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Anthropometry and socioeconomics in the couple: evidence from the PSID*

Sonia Oreffice and Climent Quintana-Domeque**

Abstract

We analyze empirically the marriage-market aspects of body size, weight, and height in the United States using data from the Panel Study of Income Dynamics on anthropometric characteristics of both spouses. We find evidence of positive sorting in spouses' BMI, in their weight, and in their height. Within couples, gender-asymmetric trade-offs arise not only between physical and socio-economic attributes, but also between anthropometric attributes, with significant penalties for fatter women and shorter men. A wife's obesity (body size or weight) measures are negatively correlated with her husband's income, education, and height, controlling for his weight (or body size) and her height, along with spouses' demographic and socio-economic characteristics. Conversely, heavier husbands are not penalized by matching with poorer or less educated wives, but only with shorter ones. Height is valued in the market mainly for men, with shorter men matched with heavier and less educated wives.

Keywords: weight, height, BMI, marriage market.

JEL Classification: D1, I1, J1.

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1. Introduction

Spouses tend to share a variety of characteristics, including age, education, race, religion, and physical attributes such as height and weight (Becker, 1991; Weiss and Willis, 1997; Qian, 1998; Silventoinen et al., 2003). Specifically, assortative mating in body weights has been established in the medical and psychological literatures, which document significant and positive interspousal correlations for weight (Schafer and Keith, 1990; Allison et al., 1996; Speakman et al., 2007), and the importance of examining the effect of both spouses' characteristics on their marriage (Fu and Goldman, 2000; Jeffrey and Rick, 2002; McNulty and Neff, 2008).

Recently, Kano (2008) investigated the joint dynamics of spousal obesities in the United States and found that the probability of an individual's being obese is positively associated with past obese status of his/her spouse. Belot and Fidrmuc (2009) and Herpin (2005) considered height as a determinant of marriage rates, the former analyzing interracial marriage rates and linking them to gender preference for height differences, the latter showing that the probability of being in a relationship is lower for shorter men.

In this study, we examine the associations among body size, weight, and height in the marriage market, and we investigate the spousal trade-offs among these anthropometric attributes and socio-economic characteristics, such as income and education, that men and women face in the marriage market.

Using data from the Panel Study of Income Dynamics (PSID) on married men and women from 1999 to 2007, we focus on the within-couple correlation in both anthropometric and socio-economic measures, controlling for a range of individual and

spousal characteristics. In particular, body size is measured by means of the body mass index (BMI), which is defined as an individual's body weight (in kilograms) divided by the square of his or her height (in meters).

Assessing the extent of marital sorting in terms of these anthropometric and socio-economic dimensions allows us to analyze the associations among individuals' body size, weight, and height in the marriage market. Does the market penalize obesity and reward height (and income) by matching less physically fit individuals with partners who are less socially desirable in regard to other physical and/or socio-economic dimensions? What is the extent of marital sorting in BMI, weight and height between spouses? Do men assess these attributes differently from the way women do?

We find evidence of positive assortative mating in each anthropometric characteristic (spouses' BMI, weight, and height). Moreover, our empirical results show that women's *physical attractiveness* (proxied by anthropometric measures, namely BMI and weight) plays a more important role in the marriage market than does men's, with heavier women being thrice penalized, tending as they do to marry men who are poorer, less educated, and shorter. Shorter men, in contrast, tend to marry heavier and less educated women. Moreover, a husband's excess weight is negatively correlated with only the wife's height. These gender-asymmetric cross-associations of body size, weight, height, and income have not been emphasized in the literature, and male shortness and weight penalties have been often overlooked. Also, a systematic analysis of spousal sorting along anthropometric characteristics was missing in economic studies.

Our empirical analysis reveals that there is positive sorting between spouses' BMIs, weights and heights. An additional unit in husband's BMI is associated with an increase of .40 units in the BMI of the wife; an additional pound in husband's weight is associated with an increase of .35 pounds in wife's weight; finally, an additional inch in his height is associated with an increase of .12 in his wife's height. As to the estimated trade-offs among spousal anthropometric and socio-economic characteristics, we find an economic penalty for heavier women: richer men tend to be married with thinner women. An increase of about $ 4,200 in a husband's earnings (10% of his average earnings) is associated with his being married to a woman who weighs almost 1.2 pounds less, and whose BMI is .21 points lower. This means that if we compare two couples, one with the husband earning $ 40,000 and the other with the husband earning $ 80,000, ceteris paribus the latter will be matched to a wife who has 2 units of BMI less, or 12 pounds less, a visible and sizable association between earnings and physical attractiveness. Additionally, the heavier a wife is, the shorter her husband tends to be; 10 pounds more on her part is correlated with 0.14 inches less height on his.

There are two pertinent studies using PSID data to analyze spousal weight correlations, but they do not examine the correlation within a couple between anthropometric and socio-economic characteristics. Kano (2008), investigating the joint dynamics of spousal obesity, controlled only for each spouse's socio-economic characteristics and total household income and disregarded the other spouse's variables. Conley and Glauber (2007), examining PSID data on siblings, found that for women BMI is negatively associated with family income, the likelihood of marriage, the spouse's occupational prestige, and spousal earnings. However, for men, BMI is positively associated with spousal earnings.

A large body of literature using National Longitudinal Survey of Youth data links women's weight to lower spousal earnings or lower likelihood of being in a relationship (Averett and Korenman, 1996; Averett et al., 2008; Mukhopadhyay, 2008; Tosini, 2009). However, since these data provide anthropometric measures of the respondent only, the weight-income trade-off is estimated without controlling for the men's physical attributes. The same can be said about the influential work by Hamermesh and Biddle (1994), which shows that physically unattractive women are matched with less educated husbands.

The findings presented here are consistent with the marriage market sorting heavy and short individuals with mates with similar characteristics, and reinforcing the negative assessments of women's weight by sorting heavier women with poorer, less educated, and shorter men. Moreover, they provide empirical support for female *physical attractiveness* to play a more significant role in the marriage market than does men's, accounting for spousal associations in both anthropometric characteristics and income.

This evidence is in line with research in psychology and economics linking body size, obesity, attractiveness, and the desirability of a potential mate. For instance, Braun and Bryan (2006) found that men differed from women in the greater extent to which they reported that physical features, including face, body shape, and weight, were important in their assessments of the desirability of a potential mate. Conversely, women gave much greater consideration than did men to personality, intelligence, and career choice. Rooth (2009) found that photos that were manipulated to make a person of normal weight appear to be obese caused a change in the viewer's perception, from attractive to unattractive.

Our results can also be contextualized in the economic research agenda on the effects of anthropometric measures. Many economists have been working on assessing the effects of height, BMI, and obesity on labor-market outcomes. The consensus is that BMI in the overweight or obese range has negative effects on the probability of employment and on hourly wages, particularly for women (Han, Norton, and Stearns, 2009), while height has a positive effect on hourly wages, perhaps reflecting the fact that taller people are more likely to have reached their full cognitive potential (Case and Paxson, 2008) and/or may possess superior physical capacities (Lundborg, Nystedt, Rooth, 2009). On top of these labor-market effects, not to mention the well-known negative health effects of obesity, we provide tentative evidence of additional effects that weight and height may have in the marriage market.

The paper is organized as follows. Section 2 describes the data. Section 3 presents the empirical results. Section 4 concludes.

2. Data Description

Estimation is carried out on the basis of data from the Panel Study of Income Dynamics (PSID). The PSID is a longitudinal household survey collecting a wide range of individual and household demographic, income, and labor-market variables. In addition, in all the most recent waves since 1999 (1999, 2001, 2003, 2005, and 2007), the PSID provides the weights (in pounds) and heights (in inches) of both household heads and wives, which we use to calculate the BMI of each spouse, and whether a spouse can be deemed obese. While the former measure is defined as an individual's body weight (in kilograms) divided by the square of his or her height (in meters squared)[1], the latter is a

[1] The pounds/inches BMI formula is: Weight (in pounds) x 704.5 divided by Height (in inches) x Height (in inches).

dummy variable with a value of one if an individual's BMI is 30 or above (WHO, 2003). Interestingly, non-response to body size questions appears to be very small in the PSID data. Specifically, item non-response for husband's height is below 1.4% in each year, for wife's height is below 1.4% in each year, and for husband's weight is below 2.2% in each year. Regarding wife's weight, item non-response is below 5.5% in each year.

In each of the survey years under consideration, the PSID comprises about 4,500 married households. We select households with a household head and a wife where both are actually present. In our sample years, all the married heads with spouse present are males, so we refer to each couple as husband and wife, respectively. We confine our study to those couples whose wife is between 20 and 50 years old, given that the median age at first marriage of women in the US was 25.1 in 2000 and 26.2 in 2008 (U.S. Census Bureau, Current Population Survey, 2005; American Community Survey, 2008). The upper bound 50 is chosen to focus on prime-age couples who are attached to the labor market, as our main socio-economic characteristic is earnings and total individual income is not available in the PSID for recent years. Earnings have also been found to be relevant in explaining the relationship between BMI and family income (Garcia Villar and Quintana-Domeque, 2009). Our main analysis comprises white spouses, with the husband working in the labor market, so that we include couples with both working and non-working wives. We focus on white couples because blacks are disproportionately over-represented in low-income households ("poverty/SEO sample"). Following Conley and Glauber (2007), we discard those couples whose height and weight values include any extreme ones: a weight of more than 400 or less than 70 pounds, a height above 84 or below 45 inches. Our sample thus consists of

approximately 7,218 observations, a sample size consistent with those of previous studies using PSID data to analyze obesity and the labor market (Cawley, Grabka, Lillard, 2005; Conley and Glauber, 2007; Kano, 2008).

We run regressions of each spouse's physical attributes, controlling for their physical, demographic, and economic characteristics. We use three dependent variables in our main analysis: BMI, weight, and height.

The other regressors are own age and the educational level (the latter defined as the number of completed years of schooling, and top-coded at 17 for some completed graduate work); the number of children in the household under 18 years of age; and the earnings of each spouse. Non-working wives have zero earnings and are assigned 0 log earnings, while working wives have positive earnings and are assigned the log of their earnings. The health status originally recorded by the PSID is a 5-category variable (from excellent to poor health); this is the basis of our health dummy variable: 1 if excellent, very good, or good; 0 if fair or poor. State dummy variables are included to capture constant differences in labor markets and marriage markets across geographical areas in the US, such as the proportion of obese men and women and cultural attitudes toward body size, and obesity in particular. As our analysis concerns several PSID waves, year and time-state dummy variables are also used, along with clustering at the head-of-household level. Finally, observations are weighed with the PSID-family weights.

Because the PSID main files do not contain any direct question concerning the duration of the marriages, we rely on the "Marital History File: 1985-2007" Supplement of the PSID to obtain the year of marriage and number of marriages, to account for the duration of the couples' current marriage. We merge this information to our main

sample using the unique household and person identifiers provided by the PSID. We establish thresholds of less than or equal to three years of marriage, as a proxy for how recently a couple formed. This leaves us with a sample of 1,397 observations from recently married couples and 5,821 observations from non-recently married couples[2]. Specifically, this represents around 280 couple-year observations concerning the recently married or an average of 1.3 observations per couple. As to couples who have been married for more than 3 years, we have 1,160 couple-year observations or an average of 2.8 observations per couple. This partition by duration of marriage is worth analyzing because the marriage-market penalties for BMI should arise through sorting at the time of the match, and thus be more visible for recently married couples.

In the PSID all the variables, including the information on the wife, are reported by the head of the household. Reed and Price (1998) found that family proxy-respondents tend to overestimate heights and underestimate weights of their family members, so that family proxy-respondent estimates follow the same patterns than self-reported estimates (see Gorber et al. (2007) for a review). The authors suggest that the best proxy-respondents are those who are in frequent contact with the target. Since we are considering married couples, the best proxy-respondents are likely to be the spouses. Additionally, although it is well-known that self-reported anthropometric measures are likely to suffer from measurement error, Thomas and Frankenberg (2002) and Ezzati et al. (2006) showed that in the United States, self-reported heights exaggerate actual heights, on average, and that the difference is close to constant for ages 20-50. Finally, Cawley (2000, 2004) used the National Health and Nutrition Examination Survey III

[2] Lower thresholds for recently married couples would make the corresponding sample size too small. In particular, using a cut-off of 1 year of marriage or less would reduce the sample size to only 556 observations or 507 observations in the most complete specification. The effective sample size would be even lower given that we are controlling for year, state and year-by-state fixed effects.

(NHANES III) to estimate the relationship between measured height and weight and their self-reported counterparts. First, he estimated regressions of the corresponding measured variable to its self-reported counterpart by age and race. Then, assuming transportability, he used the NHANES III estimated coefficients to adjust the self-reported variables from the NLSY. The results for the effect of BMI on wages were very similar, whether corrected for measurement error or not. Hence, we rely on his findings, and we are confident that our results (based on unadjusted data) are unlikely to be significantly biased[3].

In Table 1, we present the descriptive statistics for the husbands' and wives' main variables, separately for the recently married (less than or equal to 3 years) and the less recently married (more than 3 years of marriage). On average, wives are younger, almost as educated as men, and their health is slightly worse than their spouses. The first two findings may be the result of our age restriction, 20-50, for the wife. The average BMI is 27 for husbands and 25 for wives. The prevalence of obesity among the husbands is 23% (26% for longer duration of marriage), while for wives it is 16% (17% for longer duration of marriage). These results are in line with those of Kano (2008) and Averett et al. (2008); the fact that the obesity prevalence among our sample of wives is lower is probably due to the fact that our sample is younger. Our results contrast with those of Ogden et al. (2006), who, using data from the NHANES, estimated that the US rate of adult obesity prevalence is 31.1% for males and 33.2% for females in 2003-04. As Kano (2008) pointed out, this difference might stem from the fact that we focus on married couples, not on the general US population. Finally, interesting patterns arise

[3] It is not clear that the method used in Cawley (2000, 2004) can be applied in our context. While in the NHANES III and NLSY each individual only self-reports his/her own weight/height, in the PSID the household head is reporting his own and his wife's height and weight. However, Cawley et al. (2005) use the procedure using data from the PSID without discussing such an issue.

comparing the recently to the non-recently married couples. The average number of children for the former group is half the size of the latter, the spouses' ages are lower, while the education of the wife and her earnings are higher for recently married. While BMI and weight appear to be only slightly higher for couples in longer marriages, the slightly smaller averages in height for these couples may reveal a cohort effect.

Table 2 shows three main patterns. First, there seems to be positive sorting in BMI: in 60% of recently married couples, both the wife and the husband have a BMI above or below the median BMI corresponding to their respective BMI distributions. Indeed, the correlation between husband's and wife's BMI is 0.3740 (p-value = 0.0000), see Table 13. Second, almost 30% of recently married couples consist of a thin wife and a high-earnings husband, 20% of a thin wife and a low-earnings husband, while the remaining 50% consists of a heavier wife and a low- or high-earnings husband. The correlation between husband's log earnings and wife's BMI is –0.1578 (p-value = 0.0000), see Table 13. Finally, nearly 60% of recently married couples are composed of either a high-educated husband and a thin wife (29.2%) or a low-educated husband and a heavier wife (almost 27%). The correlation between husband's education and wife's BMI is –0.2126 (p-value = 0.0000), see Table 13.

3. Results

3.1 Main Findings

In Table 3 we present the results of several regressions where the dependent variable is the wife's BMI by marital duration. Starting from the baseline specification, which controls only for husband's BMI and wife's age, we run a "horse-race" sequentially adding several characteristics of both the wife and the husband.

The first specification shows a strong correlation between the BMIs of recently married (less than 3 years) couples, only controlling for wife's age. The same regression for non-recently married couples follows and shows a smaller association between spouses' BMIs. This difference is observed across all the specifications. We do not control for the age of both spouses, since these two are strongly correlated (between 0.8 for the recently married couples and 0.9 for the non-recently ones). Moreover, we only include a linear term in age of the wife. Even if we add a quadratic in age of the wife, we do not find age effects.

In the second specification, we add state, year and state-year fixed effects, while in the following ones we sequentially add several characteristics of both the wife and the husband: spouses' log earnings, then number of children and health status, finally completed education of both spouses. The corresponding estimated coefficients highlight three important features. First, the strong correlation between spouses' BMIs persists. For recently married couples, the coefficient on the husband's BMI stays fairly constant across specifications at around 0.40, while it decreases from 0.31 to 0.26 for spouses with longer duration of marriage. Second, the husband's education is negatively associated with his wife's BMI, and the association is more negative for recently married couples than for the non-recently married. Third, the husband's earnings are also negatively associated with his wife's BMI, and its magnitude is larger for recently married couples. This evidence shows that the correlation of spouses' BMIs decreases with the duration of their marriage, which suggests that, if anything, there is divergence in BMIs. Moreover, this comparison also shows that the correlation between husband's earnings and wife's BMI only slightly decreases with the duration of marriage. It is

important to highlight that we obtain almost identical estimates once we control for pregnancy indicators, or we add interaction terms between health and education.

In Table 3 one can see evidence of spousal trade-offs among BMI, education, and income: it seems that heavier husbands match with heavier wives, and that those husbands with better socio-economic characteristics (better educated, richer) tend to match with thinner wives. These findings are consistent with the marriage market reinforcing the negative assessment of women's weight by sorting heavy women with poor and less educated men. This is not necessarily evidence that the husband's income or education leads him to marry a thinner wife. Better educated or richer husbands may also be smarter and/or more sociable, or different in unobservable characteristics, which may make them more attractive in the marriage market.

We find a strong positive relationship between the two spouses' BMIs, with correlation of about 0.40 in recently married couples. This correlation may arise from three different sources (Carmalt, 2009): active assortative mating (selection of a partner based on phenotypic preferences), social homogamy (selection of a partner from within one's own social setting or geographical area), and convergence (the tendency of partners to become similar in weight because they share a common environment). We interpret the strong BMI correlations as evidence of assortative mating in BMI. In fact, the associations between the two spouses' BMIs are larger for the recently married subgroup than for the less recently married, throughout all the specifications. Hence, one can conclude that convergence does not seem to be the driving force behind this correlation[4]. Finally, state, year, and state-by-year fixed effects may seem to be crude

[4] This lack of convergence may be reflecting compositional (selection) effects if those who remained married are the spouses less concerned about physical characteristics. This is an interesting topic that deserves further analysis which is beyond the scope of this paper.

measures, but they help to account for social homogamy (they account for 3% of the variation in BMI).

In Table 4 we present the regression results where the dependent variable is now the husband's BMI. These results are somewhat different. First, richer husbands tend to be heavier. Second, there is a positive relationship between wife's BMI and husband's BMI, but there is no evidence of a negative correlation between wives' income and husband's BMI. As to the correlation between wife's education and husband's BMI, it is interesting to notice that the penalty to heavy husbands in terms of matching with less educated women is present only in couples married for longer than three years. This finding must be interpreted with caution, as in the recently married group wives are younger, and therefore they may have not completed their education yet.

The stronger association of husbands' education with wives' BMI has already been emphasized (Garn, Sullivan, and Hawthorne, 1989; Lipowicz, 2003). In this study we provide evidence of this spousal correlation for both genders and also across income and anthropometric characteristics.

Our findings are in line with the evidence from psychological studies (Braun and Bryan, 2006) that report that men emphasize the importance of body shape and *physical attractiveness* in choosing a mate, while women look for evidence of superior socio-economic status.

In Tables 5 to 8, for women and for men, respectively, we present the results of several regressions in which the dependent variables are weight and height. Table 4 shows that heavier women are thrice penalized, their husbands tending to be of lower socio-economic and physical status (i.e., poorer, less educated, and shorter), while in

Table 5 one can see that shorter women tend to be married to unhealthier men. We also find evidence of positive sorting in both anthropometric measures, as heavier men are more likely to be married to heavier women, and taller men to taller women.

Our analysis of male anthropometric measures suggests that husbands' height plays a more relevant role in the marriage market than their weight. A husband's being overweight is associated with his wife being shorter (Table 7), while there are no socioeconomic penalties. Higher income men tend to be heavier, but heavier women tend to be married to heavier men. Additionally, women who are educationally and physically inferior (heavier) marry shorter men, as reported in Table 8. This finding that a husband's greater height is a marriage-market premium is consistent with evidence that women prefer taller men (Ellis, 1992). These findings also confirm the spouses' positive assortative mating in both height and weight.

3.2 Measuring attractiveness

In our framework, anthropometric characteristics (height and BMI) are measures of physical attractiveness (i.e., beauty), while socioeconomic characteristics (earnings) are measures of socioeconomic attractiveness. Specifically, our evidence is consistent with BMI being a measure of both male and female physical attractiveness, whereas height is mainly a measure of male physical attractiveness. In this subsection, we address the validity of our main measure of physical attractiveness, namely, BMI. The validity of height as a measure of male physical attractiveness, but not of female physical attractiveness, has been extensively discussed in the literature (see Herpin (2005) for detailed references).

There is a concern that our estimated gender-asymmetric role of physical attractiveness may stem from female BMI and weight being better measures of physical attractiveness for women than for men. In this respect, we would like to refer to the following evidence in the literature. Both body shape and body size are important determinants of physical attractiveness. The literature review on body shape, body size and physical attractiveness by Swami (2008) seems to point to BMI being the dominant cue for female physical attractiveness, with WHR (the ratio of the width of the waist to the width of the hips) playing a more minor role. However, for male physical attractiveness, the WCR (waist-to-chest) plays a more important role than either the WHR or BMI, although the latter is correlated with the male attractiveness rating by women Wells, Treleaven and Cole (2007) confirm this positive relationship between BMI and body shape and size, suggesting that BMI reflects information on both physique (the form or structure of a person's body, i.e., physical appearance) and fatness for both men and women. This evidence seems to suggest that BMI is a good proxy for male physical attractiveness. Thus, in our empirical analysis, we use BMI as our measure of physical attractiveness, for both men and women. This approach is also consistent with Gregory and Ruhm (2009), who suggest that BMI may serve as a proxy for socially-defined physical attractiveness. However, we would like to acknowledge that Wada and Tekin (2007) argue that BMI-based measures do not distinguish between body fat and fat-free body mass and that BMI does not adequately control for non-homogeneity inside human body. Instead they develop measures of body composition – body fat (BF) and fat-free mass (FFM) – using data on bioelectrical impedance analysis (BIA) that are available in the National Health and Nutrition Examination Survey III. Unfortunately, these measures are not available in the PSID.

3.3. Sensitivity analysis

The results are robust to controlling for household non-labor income (total family income minus the labor income of each spouse), and to the exclusion of the few observations from the "poverty/SEO sample" or the "immigrant sample." We also perform our estimation restricting our sample to couples where the wife is working; here too, results yield the same pattern of associations between the body size and the age and the educational level of each spouse. Including dummy variables for occupational categories (professional-managerial; service; sales; agriculture; crafts; transportation; or military) of the husband, or for each spouse when restricting the sample to dual-earner couples, to account for on-the-job physical activity, does not alter our main findings either. The same can be said when controlling for parental education of both husbands and wives to account for family background characteristics. Finally, we also consider black couples. We still find comparable correlations between spouses' BMIs and penalties for women's weight, even though imprecisely estimated. However, our estimates should be interpreted with caution, as in the PSID blacks are disproportionately over-represented in low-income households ("poverty/SEO sample").

Since estimating averages of the wife's BMI conditional on several characteristics is not necessarily informative about the tails of the BMI distribution, we also explore the determinants of the likelihood of being obese or underweight for both wives and husbands in Tables 9 and 10. First, we replicate the same pattern of regressions while replacing each spouse's BMI with obesity; the obesity variable takes the value 1 if the individual is obese and 0 otherwise. The results closely match those reported in Tables 3 and 4. Second, we construct an underweight indicator that takes the

value 1 if the individual's BMI is below 18.5 and 0 otherwise, and we regress it on spousal obesity and other wife's and husband's characteristics. The findings in Table 9 suggest that underweight husbands are less likely to have obese wives. At the same time, high-earnings husbands are less likely to have obese wives but more likely to have underweight ones. Hence, we cannot reject the hypothesis that for women being thinner (even underweight) is better. Finally, note that the percentage of underweight men is extremely small. Indeed, there are only 10 husbands who are underweight in recently married couples (3 years or less), and only 17 underweight husbands in non-recently married couples (more than 3 years). As Table 10 shows, we do not have enough variation in the dependent variable to detect any systematic pattern. Hence, we cannot say much about the hypothesis that for men being thinner (even underweight) is better[5].

We also explore the extent of sorting and trade-offs between anthropometric and socio-economic characteristics in cohabiting couples. In the PSID, cohabitants are reported as couples only after their first year of cohabitation, so that for both cohabitants anthropometric measures are reported for those who have been living together for more than a year. However, in the US cohabiting couples are found to be less stable than married couples. This may have implications on the reliability of the reported partner's characteristics by the head. In particular, concerning anthropometric measures, it appears to be the case that in the US "proxy-respondents in married couples" (i.e., individuals reporting their spouses' characteristics) are more reliable than those in unmarried couples (Reither and Utz, 2009). The results for these cohabiting couples are

[5] Finally, to explore the potential non-monotonicity of the spousal BMI relationship over the BMI distribution, we have re-estimated column (1) in Tables 3 and 4 using spousal weight categories ("underweight" (BMI below 18.5), "overweight" (BMI between 25 and 29.99), and "obese" (BMI 30 and above)) rather than spousal BMI. Our findings did not show any evidence of a non-monotonic relationship.

similar to our main findings on married couples and are reported in columns 3 of Tables 11 and 12.

We also address the concern that the husbands' potential reporting bias of the wives' body size may be correlated with their husbands' income. In particular, it may be negatively correlated, if "higher class" husbands value thin wives more than "lower class" ones, and as a result they may be more likely to underreport their wife's weight. We analyze this issue by splitting our sample into two groups of couples, those with husbands' earnings above or equal to the 50% of the husbands' positive earnings distribution, and those whose husbands' earnings are below the median. The estimated associations are reported in columns 1 and 2 of Tables 11 and 12, for the BMIs of wives and husbands whose marriage duration is not longer than three years. The positive sorting in spouses' BMIs and the heavier wives' penalty in terms of husbands' earnings is still present in the two groups of couples.

Running our main regressions with the anthropometric variables in logs does not alter our pattern of results, as shown in columns 4 of Tables 11 and 12 in the case of log BMI and duration of marriage less than or equal to 3 years.

Finally, we analyze the implications of potential multicollinearity for our estimates, computing the correlations across all dependent and explanatory variables in our sample, across individual characteristics and across spouses' characteristics. We report the correlation matrix among variables in Table 13, separately by duration. The correlation between log husband's earnings and log wife's earnings is −0.0865 (for couples who have been married more than 3 years) and 0.0764 (for those who have been married three years or less). Hence, wife's earnings and husband's earnings are not collinear variables: the lack of significance of the estimated correlations between

anthropometric measures and own income is not driven by collinearity. Instead, we observe strong assortative mating in education and age: the correlation in education is around 0.6, while the correlation in age is even stronger, around 0.9. Hence, we need to interpret our findings on education with caution.

4. Conclusions

We examine the extent of assortative mating in BMI, weight and height, and the marriage-market assessment of these attributes by estimating the trade-offs within couples among these anthropometric characteristics, education, and income. Using anthropometric, demographic, and income information derived from PSID data from 1999 to 2007, we find evidence of positive sorting in spouses' BMI, in their weight, and in their height. Moreover, we show that female *physical attractiveness* plays a larger role in the marriage market than does men's, with the result that heavier women are thrice penalized, with husbands of lower socio-economic and physical status (i.e., who are poorer, less educated, and shorter). Shorter husbands, on the other hand, are penalized on both the physical and socio-economic dimensions, in that their wives are heavier and less educated. These gender-asymmetric associations of BMI, weight, height, and income have not been emphasized in the literature, and male penalties in general, when it comes to the marriage market, have often been overlooked. Also, a systematic analysis of spousal sorting along anthropometric characteristics was missing in economic studies.

These findings provide strong empirical support for women's weight to play a more important role in the marriage market than does men's weight. They also indicate that men's height is perceived as valuable mate quality, while accounting for spousal correlations in both anthropometric characteristics and income. Indeed, our estimates

show additional associations that weight and height have in the marriage market, on top of the health and the labor-market consequences already established in the literature.

APPENDIX

Table 1: Descriptive statistics for married couples, wife's age: 20-50. PSID 1999-2007.

	Recently married (3 years or less)				Non-recently married (more than 3 years)		
	N	Mean	SD		N	Mean	SD
Husband's BMI (kg/m2)	1,397	27.39	4.75		5,821	27.92	4.53
Wife's BMI (kg/m2)	1,397	24.70	5.74		5,821	25.21	5.66
Husband's Obesity	1,397	0.23	0.42		5,821	0.26	0.44
Wife's Obesity	1,397	0.16	0.36		5,821	0.17	0.38
Husband's Weight (pounds)	1,397	197.05	38.15		5,821	199.66	36.49
Wife's Weight (pounds)	1,397	150.51	35.90		5,821	151.91	35.33
Husband's Height (inches)	1,397	71.05	2.92		5,821	70.84	2.83
Wife's Height (inches)	1,397	65.44	2.69		5,821	65.08	2.76
Husband's Log Earnings	1,397	10.50	0.56		5,821	10.82	0.64
Wife's Log Earnings	1,397	8.92	3.07		5,821	7.89	4.07
Husband's Age	1,397	30.88	7.54		5,821	40.34	7.90
Wife's Age	1,397	29.09	6.99		5,821	38.35	7.31
Husband's Good Health	1,396	0.96	0.19		5,821	0.95	0.22
Wife's Good Health	1,397	0.95	0.22		5,821	0.93	0.25
Husband's Education	1,328	13.69	2.14		5,821	13.72	2.28
Wife's Education	1,308	14.08	2.08		5,448	13.74	2.15
Number of children	1,397	0.75	1.00		5,821	1.46	1.11

Note: Observations have been weighted using family weights. Husband's earnings are trimmed at $ 10,000, corresponding to the 3.5 percentile of the positive husband's earnings distribution.

Table 2: Cross-Tabulations for Recently Married Couples (3 years or less)

%
[Number of observations]

	Husband's BMI	
Wife's BMI	**< 50%**	**≥50%**
< 50%	30.03 % [379]	20.60% [260]
≥50%	19.18% [242]	30.19% [381]
	Husband's log (earnings)	
Wife's BMI	**< 50%**	**≥50%**
< 50%	22.6% [285]	28.1% [354]
≥50%	25.1% [317]	24.2% [306]
	Husband's Education	
Wife's BMI	**< 50%** **(13 years or less)**	**≥50%** **(14 years or more)**
< 50%	21.5% [271]	29.2% [368]
≥50%	26.7% [337]	22.7% [286]

Table 3: Regressions of wife's BMI on husband's BMI and other characteristics of wife and husband by marital duration. PSID: 1999-2007. Wife's age: 20-50.										
	(1)		(2)		(3)		(4)		(5)	
Marital duration	≤ 3 years	> 3 years	≤ 3 years	> 3 years	≤ 3 years	> 3 years	≤ 3 years	> 3 years	≤ 3 years	> 3 years
Husband's BMI	0.399***	0.336***	0.404***	0.312***	0.412***	0.295***	0.400***	0.285***	0.394***	0.261***
	(0.063)	(0.037)	(0.066)	(0.037)	(0.063)	(0.035)	(0.062)	(0.035)	(0.062)	(0.036)
Wife's Age	−0.014	0.006	−0.029	0.010	0.002	0.037	−0.001	0.031*	−0.022	0.033*
	(0.031)	(0.019)	(0.037)	(0.020)	(0.036)	(0.019)	(0.037)	(0.018)	(0.037)	(0.019)
Wife's Log Earnings					−0.156**	−0.039	−0.124	−0.016	−0.053	0.009
					(0.071)	(0.035)	(0.077)	(0.033)	(0.068)	(0.034)
Husband's Log Earnings					−2.10***	−1.70***	−2.00***	−1.60***	−1.41***	−1.17***
					(0.422)	(0.225)	(0.413)	(0.228)	(0.397)	(0.228)
Number of children							0.001	0.123	−0.153	0.164
							(0.231)	(0.136)	(0.239)	(0.141)
Wife's Good Health							−3.87***	−1.91***	−4.27**	−2.03***
							(1.48)	(0.740)	(1.71)	(0.786)
Husband's Good Health							−0.077	−1.08	−0.270	−1.05
							(1.22)	(0.695)	(1.30)	(0.750)
Wife's Education									0.068	−0.178**
									(0.126)	(0.081)
Husband's Education									−0.468***	−0.137*
									(0.133)	(0.082)
N	1,397	5,821	1,397	5,821	1,397	5,821	1,396	5,821	1,262	5,324
R^2	0.12	0.08	0.28	0.14	0.32	0.17	0.34	0.18	0.40	0.20
Adjusted R^2	0.12	0.08	0.15	0.10	0.20	0.14	0.22	0.15	0.28	0.16
Number of clusters	1,041	2,097	1,041	2,097	1,041	2,097	1,040	2,097	954	1,921

Note: Heteroskedasticity robust standard errors clustered at the household head level are reported in parentheses. Regressions in columns (2) – (5) include state, year, and state-by-year dummies. Observations have been weighed using family weights. *** p-value < 0.01, ** p-value < 0.05, * p-value < 0.1

Table 4: Regressions of husband's BMI on wife's BMI and other characteristics of wife and husband by marital duration. PSID: 1999-2007. Wife's age: 20-50.										
	(1)		(2)		(3)		(4)		(5)	
Marital duration	≤ 3 years	> 3 years	≤ 3 years	> 3 years	≤ 3 years	> 3 years	≤ 3 years	> 3 years	≤ 3 years	> 3 years
Wife's BMI	0.311***	0.229***	0.309***	0.211***	0.330***	0.208***	0.329***	0.201***	0.351***	0.181***
	(0.043)	(0.029)	(0.044)	(0.028)	(0.044)	(0.028)	(0.045)	(0.027)	(0.050)	(0.027)
Husband's Age	0.068**	−0.001	0.075***	0.004	0.059**	0.006	0.062**	0.004	0.086***	0.009
	(0.028)	(0.014)	(0.028)	(0.014)	(0.028)	(0.015)	(0.029)	(0.015)	(0.031)	(0.015)
Husband's Log Earnings					0.871**	−0.117	0.843**	−0.070	0.955**	0.380**
					(0.382)	(0.169)	(0.388)	(0.171)	(0.383)	(1.83)
Wife's Log Earnings					0.088	−0.009	0.076	−0.009	0.077	0.015
					(0.065)	(0.026)	(0.069)	(0.027)	(0.071)	(0.028)
Number of children							−0.154	0.042	−0.233	0.066
							(0.233)	(0.108)	(0.263)	(0.111)
Wife's Good Health							−0.126	0.463	−0.106	0.685
							(0.938)	(0.444)	(1.06)	(0.443)
Husband's Good Health							0.281	−2.29***	0.889	−2.23***
							(1.17)	(0.530)	(1.33)	(0.554)
Wife's Education									0.041	−0.229***
									(0.124)	(0.072)
Husband's Education									−0.191	−0.128*
									(0.128)	(0.068)
N	1,397	5,821	1,397	5,821	1,397	5,821	1,396	5,821	1,262	5,324
R^2	0.14	0.08	0.30	0.14	0.31	0.14	0.31	0.15	0.35	0.17
Adjusted R^2	0.14	0.08	0.17	0.10	0.19	0.10	0.18	0.12	0.22	0.13
Number of clusters	1,041	2,097	1,041	2,097	1,041	2,097	1,040	2,097	954	1,921

Note: Heteroskedasticity robust standard errors clustered at the household head level are reported in parentheses. Regressions in columns (2) – (5) include state, year, and state-by-year dummies. Observations have been weighed using family weights. *** p-value < 0.01, ** p-value < 0.05, * p-value < 0.1

Table 5: Regressions of wife's weight on husband's weight and other characteristics of wife and husband by marital duration. PSID: 1999-2007. Wife's age: 20-50.

	(1)		(2)		(3)		(4)	
Marital duration	≤ 3 years	> 3 years	≤ 3 years	> 3 years	≤ 3 years	> 3 years	≤ 3 years	> 3 years
Husband's Weight	0.344***	0.266***	0.351***	0.253***	0.339***	0.245***	0.334***	0.224***
	(0.054)	(0.031)	(0.051)	(0.030)	(0.051)	(0.030)	(0.051)	(0.031)
Husband's Height	−1.96***	−1.78***	−1.87***	−1.42***	−1.84***	−1.35***	−1.51***	−1.10***
	(0.540)	(0.347)	(0.510)	(0.341)	(0.505)	(0.344)	(0.532)	(0.356)
Wife's Height	3.56***	3.40***	3.46***	3.38***	3.50***	3.42***	3.48***	3.45***
	(0.592)	(0.344)	(0.588)	(0.336)	(0.580)	(0.332)	(0.597)	(0.342)
Wife's Age	−0.218	0.020	−0.029	0.181	−0.036	0.156	−0.155	0.166
	(0.225)	(0.121)	(0.216)	(0.116)	(0.221)	(0.111)	(0.216)	(0.117)
Wife's Log Earnings			−1.03**	−0.203	−0.859*	−0.072	−0.415	0.070
			(0.452)	(0.211)	(0.487)	(0.204)	(0.416)	(0.209)
Husband's Log Earnings			−12.61***	−10.13***	−12.03***	−9.63***	−8.55***	−7.26***
			(2.57)	(1.39)	(2.50)	(1.41)	(2.49)	(1.39)
Number of children					−0.267	0.800	−1.07	1.04
					(1.40)	(0.862)	(1.45)	(0.890)
Wife's Good Health					−23.22***	−10.92**	−25.08**	−11.66**
					(8.99)	(4.43)	(10.41)	(4.71)
Husband's Good Health					1.522	−5.51	0.482	−5.41
					(7.56)	(4.02)	(7.99)	(4.34)
Wife's Education							0.577	−1.07**
							(0.804)	(0.480)
Husband's Education							−2.90***	−0.745
							(0.859)	(0.500)
N	1,397	5,821	1,397	5,821	1,396	5,821	1,262	5,324
R^2	0.34	0.21	0.38	0.24	0.40	0.25	0.45	0.26
Adjusted R^2	0.22	0.18	0.26	0.21	0.28	0.22	0.33	0.22
Clusters	1,041	2,097	1,041	2,097	1,040	2,097	954	1,921

Note: Heteroskedasticity robust standard errors clustered at the household head level are reported in parentheses. All regressions include state, year, and state-by-year dummies. Observations have been weighed using family weights. *** p-value < 0.01, ** p-value < 0.05, * p-value < 0.1

Table 6: Regressions of wife's height on husband's height and other characteristics of wife and husband by marital duration. PSID: 1999-2007. Wife's age: 20-50.

	(1)		(2)		(3)		(4)	
Marital duration	≤ 3 years	> 3 years	≤ 3 years	> 3 years	≤ 3 years	> 3 years	≤ 3 years	> 3 years
Husband's Height	0.111**	0.155***	0.114**	0.149***	0.121***	0.144***	0.108**	0.148***
	(0.046)	(0.031)	(0.045)	(0.031)	(0.044)	(0.031)	(0.047)	(0.032)
Husband's Weight	−0.005	−0.001	−0.006	−0.001	−0.006	−0.001	−0.006*	0.000
	(0.004)	(0.002)	(0.004)	(0.002)	(0.003)	(0.002)	(0.004)	(0.002)
Wife's Weight	0.023**	0.024***	0.024***	0.025***	0.024***	0.025***	0.026***	0.025***
	(0.004)	(0.002)	(0.005)	(0.002)	(0.004)	(0.002)	(0.005)	(0.002)
Wife's Age	−0.030**	−0.010	−0.032**	−0.015	−0.024	−0.010	−0.019	−0.009
	(0.015)	(0.010)	(0.016)	(0.010)	(0.015)	(0.011)	(0.017)	(0.011)
Husband's Log Earnings			0.228	0.209**	0.128	0.166	0.114	0.057
			(0.227)	(0.106)	(0.224)	(0.106)	(0.251)	(0.118)
Wife's Log Earnings			−0.012	0.025	−0.038	0.021	−0.043	0.011
			(0.033)	(0.017)	(0.035)	(0.017)	(0.038)	(0.017)
Number of children					−0.173	0.025	−0.146	0.030
					(0.114)	(0.065)	(0.125)	(0.068)
Wife's Good Health					0.657	0.612**	0.989*	0.652**
					(0.581)	(0.254)	(0.573)	(0.269)
Husband's Good Health					1.59***	0.386	1.72***	0.318
					(0.571)	(0.271)	(0.590)	(0.283)
Wife's Education							0.052	0.077*
							(0.074)	(0.043)
Husband's Education							0.035	0.019
							(0.073)	(0.040)
N	1,397	5,821	1,397	5,821	1,396	5,821	1,262	5,324
R^2	0.27	0.17	0.28	0.17	0.29	0.18	0.31	0.19
Adjusted R^2	0.14	0.13	0.14	0.14	0.16	0.14	0.17	0.15
Clusters	1,041	2,097	1,041	2,097	1,040	2,097	954	1,921

Note: Heteroskedasticity robust standard errors clustered at the household head level are reported in parentheses. All regressions include state, year, and state-by-year dummies. Observations have been weighed using family weights. *** p-value < 0.01, ** p-value < 0.05, * p-value < 0.1

Table 7: Regressions of husband's weight on wife's weight and other characteristics of wife and husband by marital duration. PSID: 1999-2007. Wife's age: 20-50.

	(1)		(2)		(3)		(4)	
Marital duration	≤ 3 years	> 3 years	≤ 3 years	> 3 years	≤ 3 years	> 3 years	≤ 3 years	> 3 years
Wife's Weight	0.374***	0.255***	0.400***	0.252***	0.397***	0.244***	0.426***	0.220***
	(0.053)	(0.034)	(0.054)	(0.035)	(0.056)	(0.035)	(0.062)	(0.035)
Wife's Height	−1.10*	−0.171	−1.12*	−0.161	−1.14*	−0.118	−1.27**	0.002
	(0.590)	(0.319)	(0.584)	(0.319)	(0.586)	(0.316)	(0.604)	(0.323)
Husband's Height	5.80***	5.46***	5.69***	5.47***	5.70***	5.52***	5.48***	5.57***
	(0.595)	(0.321)	(0.592)	(0.327)	(0.599)	(0.322)	(0.680)	(0.337)
Husband's Age	0.580***	0.021	0.458**	0.035	0.478**	0.022	0.641***	0.059
	(0.203)	(0.102)	(0.204)	(0.104)	(0.209)	(0.104)	(0.220)	(0.107)
Husband's Log Earnings			6.33**	−0.653	6.17**	−0.347	7.15**	2.80**
			(2.87)	(1.22)	(2.91)	(1.23)	(2.83)	(1.31)
Wife's Log Earnings			0.659	−0.096	0.584	−0.087	0.587	0.087
			(0.472)	(0.185)	(0.499)	(0.189)	(0.518)	(0.197)
Number of children					−0.982	0.377	−1.66	0.555
					(1.70)	(0.779)	(1.93)	(0.797)
Wife's Good Health					−1.83	3.30	−1.76	4.79
					(7.08)	(3.07)	(7.93)	(3.08)
Husband's Good Health					1.61	−16.63***	6.27	−16.31***
					(8.87)	(3.74)	(10.08)	(3.91)
Wife's Education							0.131	−1.64***
							(0.916)	(0.514)
Husband's Education							−1.33	−0.883*
							(0.907)	(0.490)
N	1,397	5,821	1,397	5,821	1,396	5,821	1,262	5,324
R^2	0.43	0.31	0.44	0.31	0.44	0.32	0.46	0.32
Adjusted R^2	0.33	0.28	0.33	0.28	0.33	0.29	0.34	0.29
Clusters	1,041	2,097	1,041	2,097	1,040	2,097	954	1,921

Note: Heteroskedasticity robust standard errors clustered at the household head level are reported in parentheses. All regressions include state, year, and state-by-year dummies. Observations have been weighed using family weights. *** p-value < 0.01, ** p-value < 0.05, * p-value < 0.1

Table 8: Regressions of husband's height on wife's height and other characteristics of wife and husband by marital duration. PSID: 1999-2007. Wife's age: 20-50.

	(1)		(2)		(3)		(4)	
Marital duration	≤ 3 years	> 3 years	≤ 3 years	> 3 years	≤ 3 years	> 3 years	≤ 3 years	> 3 years
Wife's Height	0.131***	0.139***	0.132***	0.132***	0.144***	0.127***	0.130***	0.127***
	(0.049)	(0.027)	(0.049)	(0.027)	(0.047)	(0.027)	(0.049)	(0.027)
Wife's Weight	−0.014***	−0.011***	−0.014***	−0.009***	−0.014***	−0.009***	−0.012***	−0.007***
	(0.004)	(0.002)	(0.004)	(0.002)	(0.004)	(0.002)	(0.004)	(0.002)
Husband's Weight	0.038***	0.036***	0.038***	0.035***	0.037***	0.036***	0.035***	0.036***
	(0.004)	(0.002)	(0.004)	(0.002)	(0.004)	(0.002)	(0.004)	(0.002)
Husband's Age	−0.044**	−0.012	−0.043**	−0.017**	−0.049**	−0.015*	−0.070***	−0.016*
	(0.020)	(0.009)	(0.021)	(0.009)	(0.021)	(0.009)	(0.022)	(0.009)
Husband's Log Earnings			−0.076	0.492***	−0.006	0.455***	−0.019	0.186*
			(0.236)	(0.102)	(0.229)	(0.101)	(0.248)	(0.107)
Wife's Log Earnings			0.044	0.006	0.049	0.006	0.038	−0.009
			(0.043)	(0.015)	(0.046)	(0.015)	(0.046)	(0.015)
Number of children					−0.006	0.012	0.138	−0.018
					(0.129)	(0.059)	(0.143)	(0.060)
Wife's Good Health					0.061	−0.011	0.328	−0.108
					(0.547)	(0.288)	(0.625)	(0.302)
Husband's Good Health					−1.74**	1.01***	−1.80**	0.865***
					(0.727)	(0.280)	(0.829)	(0.286)
Wife's Education							0.153**	0.123***
							(0.072)	(0.040)
Husband's Education							−0.015	0.089**
							(0.073)	(0.038)
N	1,397	5,821	1,397	5,821	1,396	5,821	1,262	5,324
R^2	0.40	0.26	0.40	0.27	0.41	0.28	0.41	0.30
Adjusted R^2	0.28	0.23	0.28	0.24	0.30	0.25	0.28	0.26
Clusters	1,041	2,097	1,041	2,097	1,040	2,097	954	1,921

Note: Heteroskedasticity robust standard errors clustered at the household head level are reported in parentheses. All regressions include state, year, and state-by-year dummies. Observations have been weighed using family weights. *** p-value < 0.01, ** p-value < 0.05, * p-value < 0.1

Table 9: Regressions of wife's obesity and wife's underweight on husband's obesity and other characteristics of wife and husband by marital duration. PSID: 1999-2007. Wife's age: 20-50.

	Wife's Obesity (1 if Wife's BMI ≥ 30, 0 otherwise)		Wife's Underweight (1 if Wife's BMI < 18.5, 0 otherwise)	
Marital duration	≤ 3 years	> 3 years	≤ 3 years	> 3 years
Husband's Obesity	0.184***	0.118***	−0.062***	−0.012
	(0.049)	(0.023)	(0.018)	(0.010)
Wife's Age	−0.001	0.001	−0.003**	−0.001*
	(0.002)	(0.001)	(0.001)	(0.001)
Wife's Log Earnings	−0.002	−0.002	−0.001	−0.001
	(0.004)	(0.002)	(0.004)	(0.001)
Husband's Log Earnings	−0.075***	−0.066***	−0.003	0.015*
	(0.025)	(0.013)	(0.013)	(0.008)
Number of children	−0.020	0.002	−0.003	−0.004
	(0.014)	(0.009)	(0.012)	(0.004)
Wife's Good Health	−0.252***	−0.161***	−0.045	−0.013
	(0.090)	(0.048)	(0.055)	(0.017)
Husband's Good Health	−0.059	−0.094*	−0.009	0.004
	(0.091)	(0.048)	(0.055)	(0.016)
Wife's Education	0.002	−0.014***	−0.003	−0.001
	(0.009)	(0.006)	(0.004)	(0.002)
Husband's Education	−0.021**	−0.004	−0.004	−0.000
	(0.010)	(0.005)	(0.004)	(0.003)
N	1,262	5,324	1,262	5,324
R^2	0.33	0.14	0.29	0.04
Clusters	954	1,921	954	1,921
% of obese wives	15%	17%	--	--
% of obese husbands	23%	26%	--	--
% of underweight wives	--	--	4.3%	3.4%
% of underweight husbands	--	--	0.7%	0.3%

Note: Heteroskedasticity robust standard errors clustered at the household head level are reported in parentheses. All regressions include state, year, and state-by-year dummies. Observations have been weighed using family weights.
*** p-value < 0.01, ** p-value < 0.05, * p-value < 0.1

Table 10: Regressions of husband's obesity and husband's underweight on wife's obesity and other characteristics of wife and husband by marital duration. PSID: 1999-2007. Wife's age: 20-50.

	Husband's Obesity (1 if Wife's BMI ≥ 30, 0 otherwise)		Husband's Underweight (1 if Wife's BMI < 18.5, 0 otherwise)	
Marital duration	≤ 3 years	> 3 years	≤ 3 years	> 3 years
Wife's Obesity	0.276***	0.166***	−0.012	−0.002
	(0.070)	(0.032)	(0.019)	(0.002)
Husband's Age	0.004	−0.001	−0.002*	−0.000
	(0.003)	(0.001)	(0.001)	(0.000)
Husband's Log Earnings	0.063*	0.010	−0.008	−0.004*
	(0.033)	(0.017)	(0.007)	(0.002)
Wife's Log Earnings	−0.001	0.001	−0.001	−0.000
	(0.006)	(0.003)	(0.002)	(0.000)
Number of children	−0.024	0.002	−0.001	−0.002
	(0.021)	(0.010)	(0.009)	(0.001)
Wife's Good Health	−0.012	0.112***	0.018	0.003
	(0.109)	(0.036)	(0.017)	(0.002)
Husband's Good Health	0.010	−0.175***	−0.059	0.002
	(0.100)	(0.048)	(0.049)	(0.002)
Wife's Education	0.001	−0.017**	−0.002	−0.000
	(0.011)	(0.007)	(0.003)	(0.001)
Husband's Education	−0.022**	−0.010	−0.000	0.001
	(0.011)	(0.006)	(0.003)	(0.001)
N	1,262	5,324	1,262	5,324
R^2	0.31	0.13	0.25	0.04
Clusters	954	1,921	954	1,921
% of obese wives	15%	17%	--	--
% of obese husbands	23%	26%	--	--
% of underweight wives	--	--	4.3%	3.4%
% of underweight husbands	--	--	0.7%	0.3%

Note: Heteroskedasticity robust standard errors clustered at the household head level are reported in parentheses. All regressions include state, year, and state-by-year dummies. Observations have been weighed using family weights.
*** p-value < 0.01, ** p-value < 0.05, * p-value < 0.1

Table 11: Sensitivity analysis of sorting: regressions of wife's BMI (or log BMI) on husband's BMI (or log BMI) and other characteristics of wife and husband. PSID: 1999-2007. Wife's age: 20-50. Marital duration ≤ 3 years.

	Husband's earnings			
	< 50% of the husband's earnings distribution	≥ 50% of the husband's earnings distribution	Cohabitants	Wife's Log(BMI)
Husband's BMI	0.449***	0.307***	0.524***	
	(0.075)	(0.116)	(0.141)	
Husband's Log (BMI)				0.367***
				(0.061)
Wife's Age	0.003	0.016	0.098*	0.000
	(0.051)	(0.057)	(0.054)	(0.001)
Wife's Log Earnings	−0.081	−0.251**	−0.097	−0.005*
	(0.116)	(0.110)	(0.109)	(0.003)
Husband's Log Earnings	−1.73**	−2.73**	−1.71*	−0.071***
	(0.720)	(1.12)	(0.888)	(0.015)
Number of children	−0.121	−0.175	0.009	0.001
	(0.304)	(0.473)	(0.431)	(0.009)
Wife's Good Health	−4.76**	−1.08	−0.435	−0.124***
	(1.93)	(2.53)	(1.92)	(0.047)
Husband's Good Health	1.63	−3.72**	−0.261	−0.011
	(1.55)	(1.74)	(2.37)	(0.047)
N	953	443	604	1,396
R^2	0.44	0.41	0.55	0.32
Clusters	747	358	418	1,040

Note: Heteroskedasticity robust standard errors clustered at the household head level are reported in parentheses. All regressions include state, year, and state-by-year dummies. Observations have been weighed using family weights.

*** p-value < 0.01, ** p-value < 0.05, * p-value < 0.1

Table 12: Sensitivity analysis of sorting: regressions of husband's BMI (or log BMI) on wife's BMI (or log BMI) and other characteristics of wife and husband. PSID: 1999-2007. Wife's age: 20-50. Marital duration ≤ 3 years.

	Husband's earnings			
	< 50% of the husband's earnings distribution	≥ 50% of the husband's earnings distribution	Cohabitants	Husband's Log(BMI)
Wife's BMI	0.368***	0.248**	0.328***	
	(0.054)	(0.107)	(0.081)	
Wife's Log (BMI)				0.278***
				(0.041)
Husband's Age	0.081**	0.064	0.045	0.003**
	(0.040)	(0.046)	(0.039)	(0.001)
Husband's Log Earnings	1.03	−0.163	1.49**	0.028**
	(0.704)	(1.15)	(0.673)	(0.014)
Wife's Log Earnings	0.041	0.153*	0.130	0.003
	(0.106)	(0.083)	(0.083)	(0.003)
Number of children	−0.158	−0.106	0.196	−0.006
	(0.315)	(0.356)	(0.378)	(0.009)
Wife's Good Health	−0.231	−1.14	0.330	−0.020
	(1.09)	(1.72)	(1.58)	(0.032)
Husband's Good Health	−0.283	1.02	0.689	0.024
	(1.73)	(1.60)	(1.89)	(0.046)
N	953	443	604	1,396
R^2	0.39	0.52	0.53	0.29
Clusters	747	358	418	1,040

Note: Heteroskedasticity robust standard errors clustered at the household head level are reported in parentheses. All regressions include state, year, and state-by-year dummies. Observations have been weighed using family weights.
*** p-value < 0.01, ** p-value < 0.05, * p-value < 0.1

Table 13: I. Correlation matrix among variables for recently married couples (3 years or less)										
	Wife's BMI	Husband's BMI	Wife's Log Earnings	Husband's Log Earnings	Wife's Age	Husband's Age	Wife's Education	Husband's Education	Number of Children	Wife's Good Health
Husband's BMI	**0.3740**									
	0.0000									
Wife's Log Earnings	−0.0732	0.0035								
	0.0093	*0.9014*								
Husband's Log Earnings	**−0.1578**	0.0014	0.0767							
	0.0000	*0.9612*	*0.0064*							
Wife's Age	−0.0107	0.0699	0.0894	**0.2418**						
	0.7039	*0.0130*	*0.0015*	*0.0000*						
Husband's Age	−0.0265	0.0596	0.0433	**0.3312**	**0.8019**					
	0.3463	*0.0342*	*0.1239*	*0.0000*	*0.0000*					
Wife's Education	**−0.1536**	−0.0626	**0.2528**	**0.2391**	0.0520	0.0640				
	0.0000	*0.0261*	*0.0000*	*0.0000*	*0.0646*	*0.0230*				
Husband's Education	**−0.2126**	−0.0859	**0.1903**	**0.3455**	0.0433	0.0846	**0.5447**			
	0.0000	*0.0023*	*0.0000*	*0.0000*	*0.1242*	*0.0026*	*0.0000*			
Number of Children	0.0456	0.0583	**−0.2776**	−0.0376	0.1215	0.1193	**−0.3417**	**−0.2702**		
	0.1050	*0.0384*	*0.0000*	*0.1822*	*0.0000*	*0.0000*	*0.0000*	*0.0000*		
Wife's Good Health	**−0.1977**	−0.0260	0.1354	0.1076	−0.0076	0.0390	**0.1534**	0.1093	−0.0340	
	0.0000	*0.3565*	*0.0000*	*0.0001*	*0.7881*	*0.1662*	*0.0000*	*0.0001*	*0.2273*	
Husband's Good Health	−0.0730	−0.0423	0.0613	0.0855	−0.0618	−0.0968	**0.1638**	0.1082	−0.0633	**0.1944**
	0.0095	*0.1332*	*0.0294*	*0.0024*	*0.0281*	*0.0006*	*0.0000*	*0.0001*	*0.0245*	*0.0000*
Note: p-values are reported in italics.										

Table 13: II. Correlation matrix among variables for non-recently married couples (more than 3 years)										
	Wife's BMI	Husband's BMI	Wife's Log Earnings	Husband's Log Earnings	Wife's Age	Husband's Age	Wife's Education	Husband's Education	Number of Children	Wife's Good Health
Husband's BMI	**0.3079**									
	0.0000									
Wife's Log Earnings	−0.0316	−0.0041								
	0.0212	*0.7650*								
Husband's Log Earnings	**−0.2133**	−0.0676	−0.0865							
	0.0000	*0.0000*	*0.0000*							
Wife's Age	0.0047	0.0111	0.0810	**0.2152**						
	0.7334	*0.4193*	*0.0000*	*0.0000*						
Husband's Age	−0.0008	−0.0014	0.0816	**0.1819**	**0.8851**					
	0.9541	*0.9206*	*0.0000*	*0.0000*	*0.0000*					
Wife's Education	**−0.2196**	**−0.1489**	0.0849	**0.3514**	0.0089	−0.0105				
	0.0000	*0.0000*	*0.0000*	*0.0000*	*0.5182*	*0.4455*				
Husband's Education	−0.2256	−0.1623	0.0464	0.4289	0.0908	0.0870	**0.6013**			
	0.0000	*0.0000*	*0.0007*	*0.0000*	*0.0000*	*0.0000*	*0.0000*			
Number of Children	−0.0278	−0.0242	**−0.2260**	0.0851	**−0.2540**	**−0.2537**	0.0570	0.0197		
	0.0429	*0.0776*	*0.0000*	*0.0000*	*0.0000*	*0.0000*	*0.0000*	*0.1510*		
Wife's Good Health	**−0.1826**	−0.0548	0.1175	0.1171	−0.0665	−0.0439	0.1374	**0.1265**	0.0546	
	0.0000	*0.0001*	*0.0000*	*0.0000*	*0.0000*	*0.0014*	*0.0000*	*0.0000*	*0.0001*	
Husband's Good Health	−0.1121	−0.1442	0.0317	0.1259	−0.0534	−0.0571	0.1231	0.1297	0.0292	**0.2287**
	0.0000	*0.0000*	*0.0205*	*0.0000*	*0.0001*	*0.0000*	*0.0000*	*0.0000*	*0.0329*	*0.0000*
Note: p-values are reported in italics.										

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