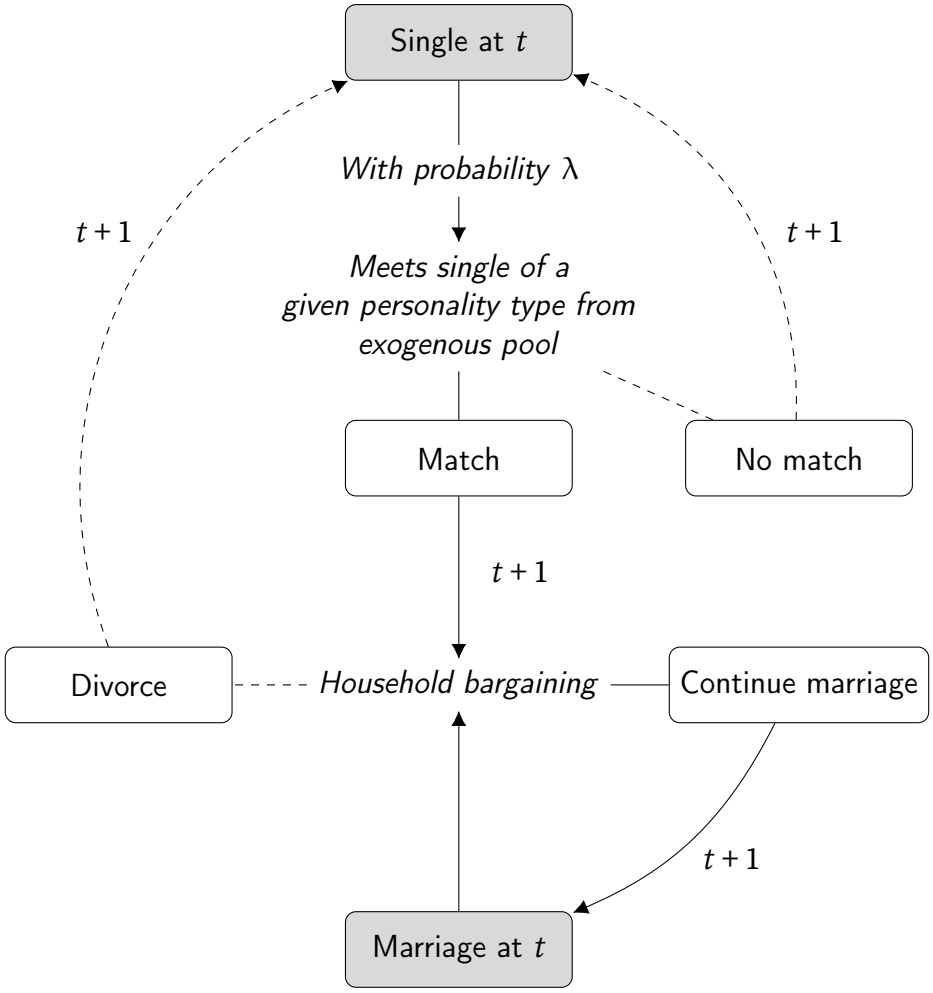
Table 13: Likelihood to divorce by personality types and gender

	Hazard of divorce					
	Women			Men		
	(1)	(2)	(3)	(4)	(5)	(6)
Undercontrolled	-	-0.02	-0.50***	-	-0.09	0.45***
	-	(0.18)	(0.14)	-	(0.13)	(0.14)
0vercontrolled	0.02	-	-0.48***	-0.45***	-	-0.36**
	(0.18)	-	(0.14)	(0.14)	-	(0.14)
Resilient	0.50***	0.48***	-	0.09	0.36**	-
	(0.14)	(0.14)	-	(0.13)	(0.14)	-
Demographic controls	Yes	Yes	Yes	Yes	Yes	Yes
Regional dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3677	3677	3677	3747	3747	3747

Notes: The results correspond to hazard ratios of Cox regressions. Demographic controls: age, sex, the number of children, educational level, previous marriages and de facto relationships. Regional dummies: indicators for the region of residence and country of birth. Observations correspond to marriage spells. Robust standard errors are in parentheses.

F Overview of the model

Figure 15: Overview and timing structure of the model



Notes: The diagram shows the within-period model timing structure. Gray (white) squares indicate the point at which objects and expectations in the model start (end). Solid (dashed) lines illustrate paths that lead to marriage (singlehood).

G Moments

Table 14: Moments to match

	Women		Men	
Moments	**Data**	**Model**	**Data**	**Model**
Predicted paid work hours, married				
Age 25 - 29	0.3272	0.2907	0.4254	0.4424
Age 30 - 34	0.2911	0.2926	0.4394	0.4338
Age 35 - 39	0.2756	0.3023	0.4429	0.440
Age 40 - 44	0.2885	0.3120	0.4402	0.442
Age 45 - 49	0.3057	0.31697	0.4416	0.44655
Predicted paid work hours, singles				
25 - 49	33.13	0.345	40.29	0.4478
Predicted non-paid work hours, married				
Reselient, age 25 - 49	0.3729	0.3715	0.2021	.194
Undercontrolled, age 25 - 49	0.3736	0.37556	0.2016	0.182
Overcontrolled & Men R	0.3619	0.353	0.1902	0.1764
Predicted non-paid work hours, singles				
25 - 49	23.00	0.1576	13.45	0.055
Share married individuals				
	Data		Model	
25 - 29	0.53		0.574	
30 - 34	0.74		0.733	
35 - 39	0.75		0.7234	
40 - 44	0.72		0.640	
45 - 49	0.68		0.512	
Share divorced individuals				
	Data		Model	
25 - 29	0.02		0.00	
30 - 34	0.05		0.01	
35 - 39	0.10		0.0904	
40 - 44	0.16		0.1703	
45 - 49	0.20		0.212	
Average marriage duration				
	Data		Model	
Women R & Men R	9.07		8.83	
Women U & Men R	8.13		7.076	
Women O & Men R	10.05		8.630	
Women R & Men U	8.71		9.767	
Women U & Men U	7.53		13.941	
Women O & Men U	8.69		6.435	
Women R & Men O	9.25		9.045	
Women U & Men O	8.65		15.13	
Women O & Men O	10.24		8.382	

Notes: Data moments are taken from HILDA datasets, based on 2001-2019 waves. Model moments come from the full model solution, simulated for 20,000 individuals