New Evidence on the Causes of Educational Homogamy
NEW EVIDENCE ON THE CAUSES
OF EDUCATIONAL HOMOGAMY

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Abstract:

Educational homogamy is an important but poorly understood source of inequality. This paper analyzes a group of men and women who do not meet their spouses in school, are not sorted by education at work, and have no financial incentives to marry educated spouses. Nevertheless, movie actors show a strong tendency to sort positively on education in marriage. These findings suggest that male and female preferences alone induce considerable sorting on education in marriage and that men and women have very strong preferences for nonfinancial partner traits correlated with years of education.

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Decades of research in the social sciences have documented that men and women tend to marry spouses with a level of education similar to their own. In a recent study, Fernández, Guner, and Knowles (2005) examine marital patterns in 34 countries and report that the average correlation for husband and wife years of education is as high as 0.6. In another study, Kremer (1997) examines US marriages in the recent past and finds a similar degree of sorting on education already in the 1940 census. These results illustrate that sorting on education is, and has been, a key aspect of how marriage markets operate in a wide range of countries.

Economists have devoted considerable attention to marital sorting on education because the tendency of men and women to marry partners similar to themselves has important implications for inequality. In a direct way, more sorting on education leads to more cross-sectional inequality as educated men and women earn higher wages and are wealthier (Becker and Murphy 2000). A recent line of research has also argued that men and women respond to more wage inequality by increasing the degree of sorting on education in marriage (Fernández et al. 2005). Despite these important implications, however, social scientists know very little about why men and women sort on education in marriage.

A first empirical challenge has been to determine the role played by search frictions in the marriage market. On the one hand, economists since Becker (1973) have emphasized theories of marriage in which men and women interact in a world without frictions. Sociologists and demographers, on the other hand, tend to stress the importance of segregation in school and the workplace, and argue that search frictions induce men and women to marry the spouses they are more likely to meet in the first place. An application of this theory can be found in the recent book by Blossfeld and Timm (2003), who claim that marital sorting on education has been rising in several European countries. The authors attribute this trend to the fact that men and women spend a larger fraction of their lives obtaining an education, and therefore are more likely to meet their spouses in school.

A second empirical challenge has been to identify the preferences that men and women have for partner attributes. For example, are preferences for partner education monotonic in the sense that all men and women prefer the most highly educated members of the opposite sex, or do men and women want to marry partners with a level of education similar to their own? Is the high degree of marital sorting on education caused by the fact that men and women care about material resources and recognize that more educated partners have higher incomes and are wealthier? Or is marital sorting on education so strong because men and women seek partners who are similar to themselves.
in terms of their interests, ability, and desired lifestyle (traits that are arguably correlated with formal education)?

To obtain new evidence on the causes of marital sorting on education, this paper performs a case study of successful movie actors who differ from the overall population in two important ways. First of all, this paper documents that movie actors do not meet their spouses in school, and are not sorted by education in their professional lives. Therefore, any potential marital sorting on education among movie actors cannot be attributed to segregation in school or at the workplace. Secondly, successful movie actors have no financial incentives to sort on education in marriage. This unusual situation is due to the fact that successful movie actors do not earn wages that are correlated with their formal education, and are so wealthy relative to their parents that they have no incentives to choose their spouses on the basis of expected parental bequests.

Despite these two important differences between movie actors and the overall population, this paper shows that movie actors nevertheless marry partners with a level of education similar to their own. In particular, the correlation coefficient for husband and wife years of education in actor marriages is as high as 0.4 (as opposed to 0.6 in the overall US population, see Hitsch et al. 2010). This paper also documents that the marital sorting on education among successful movie actors is not induced by sorting on age, race, or physical appearance, and that movie actors divorce and remarry at a rate which is similar to that of the overall population.

Since neither segregation nor financial incentives can explain marital sorting on education among movie actors, this paper explores a number of alternative explanations of this behavior. The only plausible explanation that is found to be consistent with the data is that movie actors sort on education in marriage because of the preferences that men and women have for partner attributes. The marriages of movie actors therefore highlight two important features of the marriage market that are useful for understanding marital sorting on education in the general population, and that have been difficult to isolate in other studies.

The first of these features is that male and female preferences over partner attributes alone would generate considerable sorting on education in marriage. This result can be established without knowing if segregation contributes to educational homogamy in the overall US population. What it suggests, is that a substantial degree of educational homogamy would remain in the economy, if for
example the tendency of men and women to work with colleagues of a similar educational background were to disappear.

The second feature is that men and women have very strong preferences for nonfinancial partner traits correlated with education. This result can be established without knowing if income and wealth inequality contributes to educational homogamy in the overall US population. This result does not merely say that men and women have strong preferences for nonfinancial partner traits. What it says is that men and women have very strong preferences for nonfinancial partner traits correlated with education. What it suggests, is that a considerable degree of marital sorting on education would remain in the overall economy, even if public policies were to reduce the amount of income and wealth inequality.

This paper is part of a recent literature in economics that is studying the causes of marital sorting using new and alternative identification strategies (other papers in this literature include Abramitzky et al. 2010, Banerjee et al. 2009, Lee 2009, and Nielsen and Svarer 2009). Two early examples from this literature are the papers by Fisman et al. (2006 and 2007) who performed a speed dating experiment on graduate students at Columbia University. The behavior of the students was then used to estimate male and female preferences over partner attributes. A main result from these revealing papers is that both men and women have strong preferences for partners of their own race (stronger than what they typically indicate in surveys). Another important result is that men place a greater weight on physical appearance than women do, when evaluating the relative importance of partner income and partner physical attractiveness.

Two other early examples are the extensive and innovative papers by Hitsch et al. (2010 and forthcoming) which examine the behavior of US men and women on an online dating website. In a first step, the authors use data on browsing behavior and email exchanges to estimate male and female preferences over partner attributes. The authors find that both men and women have monotonic and increasing preferences for partner income, and that both men and women have strong preferences for partners with an education similar to their own. In a second step, the authors then use the estimated preferences to predict marital outcomes using the Gale and Shapley (1962) assignment model. These predicted matches exhibit sorting patterns similar to those observed in US marriages, although a little bit weaker. The authors therefore argue that partner preferences alone can generate a large fraction of the sorting patterns observed in actual marriages.
This paper is most similar to the Hitsch et al. papers of online dating since it also deals with the underlying causes of educational homogamy. Because this study employs a different empirical strategy, studies a very different population, and still reaches the same broad conclusions, this study complements the Hitsch et al. papers, and reinforces their main results. One potential concern with studying online dating is that men and women may not behave in the same way as when they actually wish to get married. Another potential concern is that men and women behave strategically when they interact on a dating website. For example, a man with a low level of education may choose not to contact a highly educated woman, not because of his own preferences for partner education, but simply because he thinks he will be rejected by the woman. His behavior may then be interpreted by an econometrician as if he has preferences for women with a level of education similar to his own. The findings of this study eliminates many of these concerns because it deals with actual marriages as opposed to dating, and it does not proceed by estimating preferences over partner attributes by using observations on men and women who are engaged in potentially strategic dating behavior.

The rest of this paper is organized as follows. Section two below describes the new data set that has been assembled for this study, and documents that movie actors have an educational background and marital habits that are similar to those of the general population. Section three presents the main results of this paper on marital sorting, and includes a very wide range of robustness checks that examine if the educational homogamy among movie actors is due to factors that are specific to this group of men and women. No evidence of such specific factors can be found in the data. Finally, section four concludes.

I. Data

A. Actors and Their Spouses

To obtain a list of the top actors in the US movie industry, I used the 2006 Ulmer Scale which is a widely used ranking of movie actors compiled by James Ulmer and his associates\(^1\). Every couple of years, Ulmer’s company interviews several dozen professionals in the worldwide movie industry and asks them to rate the ability of actors to generate revenues for major movie productions (an ability referred to as the “bankability” of the actor). Based on these professional assessments, each actor is assigned a bankability index between zero and three hundred, and then ranked according to

\(^1\) Information about the Ulmer Scale is available at www.ulmerscale.com.
his or her index score. In addition to selecting top actors, I also use the Ulmer bankability index as a proxy for actor earnings, since actors who generate large revenues for their employers will obtain high wages in a competitive labor market\(^2\).

The Ulmer Scale does not include information about the marital status of top actors. I therefore complemented the Ulmer Scale data with actor marital histories from the biographical encyclopedia “Marquis Who’s Who on the Web”\(^3\). The encyclopedia contains information about the starting and ending year of actor marriages, and the names of all spouses. In order to facilitate comparisons between actors and the married men and women in the overall US population, I limited this study to actor marriages that were listed as ongoing in the Marquis encyclopedia.

\textit{B. Actor Online Profiles}

For all actors and their spouses, I compiled information about their years of education from a number of online sources. For each individual, I read the information available at Wikipedia, Yahoo Movies, and the Internet Movie Data Base (IMDB)\(^4\) and recorded the highest formal degree awarded, the name of the granting institution, and any other relevant educational information. If no information was available or if the information was inconsistent, I also searched additional online sources and listed them in the data set. All of the educational information was then compiled into a single estimate of the actors’ and their spouses’ years of education (the principles guiding this compilation are listed in Appendix A)\(^5\). If the quality of the educational information was perceived to be rather poor, I also recorded this in the data set.

In 2006, the Ulmer Scale ranked a total of more than 1300 actors, but as one progresses towards less and less famous actors, it becomes more and more difficult to find reliable information on the educational background of these actors and their spouses. I therefore limited this study to the top 400 actors in 2006 and their spouses, which gave a total of 176 unique couples. Among these, I found no reliable data on the education of the spouse in 36 couples, and for 26 others, I had to impute spouse years of education from information on the occupation of the spouse (see Appendix A for details on how these imputations were made). In the end, I worked with the sample of 140

\(^2\) To the best of my knowledge, no reliable wage data is available for a large number of movie actors.

\(^3\) Information about this publication is available at www.marquiswhoswho.com.

\(^4\) The addresses for these websites are www.wikipedia.org, movies.yahoo.org, and www.imdb.com.

\(^5\) In addition, the entire data set constructed for this paper is available online so that anyone can examine the quality of the educational data.
couples for which educational information was available, and smaller restricted samples with education data of better quality.

The online actor profiles also contain information about how the actors met their spouses. I summarized this data by dividing all couples into those that met in school, those that met at work (which includes actors meeting fellow actors, and actors meeting movie professionals such as cameraman or makeup artists), and those couples that met in any other way.

C. Actor Colleagues

Several data sources provide lists of the movies that individual actors have appeared in, and the names of all other actors who also appeared in those movies. To examine the degree of sorting on education among actors cast together in a movie, one could therefore collect data on all opposite sex colleagues of top actors in all the movies they ever appeared in. However, many actors have appeared in several dozen movies that in turn featured several dozen actors. This large amount of colleagues implies that it would take several years to collect such data for all the top 400 actors studied in this paper.

To obtain a good measure of sorting in movies but also keep the required amount of data at a feasible level, I therefore used several restrictions when collecting data on actor colleagues. First of all, I only collected data on colleagues of currently married actors. Secondly, I only examined the colleagues of actors in their latest movie or television production according to the Internet Movie Database (IMDB). Finally, I only recorded the name of the highest listed opposite sex actor colleague at the IMDB. After having obtained the names of all these colleagues, I then collected educational information on them from several online sources, using the exact same procedure through which I collected educational information on the top 400 actors.

D. Actor Physical Appearance

Finally, I compiled an index of the physical attractiveness of husbands and wives in couples where top actors are married to other actors or spouses with similar occupations such as singers, models, and musicians. For that purpose, I asked seven male students to rate the physical appearance of the wives, and seven female students to rate the physical appearance of the husbands by indicating if

6 I limit myself to these celebrity couples, since it is difficult to obtain good photographs of the spouses of top actors who are not themselves famous.
the men and women belong to the top, middle, or bottom third of the looks distribution. I then assigned these ratings the numerical values of 3, 2, and 1, and constructed an overall index of physical attractiveness by computing the mean across all seven individual ratings.

**E. Summary Statistics**

Table 1 below contains summary statistics for some of the most important traits of the top 400 male and female actors studied in this paper. The mean age for the male actors is 48 years, whereas the female actors are a little bit younger with a mean age of 41 years. Both male and female actors have slightly below 14 years of education on average. Of all male actors, 52 percent are currently married whereas the corresponding fraction for female actors is 38 percent. Finally, the mean age at marriage for currently married male actors is 38 years, and the mean age at marriage for currently married female actors is 35 years.

In Table 2, I summarize the data on how actors meet their spouses. As can be seen in the table, most actors meet their spouses while working (47%), which includes cases where actors are cast against each other, but also cases where actors meet directors or other movie professionals such as cameramen and makeup artists. Only 7% of all actors meet their spouses in school (defined in a very generous way so as to include many couples). Finally, 45% of all actors meet their spouses through other than work and school situations, which include actors who meet their spouses through friends and actors who meet their spouses at public events such as charity dinners.

**F. Marital Histories**

To compare the marital behavior of top actors and the overall US population, I use data from the 2008 American Community Survey (ACS 2008) conducted by the US Census Bureau. The ACS 2008 covered a one percent random sample of the US population and included detailed questions on the lifetime marital histories of all respondents. Based on their answers to those questions, the respondents were then classified into those who had never been married, those who had married once, those who had married twice, and those who had married three or more times.

In Figure 1 below, I display the distribution over these four categories for the top 400 actors using the data obtained from Marquis’ biographical encyclopedia. As can be seen in the figure, most top male and female actors have never been married, or have only been married once in their lifetime (a
total of 72 percent). Another 20 percent of the actors have been married twice, and only 8 percent have married three times or more.

In Figure 1, I also display the distribution over these marital categories for the overall US population according to the ACS 2008. In this figure, all observations from the ACS 2008 have been weighted according to the age and gender distribution of the top actors, so as to make the comparison between the two populations more meaningful. As can be seen in the figure, the marital behavior of top actors and the overall population is similar. The biggest difference is that actors are more likely to never have been married and less likely to have been married once. In terms of the fraction who have married twice, or three times or more, the difference between the two populations is very small.

G. Educational Distribution

In Figure 2 below, I display the educational distribution of the top female actors who are divided into those with less than a high school degree, those with a high school degree, those with some college, those with a college degree, and those with more than a college degree. The distribution reveals that there is substantial variation in the educational level of top female actors. To make a comparison with the overall US female population, I also include the same distribution computed on female respondents in the ACS 2008 but with individual observations weighted by the age distribution of the female actors. As can be seen in the figure, these two distributions for female actors and the overall US female population are similar.

In figure 3, I present the corresponding distributions for male actors and the overall US male population. The figure shows that there is also substantial variation in the educational level of top male actors. However, male actors are more educated than the overall male population, and a larger fraction of male actors has obtained a college degree. This difference between male and female actors is most likely due to a higher premium on youth for female actors, who respond to such incentives by interrupting their formal education at an earlier age⁷.

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⁷ A similar pattern can be detected in the actor age distribution, as the top male actors on average are a couple of years older than their female colleagues (see Table 1).
II. Results

A. Actor Bankability

In Table 3 below, I present regressions of the Ulmer bankability index on actor years of education, race, a dummy that separates US and Canadian nationals from the rest, and a fourth order polynomial in actor age (henceforth “main demographic variables”). In all regressions, I only include actors who are 25 years or older since younger actors may not have completed their formal education. The first regression in column one is performed on the sample of all male actors, and produces a negative coefficient on years of education that is not significantly different from zero (only three age variables are significant in the regression). In terms of magnitudes, the association between formal education and bankability is weak, as a one standard deviation increase in years of education is associated with a less than one tenth of a standard deviation decrease in bankability. Since the market for actors is dominated by a few superstars who constitute a form of outliers, I proceed by excluding the top 15 male actors from the sample. The result from the regression using this modified sample is presented in column two. The coefficient on male years of education is now smaller in absolute magnitude and also less significant.

In column three of Table 3, I present the results of the bankability regression performed on all female actors. The regression indicates that for this group of actors, there is again no significant relationship between formal years of education and bankability (only the age coefficients and one of the race coefficients are significant). In terms of magnitudes, the association between bankability and formal education for female actors is weak, as a one standard deviation increase in formal education is associated with a less than one twentieth of a standard deviation decrease in bankability. In column four of Table 3, I remove the top 15 female actors and receive a similar result (the coefficient on years of education is not significant, and is small in absolute magnitude).

Finally, I restrict attention to the sample of male and female actors who are married to fellow actors or spouses with similar occupations (singers, models, or musicians), and for whom I have an assessment of their physical appearance. In the last column of Table 3, I perform the regression of the bankability index on actor education and the main demographic variables, and also add physical appearance among the controls. As can be seen in the table, the coefficient for physical appearance is positive and significant, but the years of education variable is still insignificant and very small in absolute magnitude.
To summarize the findings for both male and female actors, there is no significant relationship between formal years of education and bankability among top actors. In terms of magnitudes, the estimated relationship between formal education and bankability is weak. The only variables that appear to be systematically and significantly related to actor bankability are age and physical appearance.

B. Actor Colleagues

To examine the degree of sorting among actors cast together in a movie, I compute a number of correlations for the education of the top actor and his or her opposite sex colleague which are displayed in Table 4. I start by using the sample of all actors and colleagues for which I have educational data and obtain a very small correlation of 0.034. I then compute the correlation using the smaller sample of actors and actor colleagues for which the educational data was perceived to be of good quality. The correlation for years of education is now 0.029. Finally, I compute the partial correlation for the education of the top actor and his or her colleague while controlling for the main demographic variables that were included in the bankability regressions. This partial correlation is negative and equal to -0.036. When I also include the bankability of the top actor among the controls, the partial correlation is equal to -0.037.

To summarize these results, there appears to be no systematic sorting on education among actors who are cast together in a movie or a television production, since all the computed correlations in Table 4 are very small and insignificant. When the main demographic variables are included among the controls, the partial correlation for male and female education is even slightly negative.

C. Actor Marriages

After having established that the formal education of actors is not correlated with actor bankability, and that actors are not segregated by education in their professional lives, I turn to the results concerning the sorting on education in actor marriages. All of these results are presented in Table 5. First of all, I use the full sample of all 140 couples for which I have educational data and compute the correlation for husband and wife years of education which is equal to 0.31. To deal with the problem of measurement error, I then use the sample of couples for which I did not have to impute spouse years of education from occupational data, and obtain a correlation of 0.35. Finally, I use the sample of couples for which no imputations were made and for which the data on husband and wife
education was classified as being of good quality. In this sample, the correlation for husband and wife years of education is equal to 0.39.

The overall pattern that emerges from these correlations is that there is substantial sorting on education in actor marriages. Furthermore, as the correlation for husband and wife years of education grows as better and better data is used, it appears as if the data on actor education is contaminated by measurement error which induces a downward bias in the correlation. When I use the sample with data of the highest quality, the correlation for husband and wife years of education is in the order of 0.4.

To examine how sensitive these results are, I also compute the partial correlation for husband and wife years of education while controlling for the main demographic variables that were included in the bankability regressions. With these controls, the partial correlation for husband and wife years of education is equal to 0.40. When I also control for the bankability index of the top actor, the partial correlation is equal to 0.37. Given these high correlations, it is clear that the observed sorting on education among actors is not induced by sorting on main demographic variables such as age or race, or sorting on actor bankability.

Finally, I construct a scatter plot over husband and wife residualized years of education to verify that the high correlation for education in actor marriages is not driven by a small number of outliers. As can be seen in Figure 4, the relationship between husband and wife education is approximately linear, and there are no visual signs of extreme outliers.

**D. Robustness Checks: Age at Marriage**

My interpretation of the observed marital sorting behavior of top actors is that men and women have strong preferences for partners who are similar to themselves in terms of nonfinancial traits correlated with formal education. In this and the following sections, I perform a number of robustness checks to evaluate alternative interpretations.

A first alternative explanation is that some actors marry early in life prior to their professional breakthroughs, and then remain married to the same partner for the rest of their life. Furthermore, these early marriages are responsible for all the correlation between husband and wife years of education in actor marriages. To deal with this potential problem, I limit the sample of actors to those who married above a certain age. First, I only include actors who married after age 25 and
obtain a partial coefficient for husband and wife years of education of 0.42. Then, I only include actors who married after age 30 and obtain a partial correlation of 0.37. Finally, I restrict myself to actors who married after age 35 and obtain a partial correlation for husband and wife years of education of 0.46. All these robustness checks indicate that actors who marry later in life when they have arguably had their professional breakthroughs, also display a strong tendency to sort on education in marriage.

E. Robustness Checks: Alternative Numbers of Actors

Due to the problem of collecting data on the less famous actors and their spouses, this study has been restricted to the top 400 male and female actors in the US movie industry. Since this particular cutoff point is somewhat arbitrary, I examine the degree of marital sorting on education in two other samples of actors as defined by alternative cutoffs. When only the top 300 male and female actors are included in the sample, the partial correlation for husband and wife years of education is equal to 0.37. When only the top 200 couples are included, the partial correlation is equal to 0.47. More alternative cutoffs could be chosen but the result is likely to be the same, namely that the high degree of sorting on education in actor marriages is not only present in the sample of the top 400 actors that was chosen as the basis for this study.

F. Robustness Checks: Actor Public Image

Since top male and female actors are public figures whose private lives are often exposed to the overall population, it is conceivable that actors in part choose their partners to create an image that promotes their personal careers. For example, one could speculate that educated actors tend to play educated characters on the screen, and therefore choose to marry educated partners to reinforce their actor image. This interpretation requires that members of the overall population know who top actors are married to, and that they know the formal education of these spouses.

To examine this potential explanation of the documented marital sorting pattern among actors, I study the group of actors who choose not to marry a partner who is a fellow actor, or a spouse with a similar occupation such as a singer, model, or a musician. When I restrict myself to this group of actors, I find that the partial correlation for husband and wife years of education is equal to 0.35. Such a high correlation suggests that concerns for a public image do not induce marital sorting on education among movie actors, because the same degree of sorting is found also among actors who marry spouses that are unknown to the public.
G. Robustness Checks: Preferences for Education

The sorting on education among actors who do not marry fellow actors or spouses with similar occupations also provides evidence on the preferences that men and women have for partner education. Successful movie actors are very wealthy and almost always very attractive which implies that they have a close to unlimited choice of partners when they marry someone outside of their own profession. Such a conclusion is supported by the evidence in Hitsch et al. (2010) which shows that both men and women have increasing and monotonic preferences for partner income and physical appearance.

Consider for example, a very wealthy and attractive male actor with a high school degree who does not marry a fellow actor or a spouse with a similar occupation. Arguably, he has the option to marry women with a high school degree, but also women with a college degree. The fact that male and female actors in that situation choose to marry spouses who have a level of education similar to their own, is strong evidence in favor of preferences for partner education that are not monotonic.

H. Robustness Checks: Physical Appearance

Another potential explanation is that much of the observed marital sorting among actors is caused by sorting on physical appearance. For example, one can imagine that actors need to be either very attractive or have a long education to become successful in the movie industry. If actors do sort on physical appearance in marriage, then attractive and less educated actors will end up marrying other attractive and less educated actors, and vice versa.

To examine this potential explanation for marital sorting on education among actors, I compute the partial correlation of husband and wife years of education in the couples for which I have data on husband and wife physical appearance. This correlation is equal to 0.32. When I include the physical attractiveness of the husband and the wife among the controls, I obtain a partial correlation of 0.31. This small difference between the two partial correlations suggests that sorting on physical appearance is not the underlying cause of the observed marital sorting on education among actors.

I. Robustness Checks: Meeting Places

The fact that actors very rarely meet their spouses while in school and are not cast together with colleagues who have a similar education as themselves, suggests that segregation in school or the workplace is not the underlying cause of marital sorting on education among actors. To provide
additional evidence concerning the role of segregation in actor marriages, I analyze the actors who did not meet their partners in school or at work, and obtain a partial correlation for husband and wife years of education of 0.53. This high correlation confirms the conclusion drawn above, namely that segregation in school or the workplace is not responsible for the high correlation of husband and wife education in actor marriages.

J. Robustness Checks: Prestige

Although more educated actors do not earn higher wages, one could speculate that they are more skilled actors, and therefore enjoy more prestige in the movie industry. If male and female actors sort positively on professional prestige in marriage, then the observed sorting on education could simply be a byproduct of this underlying behavior. To investigate this hypothesis, I collected data on the actors who have won an Academy Award (popularly known as an “Oscar”) for acting, arguably the most prestigious acting award in the movie industry. I then estimate a probit model for the probability that an individual actor has won an Oscar, as a function of his or her years of education and the main demographic variables. As can be seen in Table 6 below, actor years of education does not have any significant impact on the probability of winning an Oscar, in fact, some of the coefficients for years of education are even negative. These results do not provide any support for the hypothesis that educated actors enjoy more prestige in the movie industry, and marry other educated actors because they also enjoy more prestige.

III. Conclusion

Social scientists have documented that men and women tend to marry spouses with a level of education similar to their own. Such positive marital sorting on education has important implications for inequality, but the causes of this behavior are not well understood. A first empirical challenge is to evaluate the role that search frictions play in generating marital sorting on education, and a second empirical challenge is to identify the preferences that men and women have over partner attributes.

This paper examined the marital behavior of successful actors in the US movie industry, a group of men and women which provides valuable evidence on the causes of marital sorting because of the two ways in which they differ from the overall population. First of all, movie actors do not meet their spouses in school and are not segregated by education in their professional lives. Therefore, segregation in school and at the workplace does not induce marital sorting on education among
movie actors. Secondly, successful movie actors have no financial incentives to marry educated spouses, as they earn wages that are not correlated with their formal education and are much wealthier than their parents.

Despite these two differences with the overall population, this paper documented that movie actors marry partners with a level of education similar to their own. This behavior is not induced by sorting on age, race, or physical appearance, and does not appear to be caused by career concerns among actors. The tendency of movie actors to sort on education in marriage, therefore reveals important features of the marriage market that are useful for understanding marital sorting on education in the general population.

The first of these features is that male and female preferences over partners alone would generate considerable sorting on education in marriage. What it suggests, is that a substantial degree of educational homogamy would remain in the economy even if for example the tendency of men and women to work with colleagues of a similar educational background were to disappear. The second feature is that men and women have very strong preferences for nonfinancial partner traits correlated with education. What it suggests, is that a considerable degree of marital sorting on education would remain in the economy, even if public policies were to reduce the amount of income and wealth inequality.
APPENDIX A – A MEASURE OF YEARS OF EDUCATION

The following principles were used when a measure of years of education was constructed for actors and their spouses from several different biographical sources:

1) All years of education measures were based on the highest formal degree obtained by men and women, not the number of years it took them to obtain that degree. For example, men and women with a US high school degree were assigned 12 years of education, and men and women with a US college degree were assigned 16 years of education.

2) Men and women who terminated their formal education prior to graduation, were assigned a years of education measure based upon the highest formal degree they were pursuing, minus the time they had left before graduation. For example, a man or woman who dropped out of a US high school after completing his or her junior year was assigned 11 years of education. A man or woman who completed two years in college and then dropped out, was assigned 14 years of education.

3) Men and women who dropped out of school in a given grade were assumed to have completed half of the school year (if no further information was provided). For example, a man or woman who dropped out of a US high school in his or her first year of studies was assigned 9.5 years of education.

4) Men and women who dropped out of school at a given age were assumed to have completed half of the school year (if no further information was provided). For example, a man or woman who dropped out of a US high school at age 16 was assigned 10.5 years of education.

5) The only types of educational institutions which were included in the years of education measure were primary and secondary schools, and institutions of higher education which granted academic degrees (e.g. bachelor’s or master’s degrees). Pure professional schools that had no academic training and did not grant academic degrees were not included in the measure.
REFERENCES


### TABLE 1 - SUMMARY STATISTICS

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<th>Men</th>
<th>Women</th>
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<td>Mean Age</td>
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<td>Mean Years of Education</td>
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</tbody>
</table>

*Notes: Summary statistics for the top 400 actors in the US movie industry according to the 2006 Ulmer Scale (250 male and 150 female actors).*

### TABLE 2 - PLACES WHERE ACTORS MEET THEIR SPOUSES

<table>
<thead>
<tr>
<th>Meeting Place</th>
<th>Fraction</th>
</tr>
</thead>
<tbody>
<tr>
<td>School</td>
<td>7%</td>
</tr>
<tr>
<td>Work</td>
<td>47%</td>
</tr>
<tr>
<td>Other</td>
<td>45%</td>
</tr>
</tbody>
</table>

*Notes: Main ways in which top 400 actors in the US movie industry meet their spouses. Category “Other” includes actors who meet their spouses through friends, at public social events, etc.*
## TABLE 3 - BANKABILITY REGRESSIONS

<table>
<thead>
<tr>
<th></th>
<th>All Men</th>
<th>Not Top 15 Men</th>
<th>All Women</th>
<th>Not Top 15 Women</th>
<th>Married to Actors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Years of Education</strong></td>
<td>-2.203</td>
<td>-0.376</td>
<td>-0.652</td>
<td>0.880</td>
<td>-1.785</td>
</tr>
<tr>
<td></td>
<td>(1.497)</td>
<td>(1.342)</td>
<td>(1.587)</td>
<td>(1.14)</td>
<td>(2.401)</td>
</tr>
<tr>
<td><strong>Asian</strong></td>
<td>3.885</td>
<td>17.263</td>
<td>-10.27</td>
<td>2.177</td>
<td>-6.669</td>
</tr>
<tr>
<td></td>
<td>(22.43)</td>
<td>(19.55)</td>
<td>(24.27)</td>
<td>(16.81)</td>
<td>(13.62)</td>
</tr>
<tr>
<td><strong>Black</strong></td>
<td>-7.620</td>
<td>-0.611</td>
<td>-2.586</td>
<td>-4.883</td>
<td>-17.68</td>
</tr>
<tr>
<td></td>
<td>(10.82)</td>
<td>(9.579)</td>
<td>(14.97)</td>
<td>(11.1)</td>
<td>(38.70)</td>
</tr>
<tr>
<td><strong>Hispanic</strong></td>
<td>9.466</td>
<td>17.647</td>
<td>54.51**</td>
<td>67.84***</td>
<td>6.702</td>
</tr>
<tr>
<td></td>
<td>(19.79)</td>
<td>(17.16)</td>
<td>(21.03)</td>
<td>(16.81)</td>
<td>(16.88)</td>
</tr>
<tr>
<td><strong>US/Canadian</strong></td>
<td>0.703</td>
<td>-3.330</td>
<td>8.024</td>
<td>11.07*</td>
<td>39.21</td>
</tr>
<tr>
<td></td>
<td>(7.777)</td>
<td>(6.893)</td>
<td>(7.911)</td>
<td>(5.843)</td>
<td>(37.20)</td>
</tr>
<tr>
<td><strong>Physical Appearance</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>26.37**</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(11.55)</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td>73.91*</td>
<td>60.40*</td>
<td>80.11**</td>
<td>36.66</td>
<td>43.46</td>
</tr>
<tr>
<td></td>
<td>(41.10)</td>
<td>(36.15)</td>
<td>(40.41)</td>
<td>(29.71)</td>
<td>(70.08)</td>
</tr>
<tr>
<td><strong>Age²</strong></td>
<td>-2.206*</td>
<td>-1.887*</td>
<td>-2.531**</td>
<td>-1.231</td>
<td>-1.324</td>
</tr>
<tr>
<td></td>
<td>(1.263)</td>
<td>(1.113)</td>
<td>(1.270)</td>
<td>(0.929)</td>
<td>(2.151)</td>
</tr>
<tr>
<td><strong>Age³</strong></td>
<td>0.028*</td>
<td>0.025*</td>
<td>0.033*</td>
<td>0.0174</td>
<td>0.0176</td>
</tr>
<tr>
<td></td>
<td>(0.017)</td>
<td>(0.015)</td>
<td>(0.017)</td>
<td>(0.012)</td>
<td>(0.0283)</td>
</tr>
<tr>
<td><strong>Age⁴</strong></td>
<td>-1.3E-04</td>
<td>-1.191E-04*</td>
<td>-1.602E-04</td>
<td>-8.82E-05</td>
<td>-8.56E-05</td>
</tr>
<tr>
<td></td>
<td>(7.97E-04)</td>
<td>(7.03E-04)</td>
<td>(8.23E-05)</td>
<td>(5.96E-05)</td>
<td>(1.349E-04)</td>
</tr>
<tr>
<td><strong>Constant</strong></td>
<td>-680.537</td>
<td>-511.961</td>
<td>-722.9</td>
<td>-253.7</td>
<td>-372.7</td>
</tr>
<tr>
<td></td>
<td>(484.6)</td>
<td>(425.5)</td>
<td>(465.8)</td>
<td>(343.6)</td>
<td>832.0</td>
</tr>
<tr>
<td><strong># Observations</strong></td>
<td>247</td>
<td>232</td>
<td>135</td>
<td>120</td>
<td>93</td>
</tr>
<tr>
<td><strong>R-Squared</strong></td>
<td>0.029</td>
<td>0.025</td>
<td>0.163</td>
<td>0.179</td>
<td>0.116</td>
</tr>
</tbody>
</table>

**Notes:** Each column refers to a separate regression. Dependent variable in all regressions is actor bankability index according to the 2006 Ulmer Scale. Unit of observation is individual actor age 25 years or older. Numbers in parentheses are standard errors. Samples in each respective column are: all male actors, all male actors minus the top 15, all female actors, all female actors minus the top 15, and all male and female actors married to actors and spouses with similar occupations (singers, models, or musicians). Significance levels: *** = 1%, ** = 5%, * = 10%.
### TABLE 4 – SORTING AMONG ACTORS CAST TOGETHER IN A MOVIE OR TELEVISION PRODUCTION

<table>
<thead>
<tr>
<th>Sample</th>
<th>Controls</th>
<th>Correlation</th>
<th># Obs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>None</td>
<td>0.034</td>
<td>168</td>
</tr>
<tr>
<td>C2</td>
<td>None</td>
<td>0.029</td>
<td>138</td>
</tr>
<tr>
<td>C2</td>
<td>Race, Nationality,</td>
<td>-0.036</td>
<td>138</td>
</tr>
<tr>
<td></td>
<td>Age coefficients</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C2</td>
<td>Race, Nationality,</td>
<td>-0.037</td>
<td>138</td>
</tr>
<tr>
<td></td>
<td>Age coefficients,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bankability</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:** Raw and partial correlations for the education of male and female actors cast together in a movie or television production. Pair of opposite sex actors in each movie or television production consists of a married top actor and the highest listed opposite sex actor in the last movie or television production which the top actor appeared in (according to the IMDB). The table also includes controls in partial correlations, and the number of observations. The samples are: C1 – top 400 male and female actors in the US movie industry who are married, C2 – all actors and actor colleagues from C1, except those for which the educational data on the actor or the actor colleague was of poor quality.
TABLE 5 – CORRELATION FOR HUSBAND AND WIFE YEARS OF EDUCATION IN ACTOR MARRIAGES

<table>
<thead>
<tr>
<th>Sample</th>
<th>Controls</th>
<th>Correlation</th>
<th># Obs.</th>
<th>95% C.I.</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1</td>
<td>None</td>
<td>0.31</td>
<td>140</td>
<td>(0.15,0.45)</td>
</tr>
<tr>
<td>M2</td>
<td>None</td>
<td>0.37</td>
<td>114</td>
<td>(0.20,0.52)</td>
</tr>
<tr>
<td>M3</td>
<td>None</td>
<td>0.39</td>
<td>98</td>
<td>(0.21,0.55)</td>
</tr>
<tr>
<td>M3</td>
<td>Race, Nationality, Age coefficients</td>
<td>0.40</td>
<td>98</td>
<td>(0.22,0.56)</td>
</tr>
<tr>
<td>M3</td>
<td>Race, Nationality, Age coefficients, Bankability</td>
<td>0.37</td>
<td>98</td>
<td>(0.17,0.53)</td>
</tr>
<tr>
<td>M3 minus married after 25</td>
<td>Race, Nationality, Age coefficients</td>
<td>0.42</td>
<td>93</td>
<td>(0.23,0.58)</td>
</tr>
<tr>
<td>M3 minus married after 30</td>
<td>Race, Nationality, Age coefficients</td>
<td>0.37</td>
<td>73</td>
<td>(0.14,0.56)</td>
</tr>
<tr>
<td>M3 minus married after 35</td>
<td>Race, Nationality, Age coefficients</td>
<td>0.46</td>
<td>44</td>
<td>(0.16,0.68)</td>
</tr>
<tr>
<td>M3 minus top 301-400 actors</td>
<td>Race, Nationality, Age coefficients</td>
<td>0.37</td>
<td>79</td>
<td>(0.16,0.56)</td>
</tr>
<tr>
<td>M3 minus top 201-400 actors</td>
<td>Race, Nationality, Age coefficients</td>
<td>0.47</td>
<td>62</td>
<td>(0.23,0.65)</td>
</tr>
<tr>
<td>M4</td>
<td>Race, Nationality, Age coefficients</td>
<td>0.32</td>
<td>53</td>
<td>(0.03,0.56)</td>
</tr>
<tr>
<td>M4</td>
<td>Race, Nationality, Age coefficients, Physical Appearance</td>
<td>0.31</td>
<td>53</td>
<td>(0.02,0.56)</td>
</tr>
<tr>
<td>M5</td>
<td>Race, Nationality, Age coefficients</td>
<td>0.35</td>
<td>45</td>
<td>(0.03,0.60)</td>
</tr>
<tr>
<td>M3 minus met in school or at work</td>
<td>Race, Nationality, Age coefficients</td>
<td>0.53</td>
<td>45</td>
<td>(0.25,0.73)</td>
</tr>
</tbody>
</table>

Notes: Raw and partial correlations for husband and wife years of education, number of observations, and 95% confidence interval for correlations. The respective samples are: M1 - all couples, M2 - all couples minus those for which spouse education was imputed based on occupation, M3 - all couples minus those with imputations and observations of poor quality, M4 - M3 minus actors married to other than fellow actors and entertainers, M5 - M3 minus actors married to fellow actors and entertainers.
### TABLE 6 - PROBIT FOR WINNING ACADEMY AWARD

<table>
<thead>
<tr>
<th></th>
<th>All Actors</th>
<th>All Male Actors</th>
<th>All Female Actors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years of Education</td>
<td>-0.0122</td>
<td>-0.0257</td>
<td>0.00674</td>
</tr>
<tr>
<td></td>
<td>(0.0346)</td>
<td>(0.047)</td>
<td>(0.0532)</td>
</tr>
<tr>
<td>Male</td>
<td>-0.677***</td>
<td>- -</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>(0.161)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>0.259</td>
<td>0.469</td>
<td>-0.253</td>
</tr>
<tr>
<td></td>
<td>(0.269)</td>
<td>(0.320)</td>
<td>(0.524)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>0.453</td>
<td>0.812</td>
<td>-0.204</td>
</tr>
<tr>
<td></td>
<td>(0.430)</td>
<td>(0.531)</td>
<td>(0.705)</td>
</tr>
<tr>
<td>US/Canadian</td>
<td>-0.128</td>
<td>-0.0100</td>
<td>-0.0680</td>
</tr>
<tr>
<td></td>
<td>(0.175)</td>
<td>(0.240)</td>
<td>(0.272)</td>
</tr>
<tr>
<td>Age</td>
<td>1.631*</td>
<td>-0.0700</td>
<td>4.556**</td>
</tr>
<tr>
<td></td>
<td>(0.980)</td>
<td>(1.356)</td>
<td>1.894</td>
</tr>
<tr>
<td>Age²</td>
<td>-0.050*</td>
<td>0.00261</td>
<td>-0.143**</td>
</tr>
<tr>
<td></td>
<td>(0.030)</td>
<td>(0.0405)</td>
<td>0.0589</td>
</tr>
<tr>
<td>Age³</td>
<td>6.59E-04*</td>
<td>-2.840E-05</td>
<td>0.00191**</td>
</tr>
<tr>
<td></td>
<td>(3.88E-04)</td>
<td>(5.23E-04)</td>
<td>(7.89E-04)</td>
</tr>
<tr>
<td>Age⁴</td>
<td>-3.14E-06*</td>
<td>1.14E-07</td>
<td>-9.26E-06**</td>
</tr>
<tr>
<td></td>
<td>(1.84E-06)</td>
<td>(2.45E-06)</td>
<td>(3.83E-06)</td>
</tr>
<tr>
<td>Constant</td>
<td>-20.06*</td>
<td>-0.840</td>
<td>-53.38**</td>
</tr>
<tr>
<td></td>
<td>(11.72)</td>
<td>(16.24)</td>
<td>(22.17)</td>
</tr>
</tbody>
</table>

# Observations: 373 241 132
Pseudo R-Squared: 0.109 0.098 0.114

**Notes:** Each column refers to a different probit. Dependent variable in all probits is a dummy indicating whether an actor has ever been awarded an Academy Award (popularly known as an "Oscar") for acting. Unit of observation is individual actor age 25 or older. Numbers in parentheses are standard errors. Significance levels: ***=1%, **=5%, *=10%. Dummy for Asian origin was dropped due to collinearity problems.
FIGURE 1. DISTRIBUTION OF NUMBER OF MARRIAGES IN OVERALL US POPULATION AND AMONG TOP ACTORS IN THE US MOVIE INDUSTRY

Notes: Data for the overall population is from the 2008 American Community Survey (ACS 2008) administered by the US Census Bureau. The data for actors is from the biographical encyclopedia “Marquis’ Who’s Who on the Web”. All men and women in the ACS 2008 were classified as never having married, having married once, having married twice, or having married three or more times (the categories along the horizontal axis of the figure). The distribution for male and female actors displays raw data. The distribution for the overall US population was constructed by weighting individual observations in the ACS 2008, according to the age and gender distribution of the top 400 actors.
FIGURE 2. EDUCATIONAL DISTRIBUTION FOR US FEMALE POPULATION AND TOP FEMALE ACTORS IN THE US MOVIE INDUSTRY

Notes: Data for the overall population is from the 2008 American Community Survey (ACS 2008) administered by the US Census Bureau. The data for female actors is from several online sources, including Wikipedia, Yahoo Movies, and the Internet Movie Database (IMDB). The distribution for female actors displays raw data. The distribution for the overall US female population was constructed by weighting individual observations in the ACS 2008 according to the age distribution of the top female actors.
FIGURE 3. EDUCATIONAL DISTRIBUTION FOR US MALE POPULATION AND TOP MALE ACTORS IN THE US MOVIE INDUSTRY

Notes: The data for the overall population is from the 2008 American Community Survey (ACS 2008) administered by the US Census Bureau. The data for male actors is from several online sources, including Wikipedia, Yahoo Movies, and the Internet Movie Database (IMDB). The distribution for male actors displays raw data. The distribution for the overall US male population was constructed by weighting individual observations in the ACS 2008 according to the age distribution of the top male actors.
FIGURE 4. SCATTER PLOT FOR HUSBAND AND WIFE YEARS OF EDUCATION

Notes: Partial correlation for husband and wife years of education (residualized) when race, nationality, and a fourth order polynomial in age is being held constant. Regression line is significant at 0.1% level.
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