



Behind Every High Earning Man is a Conscientious Woman: The Impact of Spousal Personality on Earnings and Marriage

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Published online: 25 June 2020

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Abstract

Using three waves (2005, 2009 and 2013) of the Household, Income and Labour Dynamics in Australia Survey (HILDA), and linear regression and probit analyses, we examined the relationship between personality and own earnings, spousal earnings, and marriage. Specifically, we were interested in whether an individual's personality traits are predictive of these three outcomes. As part of these analyses, we first established that adult personality was stable diminishing the probability of reverse causality. Our empirical results confirmed previous findings on the effect of own personality on own earnings. We then turned to the effect of spousal personality on earnings, the first study to examine this by gender. Regression estimates indicated that for men, having a conscientious wife was positively correlated with his earnings. There was some evidence that having an extraverted husband complement a woman's earnings. These results highlight the importance of non-cognitive skills on earnings and emphasize the value of looking separately by gender. We also found that personality traits played an important factor in how people match in the marriage market, underscoring an important link between the marriage market and the labor market.

Keywords Personality · Earnings · HILDA · Five factor model · Marriage · Assortative mating

Introduction

Marriage is one of the most important decisions an individual can make particularly when it comes to determining economic well-being. Traditionally, the benefits of marriage had been based on specialization with women typically

producing household goods and men working in the formal labor market (Becker 1973). However, with women's increased education, earnings, and rising labor force participation and hence a reduction in the benefits of specialization, marriage rates have been falling in most developed countries (Evans and Gray 2018; Lundberg 2011, 2012; Hewitt and Baxter 2012). Research has found that people with certain personality traits are more likely to marry and there is evidence that sorting into marriage based on certain personality traits has changed over time (e.g. Lundberg 2012). These studies have found that assortative mating or matching on similar personality traits may be a source of consumption gains to marriage in more recent cohorts. Thus, individuals in more modern marriages may find that benefits to marriage accrue from joint consumption¹ which can include shared leisure activities (Lundberg 2011; Lam 1988; Stevenson and Wolfers 2007).

In addition to affecting marriage decisions, personality traits have been found to explain some of the variation in

Electronic supplementary material The online version of this article (<https://doi.org/10.1007/s10834-020-09692-x>) contains supplementary material, which is available to authorized users.

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¹ Benefits from specialization accrue when one spouse specializes in home production and the other in market work. Joint consumption is defined as the benefits couples receive from complementarities in consumption of household public goods and time.

an individual's earnings (e.g., Fletcher 2013). In fact, these non-cognitive skills have received increasing attention in the literature for their importance in explaining labor market outcomes such as earnings (Heckman and Rubinstein 2001; Lundberg 2017). This focus on non-cognitive traits such as personality has been driven in part by the fact that there generally remains some component (often sizeable) of earnings that cannot be explained by traditional human capital variables. These unexplained factors have pushed scholars to investigate other wage determinants beyond economic variables for explanations and they have found that certain personality traits matter (Blau and Kahn 2017).

Given that personality traits affect one's own earnings, we hypothesized that personality traits of one's spouse may also have an impact on one's own earnings. Solomon and Jackson (2014) documented that spousal personality affected own earnings but they did not consider gender differences in this association. Given well known gender differences in the effects of own personality on earnings (e.g., Nyhus and Pons 2005) it is likely that the effects of spousal personality on own earnings will differ as well. Hence, in this paper, we examined the effect of spousal personality traits on one's own earnings by gender.

We also examined the interaction of spousal personality characteristics with own personality traits. We are unaware of any studies that have examined this interaction. Lastly, we considered how these traits might affect the probability of marriage which has been examined by Lundberg (2012) who used German data and Dupuy and Galichon (2014) who used Dutch data. Thus, another contribution of our paper is to use Australian data to undertake a study of personality on marriage. Taken together, we aimed to fill a gap in the literature by linking spousal personality traits to hourly earnings by gender and assessing how these traits are tied to marriage formation. In other words, men and women who marry likely have personality traits that both attract them to marriage and that also affect their earnings. In addition own personality traits could interact with spousal personality traits to predict earnings and these interactions may differ by gender. To undertake these analyses, we used data from the Household, Income and Labour Dynamics in Australia Survey (HILDA).

The remainder of the paper is structured as follows. First, we discuss how personality is measured and then review related research on personality and earnings and personality and marriage. We then present our data, empirical model and results. We end with a discussion and some concluding comments.

Personality, Marriage, and the Labor Market: Past Research

Measuring Personality

Researchers have often relied on the Five Factor Model to capture personality traits when linking personality to marriage and labor market outcomes (e.g., Mueller and Plug 2006; Lundberg 2012; Fletcher 2013; Duckworth et al. 2012). In this model, five independent categories were used to describe individual personality differences. This categorization does not imply that all personality attributes can be fully reduced to five traits. Rather, these "Big Five" should be viewed as broad factors underlying a number of related personality facets and sets of even more specific attributes. All five characteristics were derived from a 36-question inventory and were measured on a 1–7 Likert point scale. The higher the score the more a person possessed that characteristic. Appendix 1 describes each characteristic and we describe them here briefly.

Conscientiousness reflects the tendency to work hard, control one's impulses, be organized, and follow through with obligations. Emotionally stable individuals experience less worry, depression, anger and distress. Individuals who are extraverted have interests oriented toward the outer world and hence are more sociable. They are less focused on the inner world of subjective experience and are characterized by positive affect and sociability. Openness indicates that individuals enjoy trying new things and are inclined to be imaginative and curious. Agreeable individuals tend to cooperate well with others (Xu et al. 2015). These five characteristics form a framework that allow researchers to describe individual differences in affect, behavior, and cognition that have been validated across cultures and related to a broad range of outcomes including those that we studied here—labor market outcomes and marriage (Roberts et al. 2007).

Personality and Earnings

A large literature exists on models of wage determination and empirical labor economists have documented a link between cognitive ability, schooling, marriage, occupation and earnings. However, there is still unexplained variation in earnings (and other labor market outcomes) and an emerging literature has examined the importance of the role of non-cognitive skills in explaining some of this variation. In particular, labor economists, psychologists, and policymakers have made connections between personality and labor market and other economic outcomes and found that the impacts of such non-cognitive skills may be as

large as human capital effects (e.g., Edwards et al. 2001; Mueller and Plug 2006). If personality impacts earnings, then documenting and explaining this link has important implications for employees, employers, and institutions with the goal of increasing household welfare and creating lasting efficiency-enhancing job matches.

A growing number of papers have examined personality and earnings and found that some of the “Big Five” personality traits were associated with higher own earnings and certain traits affected men and women’s earnings differently (Cobb-Clark and Tan 2011; Fletcher 2013; Gensowski 2018; Mueller and Plug 2006; Nyhus and Pons 2005). Mueller and Plug (2006) used data from the Wisconsin Longitudinal Study and found that women who scored higher on conscientiousness and openness tended to have higher earnings while Nyhus and Pons (2005), using data from a large survey of the Dutch population, found that lower neuroticism (more emotional stability) was associated with higher earnings for men; meanwhile, women were penalized for greater agreeableness. Nyhus and Pons (2005) posited that this was due to a penalty for helping people, poor wage negotiations, an egalitarian attitude, or occupational sorting into low-wage jobs for women. Heineck (2011) analyzed correlations between personality traits and earnings and found a positive relationship between openness to experience and earnings and a negative relationship between agreeableness and earnings for men; among women, they found a negative relationship between neuroticism (or low emotional stability) and earnings and a nonlinear relationship between conscientiousness and earnings. Gensowski (2018) found that conscientiousness positively affected lifetime earnings using data on a cohort born around 1910. Fletcher (2013) compared siblings in the U.S.-based Adolescent Health survey allowing him to control for idiosyncratic family characteristics that could affect both non-cognitive skill development and future earnings. He found that extraversion was important for earnings although the results varied by demographic group. In sum, using data from a variety of countries and institutional settings, scholars have demonstrated a clear link between personality and earnings with certain traits such as conscientiousness and extraversion generally affecting earnings in a positive way while agreeableness tends to be associated with lower earnings.

The research discussed above documents the impact of one’s own personality on one’s own labor market outcomes. There is also some evidence that spousal characteristics

can affect one’s own labor market outcomes.² For example, Jepsen (2005) showed that a wife’s education positively affected her husband’s earnings and Jolly (2019) focused on the relationship between husband’s schooling and his wife’s earnings. To our knowledge only one paper (Solomon and Jackson 2014) has studied the relationship between spousal personality and own labor market outcomes directly. Solomon and Jackson (2014) found that spousal personality was an important predictor of own earnings and, in particular, spousal conscientiousness increased earnings, the probability of being promoted and job satisfaction. They hypothesized that the conscientiousness of one’s spouse caused one to emulate this behavior, leading to increased relationship satisfaction and also freeing up time to work on one’s career. However, their study did not allow for differentials in the impact of own and partner’s personality traits by gender nor did they explore interactions between partners’ personality traits (the interaction between men’s and women’s traits).

Personality and Matching in the Marriage Market

Turning to marriage itself, how important are any of these personality traits for the formation of marriage? If they matter, then research on spousal personality traits and earnings may be even more relevant in assessing the impact of non-cognitive factors in explaining the unexplained part of earnings variation.

Research suggests that selection of one’s partner is tied to personality and there has been assortative mating along personality dimensions (Dupuy and Galichon 2014; Lundberg 2012). Lundberg (2012) analyzed the effect of personality traits on selection into marriage using the German Socio-economic Panel Study. She found that among older cohorts (born 1945–1959), one’s own personality traits affected selection into marriage differently for women and men, consistent with gender specialization in marriage. For younger cohorts (born 1960–1970), she found no difference between men and women in how personality predicted marriage. She viewed this as suggestive of a marital surplus generated from joint consumption, rather than specialization. Regarding specific personality traits, Lundberg found that more conscientious men were more likely to marry. She surmised that this was because they would have been more successful in the labor market and hence make better marriage partners. In related work, Mangiavacchi et al. (2018) also used the German Socio-economic Panel Study in their study of how personality traits affected consumption within a household. They found that couples with certain personality traits (openness and conscientiousness) tended to enjoy marital surplus from joint consumption, thus agreeing with the results from Lundberg.

In what follows, we explored the impact of spousal personality on earnings and then examined the link between spousal personality traits and the probability of marriage.

² The idea of spousal characteristics spilling over onto own outcomes is not novel nor is it limited to labor market or personality characteristics. For example, Fletcher (2009) examines spillover effects from spousal mental illness to one’s own mental health while Bubonya et al. (2017) look at the effect of spousal job loss on mental health and there is evidence also that spousal characteristics affects one’s own health (Monden et al. 2003).

We examined the latter relationship since who you marry may have spillover effects on earnings if certain personality traits predict the probability of being married as well as earnings.

Data

We used data from the HILDA Survey. The HILDA survey is a nationally representative survey of Australian households and provides longitudinal data on these households. Unlike cross-sectional surveys, the HILDA survey does not rely on recall of life events and allows for dynamic analysis of factors that affect household well-being over time. The survey commenced in 2001 and data were collected annually through interviews with all people over 15 years old in each selected household. This panel dataset collected information about the economic and social situation of households in Australia over their lives. Importantly for our research, HILDA collected information on the “Big Five” personality traits in several waves (2005, 2009, 2013) as well as information on marital status, earnings and several important determinants of earnings including age, education,³ occupation, and previous work experience.

Given that our goal was to explain individual’s earnings, we included data on human capital variables well-established to affect earnings (Borjas and Van Ours 2010; Heckman et al. 2018). These included education, occupation and employer tenure, occupation, and age. A similar set of controls were used by others who examined the effects of personality on earnings (e.g. Cobb-Clark and Tan 2011; Fletcher 2013; Gensowski 2018; Mueller and Plug 2006; Nyhus and Pons 2005). We also controlled for the presence and age of children which have been found to be important predictors of women’s earnings (e.g. Waldfogel 1997) and health status (Luft 1975). To explore the channels by which spousal personality may affect earnings, we added a decision-making index and hours of housework in our empirical models.⁴ We chose these variables because decision making and housework have been used as an indicator of bargaining

power within a marriage, and housework is a well-known predictor of women’s earnings (Hersch 2009).

To undertake our analyses, we extracted two samples from the HILDA survey. We used PanelWhiz to extract our data from the larger HILDA dataset (Hahn and Haisken-DeNew 2013), and first extracted a sample of heterosexual partnered (either in a registered marriage or cohabiting) men and women aged 25–65 years.⁵ While we use the terms husband and wife at times, some of the individuals in our sample were cohabiting rather than married. The means of the variables used in our analysis of partnered couples (where both members of a couple were surveyed) are presented in Table 1 separately for men and women and further disaggregated by joint full-time work status (i.e., both partners working full time). We then extracted a sample of all men and women surveyed in years 2005, 2009 and 2013. This sample was used to examine the probability of ever having been married (or currently cohabiting) by age 35 based on personality and controlling for age and education.

For our hourly earnings analysis sample, we reported that men had hourly earnings of \$33.49 while women’s hourly earnings were \$28.99. This indicated that women earned 86% of men’s average hourly earnings for full-time employees in Australia between 2005 and 2013. This was the same as the gender wage ratio of .86 in Australia over that same time frame (Workplace Gender Equality Agency Fact Sheet 2019). In terms of personality, there were striking differences in agreeableness with women being more agreeable than men, while differences were less pronounced in the other characteristics.

Not surprisingly, given that this was a sample of married/cohabiting individuals, we found similarities in residency and family structure. However, ties to the labor market and health did vary. Women were more likely to report being of excellent or very good health and had worked fewer years than their male counterparts. Time at the current employer and time in the current occupation were both lower for women than for men. Furthermore, women were disproportionately represented among teachers, clerks, and in other service-related occupations, while men worked in trade, machinery, agriculture, and fishing/mining occupations. Considering individuals’ time allocation and bargaining position in the household, we found that women did more housework and were more likely to work part time than men; notably, women and men were making household decisions equally.

For our probability of marriage sample, we present means in Online Appendix Table 1. To conduct this analysis, we divided this sample into two cohorts similar to Lundberg (2012). The older cohort was born between 1940 and 1960,

³ See <https://www.studyinaustralia.gov.au/english/australian-education/education-system> for greater discussion of the educational levels in Australia. In particular, year 12 is the completion of secondary education. See <https://www.tafecourses.com.au/resources/guide-to-tafe-courses-in-australia/> for a discussion of vocational/technical certificates and diplomas which includes both Certificates III and IV and Diploma.

⁴ The HILDA survey asks “About how many hours do you spend on housework in an average week, such as time spent cooking, cleaning and doing the laundry?” The decision making index contains seven questions about how households make decisions about social life, raising children, spending and making large purchases, and how much time to spend in paid work.

⁵ We test to see if there are differences between cohabiting versus married couples and discuss these results later in the paper.

Table 1 Sample means, working married adults aged 25–65 (survey years: 2005, 2009, 2013)

Variable	All men	Men full time	All women	Women full time
Hourly earnings	35.14 (24.95)	33.49 (16.56)	30.69 (34.74)	28.99 (12.57)
<i>Personality characteristics</i>				
Conscientiousness	5.097 (0.954)	5.134 (0.951)	5.367 (0.974)	5.417 (0.961)
Agreeableness	5.172 (0.867)	5.216 (0.850)	5.667 (0.775)	5.662 (0.774)
Emotional stability	5.153 (1.020)	5.136 (1.015)	5.199 (1.025)	5.218 (1.021)
Extraversion	4.310 (1.016)	4.371 (1.001)	4.606 (1.126)	4.646 (1.141)
Openness	4.286 (0.974)	4.337 (0.964)	4.159 (1.016)	4.212 (0.992)
<i>Control variables</i>				
Age years	43.26 (10.42)	42.35 (10.58)	42.73 (10.17)	40.84 (10.16)
Has no children	0.149	0.4304	0.232	0.4166
Has kids age 0–4 years	0.245	0.0996	0.171	0.0874
Has kids age 5–9 years	0.214	0.115	0.191	0.122
Has kids age 10–14 years	0.213	0.174	0.214	0.185
Has kids age 15–24 years	0.179	0.181	0.192	0.189
Urban residence	0.632	0.660	0.612	0.631
Job tenure: occupation in years	11.71 (10.53)	10.92 (10.20)	9.851 (9.357)	9.067 (8.829)
Union	0.304	0.307	0.313	0.334
Job tenure: employer in years	8.659 (8.862)	8.436 (8.734)	7.197 (7.274)	7.178 (7.160)
Health is e/vg	0.521	0.535	0.578	0.607
<i>Education</i>				
Postgrad—masters/PhD	0.0693	0.0750	0.0636	0.0827
Grad diploma	0.0737	0.0769	0.107	0.106
Bachelor	0.173	0.185	0.222	0.255
Diploma	0.112	0.116	0.160	0.126
Certificate III or IV	0.307	0.283	0.111	0.144
Year 12	0.106	0.119	0.125	0.118
Year 11 or below	0.160	0.145	0.212	0.169
<i>Occupation</i>				
Teaching and other	0.144	0.147	0.204	0.186
Management	0.3998	0.4221	0.4001	0.5206
Clerks	0.0685	0.0764	0.194	0.185
Services	0.0654	0.0659	0.128	0.0902
Agriculture	0.0185	0.0119	0.00535	0.00421
Trade work	0.143	0.133	0.00397	0.00467
Machine operators	0.105	0.0906	0.00912	0.00935
Fisheries/mining	0.0558	0.0531	0.0555	0.0350
<i>Time allocation/decision-making</i>				
Housework (hours)	6.031 (5.345)	6.419 (4.994)	14.94 (10.36)	11.99 (8.398)
Decision making index	1.988 (0.248)	2.007 (0.237)	1.925 (0.242)	1.918 (0.789)
Part-time work status	0.0880		0.485	
Observations	5899	2108	5044	2140

Standard deviations of continuous variables in parentheses

Table 1 (continued)

The sample sizes when including housework decreases to: 5832 for all men, 2098 for men full time, 4993 for all women and 2125 for women full time

The sample sizes when including decision making decreases to: 3003 for all men, 942 for men full time, 4941 for all women and 970 for women full time

inclusive. The younger cohort was born between 1968 and 1988, inclusive. As expected given the fall in the rates of marriage experienced in Australia, the older cohort was far more likely to report that they had ever been married/cohabited by age 35, while the younger cohort exhibited a markedly lower probability of having been married/cohabited by that same age. The age reported was their age in 2005. The younger cohort was also a bit more educated than the older cohort in keeping with trends in Australia (Tunny 2006).⁶ Personality traits appeared quite stable across the groups.

Methodology

Stability of Personality

One concern in our analysis was that poor labor market outcomes might have some effect on one's own personality. Thus, before commencing with the analysis of the effect of personality on earnings, we examined the stability of adult personality over time. Researchers have found that many dimensions of personality are fairly stable (Elkins et al. 2017; Cobb-Clark and Schurer 2012). In particular, Cobb-Clark and Schurer (2012) used the "Big Five" characteristics in two waves of the HILDA data, 4 years apart, and reported that personality characteristics were relatively stable in working age adults. Importantly, adverse shocks to health and employment did not appear to affect the stability of personality characteristics. Their work reinforced earlier work in psychology regarding the stability of personality characteristics in adults as discussed by Mischel and Shoda (2008). Elkins et al. (2017) focused on adolescents and young adults and reported very little evidence that random life events systematically influenced personality.

The work of Cobb-Clark and Schurer (2012) was limited to 2005 and 2009, and we updated their work to include data from 2013. In particular, we examined the stability of the "Big Five" characteristics over time using the following equation:

$$\Delta_{t_1,t_2}^j = \mu_{t_2}^j - \mu_{t_1}^j \quad (1)$$

where $j \in$ (extraversion, agreeableness, conscientiousness, emotional stability, openness to experience), μ is the average of a particular characteristic (e.g. agreeableness) in a particular year, t_2 equals either 2009 or 2013 while t_1 equals either 2005 or 2009. Equation (1) allowed us to construct the evolution of personality traits over time between each pair of years (i.e. 2005 and 2009, 2009 and 2013, 2005 and 2013).

Personality and Earnings

To examine the effect of personality on earnings, we estimated the following equation:

$$y_{ist} = \alpha + P_{ist}\gamma_1 + X_{ist}\gamma_2 + \theta_t + \tau_s + \varepsilon_{ist} \quad (2)$$

where y_{ist} was the log of hourly earnings⁷ of individual i living in state s at year t , P was a vector of the "Big Five" personality traits (either own or own and spouse's—our main independent variables) and X was a vector of control variables including the respondent's age, education, tenure in the occupation (years) and on the particular job (years), occupation, union membership, presence and age of children and self-reported health status. The vector X also included controls for spouse's personality and the age and education of the spouse. We also included state (τ_s) and year (θ_t) fixed effects. We clustered our standard errors by individual since we observed each individual up to three times.⁸

Matching in the Marriage Market

Finally, to understand if individuals with certain personality characteristics were more likely to be married, we estimated a probit model to determine the effects of own personality on the probability of being married:

$$P(M_i) = \alpha + \gamma_1 Openness_i + \gamma_2 Conscientiousness_i + \gamma_3 Extraversion_i + \gamma_4 Agreeableness_i + \gamma_5 Neuroticism_i + X_i + \varepsilon_i \quad (3)$$

where X contains age in 2005 and education.

⁶ See <https://www.studyinaustralia.gov.au/english/australian-education/education-system> for greater discussion of the educational levels in Australia. In particular, year 12 is the completion of secondary education. See <https://www.tafecourses.com.au/resources/guide-to-tafe-courses-in-australia/> for a discussion of vocational/technical certificates and diplomas which includes both Certificates III and IV and Diploma. The omitted category in our regressions is the highest education level (Postgrad—masters/doctorate).

⁷ We created this variable by dividing weekly earnings by weekly hours as they suggested by HILDA.

⁸ Our data are measured at the individual level, not the dyad level. Thus, it is most appropriate to cluster the standard errors by individual.

In the estimation of Eq. 3, the dependent variable was binary and took the value of one if the individual i has ever been married/cohabited by age 35, zero otherwise. This regression allowed us to see if the same personality traits that affected hourly earnings also affected the likelihood of marriage.

Results

Stability of Personality

We examined the evolution of personality traits over time between each pair of years (i.e., 2005 and 2009, 2009 and 2013, 2005 and 2013).⁹ We saw no or very little change at the middle of the distribution indicating that all of these personality traits were quite stable over time in our sample. We plotted the change in personality from 2005 to 2013 in Fig. 1 panels A through E. The age at the bottom of each figure was the person's age in 2013 and the change was the average change in each personality characteristic from 2005. From 2005 to 2013 the average change was positive except for extraversion. These results were similar to Cobb-Clark and Schurer (2012) in their analysis and were consistent with research on personality changes over time. We found that at every age, average conscientiousness, agreeableness and emotional stability had increased, although these increases were not statistically significant. In contrast, openness appeared not to change within individuals (change was close to zero) and extraversion tended to fall (negative changes between 2005 and 2013) for individuals but again these changes were not statistically significant. Overall, personality traits did appear to be stable over time.

Personality and Earnings

Own Personality Effects on Own Earnings

We started by replicating the previous literature concerning the effect of own personality on earnings. In Table 2 we present the results from estimating Eq. 2. The first two columns are for men and the final two columns are for women. Column one shows the effect of men's personality characteristics on men's earnings. All the personality characteristics, except extraversion, were statistically significant and agreeableness had a negative effect on men's earnings. When we added our full set of covariates, only conscientiousness and agreeableness were still significant.

Columns 3 and 4 of Table 2 present the results for women. In the model without covariates, all personality

characteristics were significant predictors of women's earnings and, similar to men, being less agreeable also increased women's earnings. However, once we controlled for the full set of covariates, we also found that only conscientiousness and agreeableness remained significant. Thus, the same two personality traits predicted men and women's own wages in separate regressions by gender.

With respect to the other covariates, we found, as expected that having more education increased earnings and that age had a nonlinear effect on earnings. Other human capital variables had the expected signs in that more human capital leads to higher earnings. Healthier men earned more than those in poor health although health was not significant for women. Those in urban areas earned more as expected.¹⁰

Spousal Personality Effects on Own Earnings

Table 3 shows results where we added spousal personality characteristics into the fully specified models which also included controls for partner age and partner education so that we did not confound the effects of partner personality with other spousal characteristics shown to be associated with earnings (Jolly 2019). We present results for all men and women in columns 1 and 2 and then for men and women where both spouses worked full time in columns 3 and 4.

Focusing first on columns 1 and 2 of Table 3, for men we found that having a conscientious and/or extraverted wife increased men's earnings while a wife who was more open to new experiences decreased his earnings. For women, having an extraverted husband increased women's earnings possibly due to positive interactions that her husband may have with her managers and coworkers. Notably, the same own-personality characteristics that were significant for men and women without spousal characteristic controls were still statistically significant. The other covariates were largely unchanged. Both these regressions indicated that there were spillovers from spouse's personality onto own earnings.

The magnitude of these coefficients is hard to assess directly but when we standardized our personality measures we found that a one standard deviation increase in a woman's conscientiousness resulted in a 4.4% increase in her husband's hourly earnings. A one standard deviation increase in her openness decreased his earnings by about 3.8%. For men's extraversion a one standard deviation increase resulted in a 3.3% increase in his wife's hourly earnings. These magnitudes were in line with estimates of own personality effects

⁹ These results are available in the Online Appendix Table 2.

¹⁰ We also ran these regressions without the occupational dummy variables and the results were largely unchanged. These results are available upon request. Controlling for occupation allows us to show how personality can help explain some of the remaining 'unexplained variation' in hourly earnings which is our main question.

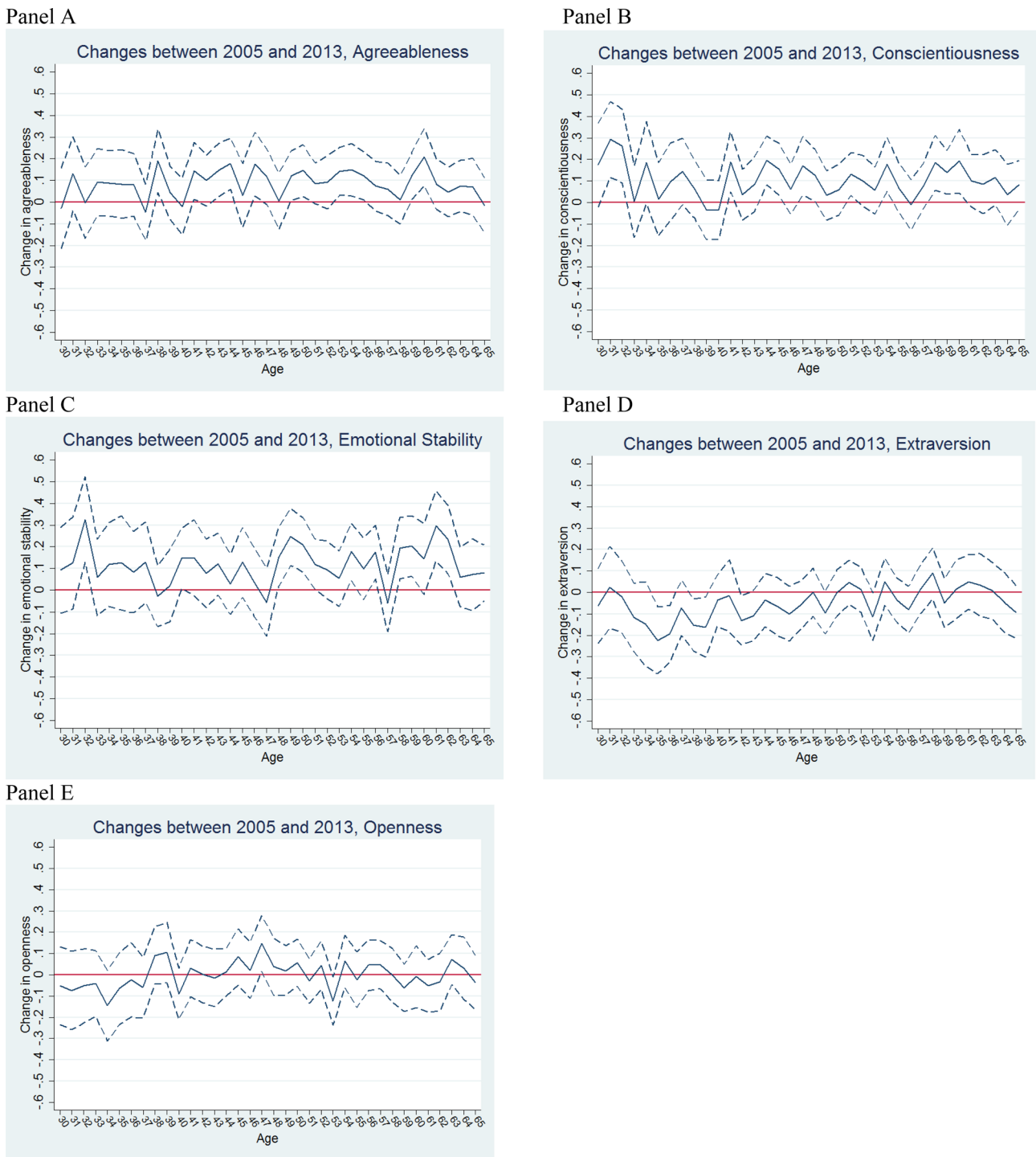


Fig. 1 Stability of personality traits over the lifecycle

on own earnings reported by others (e.g. Mueller and Plug 2006).

In Table 3 (columns 3 and 4) we examined the possible spousal personality effect for couples where the husband and wife both worked full time. We limited our sample to these couples to examine whether our results were attenuated

when neither partner was fully specializing in paid work or household production. The results were similar to the ones found when examining the full sample. For men, having a conscientious wife enhanced earnings (similar coefficient size to full sample) while the effect from openness dissipated. Importantly, it did not appear that the effect of

Table 2 Effects of own personality characteristics on the earnings of partnered men and women (age 25–65)

Variables	Dependent variable: log of real hourly earnings			
	Men		Women	
Conscientiousness	0.042*** (0.009)	0.028*** (0.008)	0.032*** (0.008)	0.020** (0.007)
Agreeableness	– 0.045*** (0.010)	– 0.034*** (0.009)	– 0.035*** (0.010)	– 0.019* (0.009)
Emotional stability	0.040*** (0.008)	0.005 (0.007)	0.021** (0.008)	0.0002 (0.007)
Extraversion	– 0.010 (0.008)	0.002 (0.007)	0.012 [†] (0.007)	0.007 (0.006)
Openness	0.051*** (0.009)	– 0.004 (0.008)	0.041*** (0.008)	– 0.004 (0.007)
Graduate diploma		– 0.059 [†] (0.041)		– 0.067 [†] (0.037)
Bachelor		– 0.086** (0.038)		– 0.084** (0.031)
Diploma		– 0.187*** (0.041)		– 0.196*** (0.037)
Certificate III or IV		– 0.255*** (0.037)		– 0.258*** (0.034)
Year 12		– 0.242*** (0.040)		– 0.218*** (0.037)
Year 11 and below		– 0.331*** (0.039)		– 0.274*** (0.034)
Age		0.026*** (0.006)		0.025*** (0.006)
Age squared		– 0.0003*** (0.00007)		– 0.0003*** (0.00007)
Has kids age 0–4 years		0.027 [†] (0.016)		0.100*** (0.018)
Has kids age 5–9 years		– 0.008 (0.015)		– 0.009 (0.016)
Has kids age 10–14 years		0.027 [†] (0.016)		– 0.003 (0.016)
Has kids age 15–24 years		0.011 (0.017)		– 0.036* (0.016)
Urban residence		0.081*** (0.016)		0.055*** (0.016)
Occupation tenure (years)		0.003*** (0.001)		0.004*** (0.001)
Union		0.120*** (0.016)		0.023 [†] (0.015)
Job tenure (years)		0.001 (0.001)		0.004*** (0.001)
Health is excellent/very good		0.042** (0.014)		– 0.0003 (0.013)
Constant	3.063*** (0.071)	2.960*** (0.129)	2.981*** (0.072)	2.892*** (0.138)
Observations	5967	5899	5109	5044
R-squared	0.021	0.221	0.015	0.237

All regressions include state and year fixed effects and occupation dummies. The reference group is the most educated (Postgrad—masters or doctorate) in our sample and those without children. Robust standard errors clustered at the individual level in parentheses

[†]p < 0.1. *p < 0.05. **p < 0.01. ***p < 0.001

Table 3 Effects of spousal personality characteristics on log real hourly earnings) (age 25–65)

Variables	Full sample men	Full sample women	Both FT men	Both FT women
Men conscientiousness	0.029*** (0.008)	– 0.002 (0.007)	0.036** (0.013)	0.003 (0.009)
Men agreeableness	– 0.035*** (0.009)	– 0.003 (0.008)	– 0.052*** (0.013)	0.011 (0.010)
Men emotional stability	0.001 (0.007)	0.010 (0.007)	0.015 (0.011)	0.011 (0.009)
Men extraversion	0.002 (0.007)	0.015* (0.007)	0.001 (0.010)	0.010 (0.009)
Men openness	– 0.003 (0.008)	– 0.011 (0.008)	– 0.007 (0.012)	– 0.014 (0.010)
Women conscientiousness	0.021** (0.007)	0.019* (0.007)	0.022 [†] (0.012)	0.019* (0.010)
Women agreeableness	– 0.003 (0.009)	– 0.017 [†] (0.009)	0.002 (0.013)	– 0.029* (0.012)
Women emotional stability	– 0.0003 (0.007)	– 0.004 (0.007)	0.002 (0.011)	0.009 (0.009)
Women extraversion	0.011* (0.006)	0.006 (0.006)	0.015 (0.009)	0.007 (0.008)
Women openness	– 0.017* (0.007)	– 0.004 (0.007)	– 0.008 (0.010)	0.002 (0.009)
Graduate diploma	– 0.062 (0.041)	– 0.043 (0.039)	– 0.054 (0.058)	– 0.008 (0.041)
Bachelor	– 0.092* (0.038)	– 0.054* (0.033)	– 0.081 (0.052)	– 0.005 (0.035)
Diploma	– 0.188*** (0.042)	– 0.148** (0.038)	– 0.190** (0.062)	– 0.058 (0.043)
Certificate III or IV	– 0.256*** (0.037)	– 0.207*** (0.036)	– 0.261*** (0.054)	– 0.156*** (0.040)
Year 12	– 0.246*** (0.041)	– 0.172*** (0.039)	– 0.240*** (0.056)	– 0.142*** (0.046)
Year 11 and below	– 0.337*** (0.040)	– 0.220*** (0.036)	– 0.290*** (0.058)	– 0.155*** (0.041)
Age	0.024*** (0.006)	0.027*** (0.006)	0.042*** (0.010)	0.046*** (0.008)
Age squared	– 0.0003*** (0.00007)	– 0.0003*** (0.00008)	– 0.0005*** (0.0001)	– 0.001*** (0.0001)
Has kids age 0–4 years	0.029 [†] (0.015)	0.099*** (0.018)	0.016 (0.030)	0.072* (0.031)
Has kids age 5–9 years	– 0.006 (0.016)	– 0.016 (0.017)	– 0.091** (0.032)	– 0.048 [†] (0.028)
Has kids age 10–14 years	0.025 (0.016)	– 0.003 (0.016)	0.026 (0.026)	– 0.017 (0.023)
Has kids age 15–24 years	0.014 (0.017)	– 0.041* (0.017)	– 0.009 (0.026)	– 0.045* (0.022)
Urban residence	0.082*** (0.017)	0.049** (0.016)	0.109*** (0.026)	0.092*** (0.021)
Occupation tenure (years)	0.003** (0.001)	0.004*** (0.001)	0.002* (0.001)	0.002 [†] (0.001)
Union	0.123*** (0.016)	0.030* (0.015)	0.109*** (0.023)	0.052** (0.019)
Job tenure (years)	0.0003	0.004***	– 0.0001	0.004**

Table 3 (continued)

Variables	Full sample men	Full sample women	Both FT men	Both FT women
	(0.001)	(0.001)	(0.001)	(0.001)
Constant	2.886*** (0.155)	2.970*** (0.159)	2.558*** (0.243)	2.377*** (0.211)
Observations	5771	4839	2061	2037
R-squared	0.225	0.247	0.241	0.315

All regressions include state and year fixed effects, health and occupation dummies, partner age and educ. Robust standard errors clustered at the individual level in parentheses. Reference groups: most educated (Postgrad—masters or doctorate) & without children

FT full time

†p < 0.1. *p < 0.05. **p < 0.01. ***p < 0.001

having a conscientious wife, for example, operated through her ability to specialize in household tasks while he worked. By this we mean that women who worked full time were also responsible for performing many household chores. For women the effect of having an extraverted husband no longer had an effect on her earnings in the working full-time sample compared to the previous sample. In regressions presented in Online Appendix Table 3¹¹ we added the spousal hourly earnings as an additional control variable to separate the effect of spousal personality from spousal hourly earnings. We found that for men, the effects of a wife's conscientiousness did not change when adding the wife's hourly earnings to his hourly earnings equation. In fact, the effect was at least as large. The addition of husband's hourly earnings to the wife's hourly earnings equation did not change the sign, magnitude or significance of the effect of his extraversion on her earnings with the exception that when both worked fulltime, his extraversion became an important predictor of her earnings.

Given changes in where the benefits of marriage may emanate as marriage evolved in Australia (Evans and Gray 2018), we hypothesized that the effects of spousal personality on own hourly earnings may vary by cohort. In Online Appendix Table 4, we divided our sample into an older and younger cohort. The older cohort was born between 1940 and 1960 and the younger cohort was born between 1968 and 1988. Although the sample sizes were considerably smaller, there was some evidence that the spousal characteristics that affect own hourly earnings varied by cohort. In particular, for older men a wife's conscientiousness seemed to enhance his earnings perhaps because she was specializing in home production. For older women, no male personality characteristics appeared to have an effect on her earnings perhaps indicating the wives' job were of secondary importance in the older cohort. In contrast, for younger men, women's conscientiousness no longer affected his earnings.

¹¹ All appendix tables discussed are available online.

This may be due to a focus on joint consumption in younger couples rather than specialization. For a younger woman, the less agreeable her partner, the higher her own earnings. Because agreeableness was inversely correlated with own earnings, this likely reflected positive assortative matching in the marriage market which also suggests fewer gains from specialization.

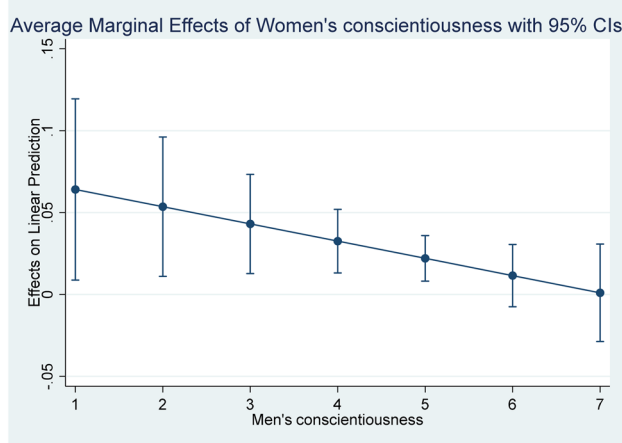
Because our data were longitudinal, we also ran individual fixed-effects models. This allowed us to control for any unobservables of the husband (wife) that were time-invariant and may have been correlated with their spouses' personality.¹² We used a sample of continuously married individuals. Given that we have shown that personality was stable over time, it was not surprising that the standard errors on the personality coefficients were typically twice as large and that the coefficients were somewhat smaller and estimates were no longer statistically significant. In these models, shown in Online Appendix Table 5, all the partner characteristics were rendered nonsignificant.

Spousal Personality Interactions

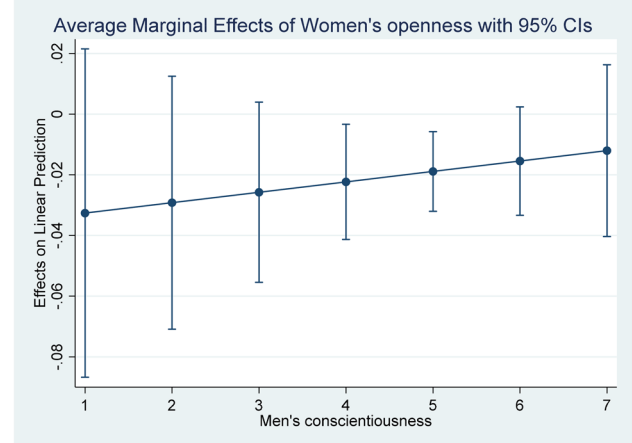
We explored interactions between spousal personality traits and own personality traits. For example, while we found that a man's earnings were higher if he had a conscientious wife, we tested whether this effect was magnified by him also being conscientious. We focused on interacting those characteristics that were significant in Table 3. Thus, in the men's hourly earnings regressions, we interacted men's conscientiousness with his wife's conscientiousness and her openness. Likewise, we also interacted his agreeableness

¹² Another way to deal with the endogeneity of spousal personality in the own hourly earnings equation would be to use an Instrumental Variables estimator. Such an approach would require an instrument that was correlated with spousal personality but not with the own hourly earnings. Unfortunately, we did not have such an instrument. An ideal instrument would randomize individuals into marriage making their spouse's personality exogenous.

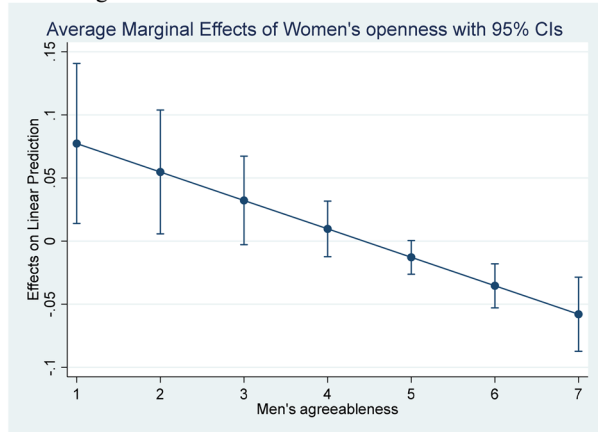
Panel A: Men’s Earnings: Marginal Effect of Women’s Conscientious on Men’s earnings evaluated at differing levels of Men’s conscientiousness



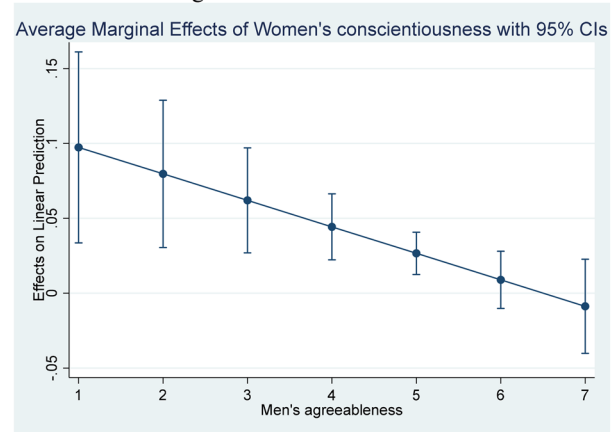
Panel B: Men’s Earnings: Marginal Effect of Women’s Openness on Men’s earnings evaluated at differing levels of Men’s conscientiousness



Panel C: Men’s Earnings: Marginal Effect of Women’s Openness on Men’s earnings evaluated at differing levels of Men’s Agreeableness



Panel D: Men’s Earnings: Marginal Effect of Women’s Conscientiousness on Men’s earnings evaluated at differing levels of Men’s Agreeableness



Panel E: Women’s Earnings: Marginal Effect of Men’s Extraversion on Women’s earnings evaluated at differing levels of Women’s Conscientiousness

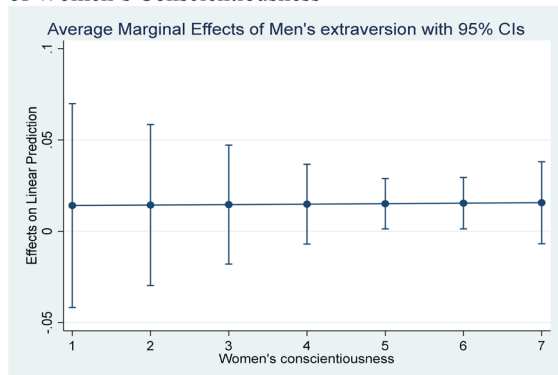


Fig. 2 Interaction effects

with these two factors. For women, we interacted her conscientiousness with his extraversion. The marginal effects are plotted in Fig. 2 panels A through E.¹³

These figures show that interactions mattered and that the effect of a spouses' personality were generally significantly dependent on the individual's own personality. In Fig. 2 panel A, for example, the effect for men's earnings of having a conscientious wife diminished as men's own conscientiousness increased. This suggests that this trait may be substitutable—as he became more conscientious, the effect of her conscientiousness on his earnings diminished.

In Fig. 2 panel B we found that the marginal effect of a wife's openness on his earnings increased the more conscientious her spouse was but was nonsignificant at low and high values of his conscientiousness. Her openness did not help his earnings if he was not very conscientious and dissipates as he became more conscientious.

In Fig. 2 panel C we saw that the effect of having a wife open to new experiences (which exerted a negative effect on his earnings in the model without interaction) declined with his greater agreeableness in his equation. As he became more agreeable the marginal effect changed sign (positive to negative).

In Fig. 2 panel D, we saw the effect of her conscientiousness interacted with his agreeableness in his hourly earnings equation. As a partnership, it may be that as he became more agreeable, the effect of her conscientiousness had smaller effects on his hourly earnings. Perhaps the importance of specialization declined. Couples may prefer to focus on non-wage aspects of work-life balance instead of maximizing individual earnings through work.

In the women's hourly earnings regression, we interacted her conscientiousness with his extraversion. Figure 2 panel E shows the marginal effect of this interaction on her earnings at different values of her conscientiousness. The confidence intervals for the marginal effects contained zero hence there was no evidence of an interaction.

Further Channels

Given that the results presented above indicated a relationship between spousal personality and hourly earnings, particularly for men who had a conscientious wife, we estimated an alternative specification to provide insight into the possible mechanisms at work. One hypothesis was that having a conscientious wife would free up her husband's time to work. To examine this possibility, we added controls for partner's labor market attachment, self-reported housework

Table 4 Examining channels (dependent variable: log real hourly earnings)

Variables	Men	Women
Men conscientiousness	0.0184 (0.0108)	− 0.00735 (0.0102)
Men agreeableness	− 0.0355** (0.0116)	− 0.0107 (0.00956)
Men emotional stability	0.0135 (0.00979)	0.0173 (0.00956)
Men extraversion	− 0.000697 (0.00971)	0.0194* (0.00901)
Men openness	− 0.00671 (0.0103)	0.00202 (0.0104)
Women conscientiousness	0.0209* (0.0104)	0.0190 (0.00974)
Women agreeableness	− 0.0171 (0.0133)	− 0.0185 (0.0132)
Women emotional stability	− 0.00427 (0.00994)	− 0.00164 (0.00963)
Women extraversion	0.00840 (0.00836)	0.00391 (0.00814)
Women openness	− 0.0135 (0.00970)	0.000910 (0.00965)
Partner housework (hours & minutes)	− 0.00199* (0.000808)	0.00295 (0.00152)
Partner out of labor force	0.132*** (0.0281)	− 0.0326 (0.0450)
Partner works part-time	0.0751*** (0.0194)	− 0.0447 (0.0340)
Decision making index	− 0.0271 (0.0380)	− 0.106** (0.0358)
Constant	3.204*** (0.233)	2.787*** (0.274)
Observations	3033	2712
R-squared	0.232	0.269

All regressions include full set of covariates shown in Table 3 as well as state and year fixed effects, and health and occupation dummies, partner age and educ. Robust standard errors clustered at the individual level in parentheses

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.05$

and an index for decision making to the hourly earnings regressions.¹⁴ Partner's labor market attachment captured full versus part-time work and was another indicator of

¹³ The regression results for the interaction marginal effects are shown in Online Appendix Table 6.

¹⁴ There is a large literature on the detrimental effect of housework on earnings particularly for women (e.g. Maani and Cruickshank 2010; Hersch 2009). Our measure of decision making was included to allow for differential bargaining power which others have found may also influence the allocation of household time. For example, Flinn et al. (2018) found using the HILDA data that personality was an important predictor of household bargaining power.

available time to carry out housework. These three variables gave possible alternative explanations for differentials in hourly earnings, address possible omitted variable bias, and allowed us to see if the personality traits that we have found to matter still matter.

The results in Table 4 showed that men benefitted from having a wife who was working part time or not at all. This is consistent with a marriage specialization effect; men can devote more time and energy to their work when their wife is managing the household. However, there was no effect on men's earnings of being more likely to make decisions.¹⁵ Perhaps paradoxically men whose wives do more housework have lower earnings although the effect was quite small. Importantly for men, adding these controls *did not reduce the significance or the magnitude* of women's conscientiousness on men's earnings. These results suggested that the impact of the spousal personality characteristics on hourly earnings was not occurring entirely through the desire for specialization in marriage by men or men's desire to have women do more housework and assert a less dominant role in household decision making.

In contrast, there was no significant effect on women's earnings from having a husband who did not work or worked only part time. Men's extraversion remained a significant predictor of his wife's hourly earnings even when adding these controls.

Spousal Personality and Housework

In an analysis shown in Online Appendix Table 7, we examined whether there were links between spousal personality and self-reported housework. If so, these may indicate that a spouse's personality may contribute to his/her affinity towards housework and perhaps explain the hourly earnings boost seen for men from having a conscientious wife which was a robust finding in our analysis. For men, having a conscientious wife reduced the amount of housework he did suggesting that she freed up her husband so that he was able to work more or work with fewer distractions. In addition, a man with a wife open to new experiences did more housework and perhaps not surprisingly, men who were agreeable and open to new experiences did more housework. This would be consistent with the finding of Borra et al. (2017) who found that there was selection into marriage by individuals with a greater affinity for home-produced goods and that this selection explained about 50% of differences in housework by gender. For women, none of the men's personality traits influenced how much housework they did. However,

agreeable women did more housework while more extraverted women did less.

Married vs Cohabiting

In models not shown here but available upon request, we explored whether these effects were the same for married versus cohabiting couples. Specifically, it is possible that couples choosing to engage in a longer-term commitment such as marriage would be more selective about the personality of their match than those who cohabit. Therefore, the impact of spousal personality may matter more for married couples as they may invest more heavily in their partnership whether it be through specialization or joint consumption and the impact of spousal personality characteristics would be less important for earnings for the cohabiting group. In models including only those who were married in our sample and in models including the full sample and controlling for cohabiting, we found no difference of the effect of spousal personality on earnings indicating that our main findings were not driven by the marriage commitment.

Probability of Marriage Based on Personality

In Table 5 Panels A and B, we present the marginal effects from estimating Eq. 3 which examined the determinants of marriage for two cohorts, those born between 1940 and 1960 and those born between 1968 and 1988. We chose to do this analysis by cohort both based on work in Australia that documents differential marriage patterns by cohort (Evans and Gray 2018) and work by Lundberg (2012) who did a similar analysis by cohort as described earlier. Our dependent variable in this analysis was equal to one if the respondent ever married or cohabited by age 35. For the older cohort shown in Table 5, Panel A, we found that both men and women who were conscientious and extraverted individuals were more likely to marry. In addition, more agreeable women were more likely to be married; this was not true for men. Interestingly, women open to new experiences were less likely to marry.

For the younger cohort, Table 5 panel B, born between 1968 and 1988, we found that all significant coefficients were larger in absolute magnitude and indicated that personality factors may matter more for determining marriage in this cohort. We found again that men who were conscientious and extraverted were more likely to marry/cohabit whereas men open to new experiences were significantly less likely, but we did not find openness to be important in the older cohort of men. Women who were conscientious and agreeable were also more likely to be married while being open to new experiences continued to have a negative effect on the probability of being married. This analysis suggests that men prefer conscientious women as marriage partners perhaps because of the spillover effects on their own earnings.

¹⁵ Lower values of this index indicate that the individual whose wages are the dependent variable is more likely to make household decisions.

Table 5 Evidence of assortative mating

Panel A	Men older cohort	Women older cohort	$\beta_m = \beta_f$	
	Born between 1940 and 1960		Chi-squared	P-value
Conscientiousness	0.014** (0.005)	0.008* (0.004)	0.0359	0.850
Agreeableness	0.011 (0.006)	0.020*** (0.005)	1.755	0.185
Emotional stability	– 0.006 (0.005)	0.000 (0.004)	0.351	0.554
Extraversion	0.018*** (0.005)	0.011** (0.003)	0.0286	0.866
Openness	– 0.006 (0.005)	– 0.009* (0.004)	0.453	0.501
Observations	5383	5994		
P(ever married/cohabited)	.8477	.9033		
Panel B	Men younger cohort	Women younger cohort	$\beta_m = \beta_f$	
	Born between 1968 and 1988		Chi-squared	P-value
Conscientiousness	0.031*** (0.006)	0.040*** (0.005)	1.339	0.247
Agreeableness	0.011 (0.007)	0.032*** (0.007)	3.528	0.0604
Emotional stability	– 0.004 (0.006)	0.001 (0.006)	0.285	0.593
Extraversion	0.035*** (0.006)	0.004 (0.005)	9.275	0.00232
Openness	– 0.042*** (0.006)	– 0.048*** (0.006)	0.718	0.397
Observations	6096	7011		
P(ever married/cohabited)	.6166	.6794		

Dependent variable = 1 if ever married/cohabited by age 35. Probit model

Coefficients shown are marginal effects. All regressions include controls for age and education. Dependent variable = 1 if respondent has ever been married or cohabited by age 35

Robust standard errors in parentheses

The older cohort includes those born between 1940 and 1960 (inclusive), while the younger cohort consists of those born between 1968 and 1988 (inclusive)

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$

We also present the results of a Chi-squared test that tested the difference in the coefficients across men and women within cohort. Unlike Lundberg, we did not find many significant differences in which aspects of personality predicted marriage for men or women with the notable exception of agreeableness and extraversion in the younger cohort.

Discussion

Our study is important in that we documented a relatively unexplored source of variation in hourly earnings and in particular, one that relates to non-cognitive factors. As labor

income is the primary source of income for most individuals, it is crucial to understand the key mechanisms for productive work.

In particular, being conscientious pays for both men and women in the labor market. Our results are similar to those of Gensowski (2018), Heineck (2011) and Mueller and Plug (2006). Men benefit even more with a conscientious wife but having a conscientious husband does not increase women's earnings. Our results support the finding of Solomon and Jackson (2014) who found that spousal conscientiousness had positive benefits on labor market outcomes although they did not disaggregate by gender. In addition, research has found that in a workplace setting, conscientious individuals

are more productive because they work hard, complete tasks thoroughly, stay organized, act responsibly, and make decisions carefully (Barrick et al. 2001). We also found that the effect of spousal personality varied by cohort although relatively small sample sizes mean that these results are best reviewed as suggestive. Yet, it is notable that in the younger cohort, a wife's conscientiousness no longer was a significant predictor of men's earnings (see Online Appendix Table 4, column 3).

The effect of a wife's conscientiousness on her husband's earnings was not dampened by controlling for her housework hours. We do note that the housework measure in our sample does not measure child care which could be important.

We documented that personality traits of the adults in our survey are stable over time as did Cobb-Clark and Schurer (2012) giving us more confidence that these associations may reflect a causal effect. However, we caution that unobservable factors that predict marriage and earnings may still bias our estimates of the effect of spousal personality on earnings.

We found that the additional dimension of personality and its interplay with a spouses' personality appears to be important in explaining one's hourly earnings in Australia. These interaction results suggested that spousal personality traits that enhance earnings have tradeoffs. For example, for men there appears to be a trade-off between their own and their wives' conscientiousness. Therefore, any analysis of the effect of personality on earnings should consider the interaction between partners' personality traits.

Our results indicated selection into marriage based on personality traits. Conscientiousness mattered for the probability of marriage for both cohorts, and notably its effect is quite a bit larger in the younger cohort. Lundberg (2012) also found conscientiousness mattered but only for men in the older cohort and for both men and women in the younger cohort. We did find that the younger cohort is far less likely to marry/cohabit if they were open to new experiences. This result suggested that those who are open to new experiences are more willing to live unpartnered into their thirties. The selection into marriage results together with the earnings regressions indicate that conscientiousness is an important trait in predicting who is married and it also plays an important role in earnings determination, particularly for men.

Conclusions

In this paper we examine how own and spousal personality traits affect earnings and the probability of marriage. We first document that personality is relatively stable over one's working lifetime and this largely rules out reverse causality that an adverse labor shock affects personality. Then, turning to labor market outcomes, we find that certain own and

spousal personality traits are associated with higher earnings. Specifically, we find evidence for men that having a conscientious wife increases men's earnings. This result is robust and remains when adding variables that measure possible channels that may explain these effects. Given our findings that a conscientious wife can help the success of her spouse on the job, promoting healthy marriages could reinforce this mechanism. Hence, we agree with Solomon and Jackson (2014) that policies aimed to provide more flexibility such as telecommuting and flextime would allow couples more time together; assessing the impact of these policies on own and partner well-being is an area for future research.

We furthered explore whether there are interactions between the husband's and wife's personality characteristics. We find that interacting spousal personality characteristics can either dampen or enhance the impacts of a particular personality trait on earnings demonstrating the complicated mechanisms linking personalities and hourly earnings.

We also document significant selection into marriage based on personality traits. This coupled with the hourly earnings regressions indicate spillover effects from matching in the marriage market to success in the labor market. These results also reinforce that it is important to consider non-cognitive factors as well as cognitive factors in models of earnings. Going forward, researchers may want to formally model the joint effect of personality on earnings and marriage. Specifying and estimating such a model would be a constructive next step but is beyond the scope of this paper.

Acknowledgements We thank our research assistant, Enfeng Zhou, for invaluable help and Andrew Hussey, Terra McKinnish and Allan Zebedee for helpful comments on earlier drafts of this paper as well as participants at the 2018 SEHO meetings, the 2017 PAA meetings and the 2017 SEA meetings.

Funding This paper uses unit record data from the Household, Income and Labour Dynamics in Australia (HILDA) Survey. The HILDA Project was initiated and is funded by the Australian Government Department of Social Services (DSS) and is managed by the Melbourne Institute of Applied Economic and Social Research (Melbourne Institute). The findings and views reported in this paper, however, are those of the authors and should not be attributed to either DSS or the Melbourne Institute.

Compliance with Ethical Standards

Conflict of interest The authors have no conflicts of interest to disclose.

Research Involving Human Participants and/or Animals The authors made use of the Household Income and Labour Dynamics Survey based in Australia (HILDA) data and received clearance to do so.

Informed Consent This study uses publicly available, secondary data from the HILDA survey. For this type of study, formal consent is not required.

Appendix 1

Definitions of the Big Five Characteristics (These are adapted from: <https://www.psychometric-success.com/personality-tests/personality-tests-big-5-aspects.htm>. Accessed 3/20/2017)

Extraversion

Extraversion is defined by pronounced engagement with the external world. Extraverts enjoy being with people, are energetic, and frequently experience positive emotions. They tend to be enthusiastic, action-oriented, individuals. In group settings they like to talk, assert themselves, and draw attention to themselves.

Agreeableness

Agreeableness reflects individual differences in concern with cooperation and social harmony. Agreeable individuals place a premium on getting along with others. They tend to be considerate, friendly, generous, helpful, and willing to compromise. Agreeable people have an optimistic view of human nature.

Conscientiousness

Conscientiousness concerns the way in which we control, regulate, and direct our impulses both bad and good. Impulses are not inherently bad; occasionally time constraints require a snap decision, and acting on our first impulse can be an effective response. Also, in times of play rather than work, acting spontaneously and impulsively can be fun. Impulsive individuals can be seen by others as colorful and fun-to-be-with.

Neuroticism (Converse is Emotional Stability)

Neuroticism refers to the tendency to experience negative feelings. People with neuroticism tend to have more depressed moods. They often suffer from feelings of guilt, envy, anger and anxiety, more frequently and more severely than other individuals.

Openness to Experience

Open people are intellectually curious, have an advanced appreciation of art, and are sensitive to beauty. They tend to be more aware of their feelings and to act in individualistic and nonconforming ways. Intellectuals typically score high

on Openness to Experience; consequently, this factor has also been called Culture or Intellect.

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