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Abstract

This study raises the question of how marriage market relevant status characteristics are distributed among partners in exogamous relationships. The status exchange hypothesis posits that partners in racially and ethnically heterogamous relationships trade status characteristics, mainly education. We address this hypothesis focusing on intermarriages between immigrants and native men (N=620,956) and women (N=623,749) in Sweden using register data covering the entire Swedish population for the period 1990 to 2009. Results from binomial and multinomial logistic regressions show that low status in terms of age, income, and previous relationships are determinants for exogamy, and that the main marriage market relevant status that is exchanged is age, not education. This holds particularly for immigrants from certain countries of origin such as for wives from Asia and Africa and husbands from Asia, Africa and the Middle East. Swedish men and women show surprisingly large symmetry in status exchange patterns.

Key words: Interethnic marriage, Immigration/Migrant families, Ethnicity, Western European families

JEL codes: J12, J15, Z13

Introduction

A distinct feature of many marriage markets is homogamy in spousal choice. In endogamous marriages, people share similar characteristics with respect to their socio-economic status (Kalmijn, 1991), their age (van Poppel, Liefbroer, Vermunt, & Smeenk, 2001) and education, race, and religion (Blackwell & Lichter, 2004). Traits such as ethnicity, religion, education and social class background commonly correlate, which is why multidimensional homogamy can be seen as a natural by-product of homogamy preferences on one dimension. In regards to interracial and interethnic marriages, a major question in the literature has been if couples that differ in one of these traits are homogamous on all other traits, or also differ on other traits, and this in a systematic way: by exchanging status on the marriage market. According to the status exchange hypothesis, individuals with lower socio-economic status face fewer opportunities on the (majority's) marriage market and hence are more inclined to marry minority group members, and crossing ethnic boundaries raises their potential of marrying someone with higher socio-economic status. Moreover, it assumes that in ethnically stratified societies, the partner with lower (perceived) ethnic status has to compensate the partner with higher (perceived) ethnic status with higher status in other characteristics such as education.

Immigrant-native intermarriage is often studied in the context of immigrant integration and is regularly regarded as the final step of the assimilation process (Qian & Lichter, 2001). A rather neglected aspect is that "it takes two to tango": it requires as much willingness to intermarry from natives as from immigrants. Contrary to large parts of the literature that focuses on first or second generation immigrants' endogamy and exogamy patterns (Fu & Hatfield, 2008; Kalmijn & van Tubergen, 2010; Chiswick & Houseworth, 2011; Furtado, 2012; see Dribe & Lundh, 2008; Behtoui, 2010; Dribe & Lundh, 2011 for Sweden) this study focuses on native Swedes' marriage behavior as it leads to a better understanding of societal openness and reveals implicit ethnic hierarchies in contemporary Sweden, which is often regarded as a particularly open society with low levels of educational assortative mating (Domański & Przybysz, 2007).

Using register data covering the entire population resident in Sweden gives the opportunity to include all endogamous and exogamous marriages and relationships with common children that were established in the period 1991 to 2009 (the terms marriages and relationships as well as partners and spouses are used interchangeably). The study focuses on (1) individuals' status as determinant of endogamy and exogamy, and (2) couples' joint distribution of education and age as indicators of status exchange. Our findings indicate pronounced status exchange of age in immigrant-native intermarriages, and show strong similarities for men and women, which is a previously disregarded aspect.

In contrast to large parts of the status exchange literature that discuss only interracial educational status exchange, we believe that status exchange in marriages occurs on more dimensions than education. Including age and relationship history as individual determinants, and age difference of partners as a dimension of status exchange is therefore an important contribution to the literature. Moreover, as previous research has shown, status exchange in European societies does not necessarily run along the lines of black versus white racial status (Kalmijn & Tubergen, 2006). Instead, certain immigrant groups may be more prone to exchange their status with natives, such as those without permanent residence status (Guetto & Azzolini, 2015), partners from economically less developed countries (Glowsky, 2007), and marriage migrants that are "recruited" abroad (Östh, van Ham, & Niedomysl, 2011). We address this by studying differences in status exchange patterns between *marriage migrants* and *residing immigrants*.

Previous Research

According to the status exchange hypothesis it is expected that in racially stratified societies compensatory status exchange occurs in which the partner with inferior racial status (exemplary the black male) compensates for the higher racial status of his wife (exemplary the white female) (Merton, 1941). As educational homogamy is dominant even in interracial marriages, most authors expect patterns of hypogamy and hypergamy to differ *relative* to intra-racial unions (cf. Gullickson, 2006). Modeling status exchange then requires distinguishing status exchange patterns from random patterns that occur given a certain distribution of education among minority and majority groups, which led to a methodological debate about adequate modeling and the use of different types of log-linear models (Rosenfeld, 2005; Gullickson & Fu, 2010; Rosenfeld, 2010; Kalmijn, 2010 for an overview see Hou & Myles, 2013). Most studies confirm status exchange in black husband – white wife intermarriages, but evidence for educational status exchange in other racial pairings, reverse gender patterns or different context is rather mixed.

Analyzing the period 1970 to 1983, Kalmijn (1993) finds strong indications of status exchange in black-white intermarriages in the United States that persist over time. Applying the same method (hypergamy ratios), Qian (1997) comes to similar conclusions about white hypergamy but nevertheless emphasizes that the majority of interracial marriages are educationally homogenous, and Blackwell and Lichter (2000) find evidence for status exchange in interracial marriages, but not cohabitations.

A different approach to conceptualizing status exchange is taken by Fu (2001) who criticizes hypergamy ratios as a misconception of the status exchange hypothesis and posits that a more direct test should focus on different group members' desirability on the marriage market. He does not focus on partners' joint distribution of education but on partner's own educational attainment as determinant for exogamy and finds support for status exchange among black/Mexican American-white marriages. This approach has, however, been criticized by Gullickson (2006) who sees the joint distribution of education at the core of status exchange theory and finds limited support for status exchange theory from his analysis, but only in black male-white female couples. In a later analysis of status exchange patterns in Brazil, Gullickson and Torche (2014) distinguish between *market exchange* (Fu's approach) and the more conventional *dyadic exchange* (relating to spouses' joint distribution of education). Initially they find strong evidence for dyadic exchange which however disappears when market exchange is accounted for. Their results show that intermarried couples in general are less homogamous, but that there is strong indication of white hypergamy *and* white hypogamy. Results from this study highlight the importance of analyzing status exchange both in terms of market exchange and dyadic exchange.

No evidence of status exchange was found by Rosenfeld for the U.S. (2005) and Hou and Myles (2013) for Canada (but they nevertheless found modest support for the U.S.), and by Kalmijn and Tubergen (2006) for the Netherlands. Weaker support for status exchange is found for Australia (Choi, Tienda, Cobb-Clark, & Sinning, 2012), and more complex patterns of status exchange are found for Italy (Guetto & Azzolini, 2015). Most measures of status exchange are concerned with educational status exchange, but evidence for status exchange has also been found on other dimensions such as job prestige and income (Fu, 2008), spouse's age (Guetto & Azzolini, 2015), and attractiveness in terms of age difference and BMI difference (Glowsky, 2007). For Sweden only few studies address determinants of exogamy for natives. These studies show that exogamously married Swedes are less educated, older and have lower income compared to endogamously married Swedes (Haandrikman, 2014), and that native men more often have lower education than their immigrant wives, particularly when the immigrant partner comes from non-Western middle or low income countries (Niedomysl, Östh, & van Ham, 2010; Behtoui, 2010). These results can be seen as indication of status exchange in intermarriages, but the empirical test of the hypothesis is rather limited in these studies.

Theory and Hypotheses

The idea of *status exchange* in marriages is based on Davis' (1941) and Merton's (1941) articles addressing marriages in racially stratified and caste societies. It is theorized that inter-caste and interracial marriage would imply losing status for the higher status individual, unless he/she is compensated with higher status in other characteristics. The exemplary situation that includes a trade of class status and racial status is less-educated white females-highly educated black male marriages. Status exchange can be conceptualized as *dyadic exchange* when partners directly exchange certain traits when entering a marriage and *market exchange* (cf. Gullickson & Torche, 2014; Fu, 2001) which emphasizes individuals' desirability on the marriage market. The difference in concepts condenses to a measure of individuals' own educational attainment (market exchange) or partners' joint distribution of education (dyadic exchange). In the context of native-born Swedes we formulate the following market exchange hypotheses

Hypothesis 1: Individuals of lower status are more likely to marry an immigrant.

However, rather than solely focusing on educational status, we expand status to further marriage market relevant characteristics:

Hypothesis 1a: Individuals with lower education are more likely to marry an immigrant.

As Swedish men and women with lower education have the lowest odds of getting married (own analysis, available from authors), we presume that they have the lowest desirability of all educational groups and hence are more inclined to marry immigrants than Swedes with intermediate education. However, as the highly educated are more likely to be open towards immigrants (Wagner & Zick, 1995; Hello, Scheepers, & Gijsberts, 2002) we address if the highly educated are more likely to marry immigrants than the intermediately educated.

Hypothesis 1b: Individuals with lower income are more likely to marry an immigrant.

Individuals with lower income are less likely to marry and are hence assumed to be less desirable on the marriage market. However, we allow for certain thresholds or non-linearities.

Hypothesis 1c: Older Individuals are more likely to marry an immigrant.

We assume that older individuals, particularly those above the age of 40, are less desirable on the marriage market and hence are more likely to marry immigrants.

Hypothesis 1d: Individuals that have been previously married or have children from previous relationships are more likely to marry an immigrant.

Similarly, we assume a lower desirability of previously married individuals or parents.

Status exchange theory implies a hierarchy of racial or ethnic status. If characteristics of intermarried couples systemically differ from characteristics of endogamously married couples, it is assumed that marriage partners are not regarded as equal, and that the marriage market is structured by racial boundaries (Fu, 2001). As in most Western societies today an ethnic status hierarchy is not as salient as in for example caste societies, patterns of status exchange could be regarded a by-product of preferences on other dimensions (Lewis, 2012). Research on dating preferences, however, shows that there seems to be an agreement on a hierarchy of ethnicities that is fairly stable across educational groups and countries, and even adopted by minority groups (Lin & Lundquist, 2013; Snellman & Ekehammar, 2005 for Sweden). A hierarchy with European daters on the top, followed by Hispanic, Asian, African and Arabic daters at the bottom of the hierarchy has been found for different European countries, including Sweden (Potârcă & Mills, 2015). Moreover, white Europeans (in Sweden) perceive a hierarchy within the European group, i.e. Sweden ranking on the top, followed by other Scandinavians, West Europeans, South Europeans, and lastly East Europeans who are ranked closely to non-European groups such as Latin Americans (Osanami Törngren, 2011).

The main (dyadic) status exchange hypothesis is:

Hypothesis 2: Swedes married to individuals with lower ethnic status are expected to be more often hypergamous, and less often hypogamous than endogamously married Swedes.

The major division for status exchange in the Swedish context is, however, not expected to run between foreign- and native-born. Instead, we expect a hierarchy of immigrant groups in terms of the aforementioned dating preferences.

Hypothesis 2a: Dyadic status exchange does not run along lines foreign-born vs native-born.

Hypothesis 2b: The lower the immigrant's country's status, the more likely it is that we observe dyadic status exchange patterns.

Hypothesis 2b.1: The lower the immigrant's country's status, the more likely it is that we observe education exchange patterns.

Hypothesis 2b.2: The lower the immigrant's country's status, the more likely it is that we observe age exchange patterns.

Beyond a hierarchy of ethnicities, we expect another hierarchy among migrants to be at work: immigrants that have secured residence in the host-country versus (prospective) immigrants without secured residence permits. For Italy, Guetto and Azzolini (2015) found that status exchange patterns are particularly strong among women who do not possess Italian citizenship, and similar mechanisms

can be hypothesized for marriage migrants. Marriage migration to Western countries is a noticeable, yet hardly quantified phenomenon (see for example Levchenko & Solheim, 2013 for the U.S.; Niedomysl et al., 2010 for Sweden). We assume that in the Swedish context, the major attribute that Swedes have to offer is not "whiteness" as a superior racial status but the possibility to provide a residence permit in case of marriage or other conjugal unions, which are legally largely the same in Sweden. In recent years, Swedes have increasingly recruited partners from abroad (Östh et al., 2011) and we assume that marriage migrants who presumably would not get a residence permit independent of their Swedish partners are most willing to exchange their status.

Hypothesis 3: Status exchange is more prevalent in marriages between Swedes and marriage migrants than in marriages between Swedes and immigrants with prior residence in Sweden.

Female educational hypergamy has long been regarded the norm, partly due to distribution of educational degrees (Kalmijn, 1993), partly due to preference (Hatfield & Sprecher, 1995). Educational homogamy has over time become more prevalent (Schwartz & Mare, 2005; Schwartz, 2013), and besides homogamy, female hypogamy has become a prominent pattern among Swedish couples (Dribe & Nystedt, 2013). This, however, does not necessarily imply that norms regarding homogamy and female hypergamy have reversed (Grow & van Bavel, 2015), and in Sweden, women still have stronger preferences for partners with higher resources than men whereas men have stronger preferences for younger women (Gustavsson, Johnsson, & Uller, 2008). We therefore posit

Hypothesis 4: Swedish women trade for highly educated men, Swedish men trade for age.

Hypothesis 4a: Swedish men have a higher likelihood of marrying women with lower perceived ethnic status when marrying a substantially younger woman.

Hypothesis 4b: Swedish women have a higher likelihood of marrying men with lower perceived ethnic status when marrying a more highly educated spouse.

Data

The analysis is based on register data maintained by Statistics Sweden. We restrict the sample to birth cohorts 1950 to 1989 and analyze both first and higher order marriages that were formed between 1991 and 2009. Due to different patterns in marriage ages for men and women, we chose an age frame of 21 to 55 for men and 18 to 52 for women. We select native-born Swedes that have two native-born parents and merge partner information based on unique identifiers from the civil registration system. Partners are identified and categorized as "married" if they either are legally married or are registered at the

same address and have a common child. Same-sex couples and marriages with second generation immigrants are excluded from the sample. We restrict the analysis to one observation per couple for the year in which the relationship was formed (i.e., either through marriage or through the birth of a common child). Individuals that were not present (registered) in the country in the year prior to relationship formation are excluded from the analysis. A major advantage of register data is that we can focus on characteristics at or prior to the time of marriage and that our sample is not biased towards long-lasting marriages (cf. Kalmijn, 1993). By assessing (educational) status exchange in the year of relationship formation we avoid positive effects from (inter)marriage on education.

Variable Description

We use three kinds of outcome variables to assess status exchange in intermarriages. In Model 1 (binary logit model), we use all relationships and make a more general comparison of endogamy (ref.) and exogamy. In Model 2 (multinomial logit model) we then divide the exogamy group according to dating preferences, as was previously discussed. The reference category remains endogamy, and the three outcome categories are high dating preference (European and other Western countries), medium dating preference (Asian and Latin American countries) and low dating preference (African and Middle Eastern countries). In Models 3 to 5 we estimate binary logit models only for exogamous relationships, and compare marriages between immigrants that were resident in Sweden and marriage migrants. Marriage migrants cannot directly be identified in our data as it lacks information on partners' visa status. Similar to previous studies (Niedomysl et al., 2010; Östh et al., 2011), we define marriage migrants as people who immigrate to Sweden and marry a Swede or have a common child in the same calendar year. Most female marriage migrants identified this way come from Asia, particularly Thailand and the Philippines, or from Russia, Poland and South America. Male marriage migrants most often come from Africa, Turkey, Asia, former Yugoslavia, as well as Great Britain and the United States. These countries are also among the most common countries of origin of immigrants who were granted family-based immigrant visas listed in official statistics (Statistics Sweden, 2011). Marriage migrants in our data account for about 20-50 percent of all (adult) immigrants that were granted family-related residence permits for the most common marriage-migrant countries, of which evidently not all migrate to Swedish partners. These countries of origin also match with evidence from the mail-order-bride literature (Hidalgo & Bankston, 2011; Constable, 2012).

The major variables of interest, education exchange and age exchange, capture the joint distribution of these characteristics among partners. *Education* is registered in seven categories

consistent with levels of the Swedish education system. Immigrants' education is however only registered if the education was either reported in the census 1970 or 1990, a degree was obtained in Sweden, or their education was formally recognized by Swedish higher education authorities (Högskoleverket, from 2000). Statistics Sweden makes an attempt to supplement lacking information from surveys on newly arrived immigrants' education (1995 and on an annual basis from 1999) (Statistics Sweden, 2005), but a relatively large fraction of adult immigrants (approx. 25 percent) have entirely missing information on education. Among exogamously married immigrants, the number of missing observations is lower (18 percent in the year of relationship formation), but particularly for newly arrived immigrants the number of missing information on education still very high as the process of formal registration and registration from survey information is long. Therefore, we impute educational information for immigrants up to three years prior to the date of any observed education (education obtained in t+1 to t+3 is imputed to t0, if t0 is the year of relationship formation), which ensures that people at least started their education at the time of partnership formation. The number of missing observations then reduces to five percent. We performed the analysis without imputed information; estimates are stable but less precise. The *education exchange* variable is based on the seven-category variable and simply denotes if the partner's education is higher, lower or the same as the individual's own education. For native Swedes, we summarize education in three categories (compulsory education, upper secondary education, higher education). Similar to education exchange, *age exchange* is based on partners' age difference and categorized into four categories (partner older (three or more years), age homogamy (+/- two years), partner younger (three to six years), and partner younger (seven or more years). *Age* is divided into four categories, 18 to 25 (20 to 25 for men), 26 to 34, 35 to 40, and 41 and older.

Income is income from employment and self-employment averaged over three years prior to relationship formation (t-2 to t0, with t0 being year of relationship formation). This is to approximate income at the time partners met and to level out irregularities and potential positive income effects from having a partner. Using income from only the year of relationship formation does not change the results. Income is CPI adjusted and categorized into seven categories based on its distribution in the data (pooled for men and women).

The variable *relationship order* denotes if the current relationship is the individual's *first*, *second*, or *third or higher* committed relationship. The information is based on partners' civil registration in common households. Included are cohabiting married couples and unmarried cohabiting couples with common children. Cohabiting couples without common children cannot be identified in the Swedish

civil registration system. As information on cohabitation with common children is only available from 1990 onwards, cohabitations with common children that were formed before 1990 are not included in the variable and the number of lower order relationships may be overstated.

The partner's country of origin is categorized into seven *origin* groups. For countries with less than 100 persons from that origin and relationships formed after 2005 only a broader grouping of countries is available and used for categorization. In case it was impossible to group them into one of the origin categories, they were excluded from all models. This concerns less than one percent of observations, mainly immigrants from Europe. The models additionally control for *municipality* of residence which is categorized into ten categories according to the classification of municipalities by the Swedish Association of Local Authorities and Regions, and period dummies of the sub-periods 1991 to 2000, 2001 to 2005 and 2006 to 2009.

Models

Our study is concerned with two major questions, i.e. (1) determinants of exogamous marriage for native Swedes, and (2) evidence of status exchange patterns among exogamous marriages. As status exchange patterns among those without partners are unobservable we limit the analysis to couples, which disregards the entire population at risk to marry (i.e., singles). In a comprehensive model of marriage patterns they should be included. Therefore, we run a set of models testing determinants making use of the longitudinal design of the data and including the entire (adult) population, and results (available from authors) do not differ much from the couples design. For men, higher education and income increase the odds of being married, in general, and endogamously married, in particular. For women, higher education and income increase the odds of being endogamously married, but lower education (and higher income) increase the odds of being exogamously married compared to being single.

We apply binomial and multinomial logit models with various outcomes (Models 1 to 3) (see variable description) and include both individual characteristics and couple characteristics into the models. The variables education, income, age and relationship order are discussed as indications for market exchange, indicating a more or less advantageous position on the marriage market. Education exchange and age exchange are measures of dyadic status exchange. Models 4 and 5 are concerned with status exchange patterns among marriages with different immigrant groups and origins.

Equation (1) shows the (multinomial) status exchange model. In the binary model 1 j=1 is exogamy and 0 denotes endogamy. In the binary model 3, j=1 denotes marriage with a marriage migrant whereas the reference category 0 is marriage with a residing immigrant. The multinomial model 2 is

$$(1)\ \log\left(\frac{P(Y_i=j)}{P(Y_i=0)}\right) = \alpha + \beta_{kj}(Educational\ exchange) + \gamma_{lj}(Age\ exchange) + \delta_j(X_j)$$

where 0 is the reference category of endogamy, j = 1, 2, 3 are exogamy dating preference outcomes (high, medium, low), k=1,2 denotes educational hypergamy and educational hypogamy, l=1,2,3 denotes having a partner that is older, younger (3-6) or younger (7 and more), and X is a vector for individual characteristics (education, income, age, relationship order, type of municipality, period, and partner origin for Models 3 to 5). Model 4 includes an interaction term between partner origin and educational exchange and Model 5 an interaction term between partner origin and age exchange.

A concern with the models applied could be that we do not account for the marginal distribution of education among immigrant groups. If immigrants are more highly educated than Swedes, a Swede's higher odds of having a partner with higher education than him/herself when marrying exogamously is not a consequence of status exchange but of the marginal distribution of education. Following Hou and Myles (2013) we tested including partner's education in the model; the direction of the exchange parameters remains the same. We also tested including a parameter denoting the distance of the partner's level of education to the average education among immigrants with the same origin (ranging from about - 4 to + 4) which captures if it is the highly educated in the perspective origin group that marry out. Most importantly, the direction of the education exchange parameters is only marginally affected by including this measure. If status exchange and not a higher average education among immigrants explains the observed pattern, the educational distance coefficient itself should be positive, and – according to theoretical expectations – the larger the lower the group's ethnic status is (Model 2). This is, however, not the case. Following Gullickson and Torche (2014) we tested estimating status exchange models without the market exchange variables. Similar to their findings, the status exchange parameters are overstated in most specifications in which market exchange parameters are excluded. This, however, is mainly the case for the age exchange parameters whereas the educational exchange parameters are only marginally affected. Lastly, to test robustness of the models, we re-estimated the models separately for the formally married. These constitute less than 40 percent of endogamous couples and about 40 to 70 percent of exogamous couples (dependent on partner origin and sex). The results remain largely the same, but age exchange patterns are slightly stronger among the formally married.

Results

Table 1 shows descriptive statistics for all dependent and independent variables. For both Swedish men and women, over 90 percent of all marriages are endogamous. The most common exogamy type is marriages with immigrants from European and Western countries (high dating preference group), and one sixth to one fifth of all exogamous relationships are relationships with marriage migrants. Beyond Scandinavian and Western countries, the most common regions of origin are Asia for wives to Swedish men and Middle East for husbands to Swedish women.

Status Exchange Models

Coefficients from the binomial logit and multinomial logit models are reported in their unstandardized and in their exponentiated form, as odds ratios. Results are discussed in terms of odds ratios, and to illustrate the impact of different variables in absolute terms we refer to the baseline odds in each model (by multiplying the baseline odds with the factor of change in odds caused by a change in the independent variable).

Men

The association between socio-economic status and exogamy is rather ambiguous, as displayed in *Model 1*. Education appears to be nonlinearly associated with exogamy as both men with compulsory and higher education have higher odds of exogamy than the ones with intermediate (upper secondary) education, and income displays a negative effect: for individuals in the highest income group, the odds of having a non-Swedish partner decrease by 39 percent. In *Model 2*, we compare the relative odds of being in an exogamous relationship with someone who has a rather high, medium or low perceived ethnic status on the partner market, to the reference of endogamy. Higher education has a positive impact on the odds of marrying a woman from the high (Western/European) or the low (Africa/Middle East) preference group, but reduces the odds of marrying a woman in the medium preference group where it is Swedish men with only compulsory schooling who display the highest odds of exogamy. Income is negatively associated with all outcomes. When comparing the odds of two exogamy types, marriages to marriage migrants versus marriages to residing immigrants in *Model 3* Swedish men with higher education have higher odds of marrying a marriage migrant whereas higher income is negatively associated with the odds of marrying a marriage migrant. Other characteristics that could be relevant on the marriage market are age and relationship order. Being older and being in a higher order relationship increases the odds of exogamy. Compared to the reference category of 26 to 34 years, a higher age is

consistently positively associated with exogamy for all outcomes in *Model 1* and *2*. Being above the age of 40 more than doubles the odds of exogamy. However, accounting for the low baseline odds of e.g. the medium preference group, only four exogamous marriages with women in this group are expected for every 100 endogamous marriages (all other variables equal). Being younger than the reference category reduces the odds of exogamy except for marriage with a woman from the low preference group. Similarly in *Model 3*, age is positively related to marriage with a marriage migrant with men aged 35 to 40 displaying 30 percent and men aged 41 and older displaying 70 percent higher odds of being married to a marriage migrant than being married to a residing immigrant. Being in a higher order relationship increases the odds of marrying an immigrant from the high preference and the low preference group, but this is only the case for third or higher order relationships, and this pattern is not observable for men who marry immigrants from the medium preference group. *Model 3* shows a strong association between being in a higher order relationship and marriages with marriage migrants. It increases the odds of marriage with a marriage migrant by about 59 percent, leading to an expected 35 marriages with marriage migrants for every 100 marriages with a residing immigrant among men who are in their third or higher committed relationship (all other variables equal).

Regarding the dyadic status exchange measures in the general exogamy model (*Model 1*) it is apparent that educational homogamy and age homogamy are less common in exogamous relationships (with higher odds of exogamy in all heterogamy categories). The odds of marrying out are higher when having a wife who has higher education than the Swede himself *and* when having a wife with lower education, and the same holds for both older *and* younger partners. Differentiating between groups according to dating preferences reveals more obvious patterns regarding dyadic status exchange. In terms of educational status exchange, having a partner with lower education increases the odds of marrying someone from both the medium and the low preference group more than having a partner with higher education. The reverse is true for the high preference group. For age exchange the odds of marrying someone from the low or medium preference group are slightly increased when the partner is older, but having a partner that is much younger (seven or more years) triples the odds of marrying out. The odds of marrying someone from the high preference group, on the contrary are more increased by having an older than by having a younger partner.

Regarding dyadic status exchange in *Model 3*, having a partner with higher education increases the likelihood of marrying a marriage migrant more than having a partner with lower education. The age exchange variable, however, shows a strong association with marrying a marriage migrant. In absolute terms, for men married to a substantially younger spouse 59 marriages with marriage migrants are

expected for every 100 marriages with residing immigrants. Furthermore, it shows that marriages with partners from certain countries of origin are more likely to be marriages with marriage migrants than marriages with residing immigrants. This holds for Central/East European, Latin American, and particularly Asian and African women, but not for Scandinavian and Middle Eastern women.

Women

In *Model 1*, women with lower education display higher and women with higher income display lower odds of marrying an immigrant. Compulsory education increases the odds of exogamy in all three dating preference categories of *Model* 2, but women with higher education only have lower odds of marrying a man from the medium and low preference group, whereas they display slightly higher odds of marrying a man from the high preference group compared to women with intermediate education. Education does not display any pronounced effect on the odds of marriage with a marriage migrant (*Model 3*). As for men, income has a consistently negative effect for all exogamy outcomes. Women aged 35 to 40 or 41 and older display increased odds of exogamy but in *Model 2* age does not appear to have a linear effect on exogamy for marriages with men in the medium or low dating preference category. Here, women in the youngest age category display the highest odds of exogamy. Being in a higher order relationship increases the odds of exogamy, and this association is particularly pronounced for marriages with women in both the medium and in the low preference category. Being in the third or more committed relationship more than doubles the odds of marrying someone in the low preference category.

Regarding dyadic status exchange, a pattern of education exchange in *Model 1* does not prevail in *Model 2*. It only exists in the high dating preference category, but in the middle and low preference category, the effect of higher versus lower education is of similar size. This is, however, different with regards to age exchange. In *Model 1*, having a partner that is seven or more years younger increases the odds of marrying out the most (by a factor of 3.78). Among women who marry partners from the high preference group, the difference in the effect of the age exchange categories is not particularly striking, but very large differences are observable in the medium preference and in the low preference group. Here, the odds of marrying out are increased by a factor of 7 and 13, respectively. However, taking the relatively low baseline odds into account, having a much younger partner (seven or more years) increases the odds of marrying someone from the low preference groups and leads to expected 26 exogamous per 100 endogamous marriages (baseline: 0.02; all other variables at reference category). Even when comparing the two exogamy groups in *Model 3* we see a similar age exchange pattern as in

the previous models. Swedish women with partners much younger than themselves have almost six times higher odds of marrying a marriage migrant relative to marrying a residing immigrant. Among women with much younger partners we hence expect in absolute terms more marriages with marriage migrants than marriages with residing immigrants (193:100, all other variables equal). For women, educational exchange is more apparent in *Model 3*, as here the odds of being in a relationship with a marriage migrant are almost doubled when having a partner with higher education. For women, partner's country of origin differences are particularly strong. With partners from Asia, Africa and the Middle East, the odds of marriage with a marriage migrant are increased, and particularly strong is the effect for African partners.

Exploring Country of Origin differences

To further explore patterns of status exchange between residing immigrants and marriage migrants (outcome as in Models 3), we estimate three models interacting partner's origin with the status exchange variables education exchange (Model 4) and age exchange (Model 5). We present the results in terms of marginal effects (regression tables available from authors).

Figures 1 to 4 display marginal effects of the status exchange variables across partner origin groups. The groups on the x-axis are ordered according to dating preference (see theory), with exception for the reference category (West/European) that is closest to the origin (and will not be discussed). If dating preferences perfectly explain status exchange patterns, we expect to see a continuous increase for the categories "Partner higher" [education] and "Partner younger (7+)" from Scandinavian to Middle Eastern.

--- Figure 1 & Figure 2 ---

For men, Figure 1 does not depict such pattern. We see a clear increase for the probability of marriage to a marriage migrant from having a partner with higher education for all non-Scandinavian partners but there are no differences between the groups, and having African and Middle Eastern partners with higher education leads to lower probabilities of marriage with marriage migrants compared to the other non-Scandinavian groups (opposite to expectations). Moreover, having Asian, African or Middle Eastern partners with lower education increases the probability of marriage with a marriage migrant (opposite to expectation). For women, the pattern is rather similar to that of men. Having a partner with higher education increases the probability of marriage with a marriage migrant across all non-Scandinavian groups, but their relative position is not in line with what is theoretically expected.

Moreover the probability of being married to a marriage migrant is higher even when having a partner with lower education among most origin groups.

--- Figure 3 & Figure 4 ---

For Swedish men who have spouses that are substantially younger (7 or more years), the pattern across origin groups is close to what is theoretically expected (except for partners from Middle East, which is a clear outlier). We see a constant increase in probabilities from Scandinavian to African for partners that are seven or more years younger, and no clear patterns for older or slightly younger partners. For Swedish women, the pattern is not as striking as for men as the probability of much younger Latin American husbands being marriage migrants is not as high as theoretically expected, and Asian, African, and Middle Eastern partners are at about the same level. Nevertheless, probabilities of Swedish women being married to marriage migrants is significantly different from 0 for all non-Scandinavian partners who are younger (3 to 7 *or* 7 and more years).

Discussion

The main idea of status exchange as *market exchange* is that low-status individuals are less desirable on the marriage market and hence have less opportunities of choosing a partner. Given that there is a hierarchy between natives and immigrants, and between different immigrant groups, one expects low-status individuals to have higher odds of marrying out (Hypothesis 1).

Hypothesis 1a cannot be confirmed for men. Neither the overall exogamy model (Model 1) nor looking at group differences (Model 2) depicts a consistent pattern of men with lower education being more likely and men with higher education being less likely to marry out. This hypothesis is only supported for men married to women from the medium preference group, but we find the opposite for men married to women from the high and the low preference group, and particularly the latter is opposite to expectations. Hypothesis 1b, however, is supported from our results for all men marrying out, and also the patterns within the preference groups are as expected. Age increases the odds of marrying out in all models, and particularly men aged 40 and older have higher odds of exogamy which gives support for Hypothesis 1c. Overall, we find support for Hypothesis 1d, as men who are in their second, and particularly third or higher relationship have higher odds of marrying out. However, the patterns across the dating preference groups (Model 2) do not perfectly fit the expected pattern, as we see this to be true for men marrying women from the high and low preference group, but not for the medium preference group, whereas we would have expected to see the pattern in the medium and low but not necessarily in the high preference group. Findings for the medium preference group could be

interpreted as a general difficulty of even finding a first partner, however, this is not supported by previous research (Glowsky, 2007).

To sum up, our results support Hypothesis 1: Men of lower status are more likely to marry out. Contrary to expectations, lower education is not a strong determinant of exogamy, but lower income, higher age, and being in a higher order relationship is. However, dating preference group differences are not exactly in line with expectations.

For Swedish women, the overall exogamy model (1) depicts a clear pattern of lower-status individuals being more likely to marry out: Women with lower education, lower income, and women, who are in their at least second relationship have higher odds of being exogamously married. We hence see support for Hypothesis 1a to 1d. The same pattern persists when looking at dating preference groups (Model 2). Age, however, appears not to be linearly associated with exogamy as younger women have higher odds of exogamy when marrying men from the medium and low dating preference group.

The main assumption of dyadic status exchange is that status exchange is an exchange between spouses who trade higher ethnic status for higher status on another dimension such as education or age. As previous research has shown, Swedes' preferences for ethnic intermarriage are largely dependent on the potential partner's ethnicity (Potârcă & Mills, 2015; Osanami Törngren, 2011), and we did not expect to see strong status exchange patters along the lines exogamy/endogamy (Hypothesis 2a). Looking at Model 2, this appears to be true for men as we see generally less homogamy regarding both education and age (compared to endogamous relationships), and the odds of marrying out are higher for both hypergamous and hypogamous men in terms of education and age (however, the odds of marrying out are larger for men with much younger wives than for men with older wives). Instead, we expected dyadic status exchange patterns to follow a dating preference hierarchy of ethnicities, with Western and European immigrants at the top, Asian and Latin American immigrants in the middle, and African and Middle Eastern immigrants at the bottom of the hierarchy (Hypothesis 2b). This cannot be confirmed for education exchange among Swedish men and immigrant women (Hypothesis 2b.1). The patterns are exactly opposite to expectations: having a partner with higher education leads to higher odds of exogamy only for the high preference groups whereas for the middle and the low preference group, Swedish men who have wives with lower education are more likely to be married exogamously. This pattern becomes more obvious in Model 4 (Figure 1) that shows clear education exchange patterns in line with theory only for Central/East European and Latin American marriage migrant wives but not for the groups with the lowest perceived ethnic status.

Regarding age exchange (Hypothesis 2b.2), however, the observed pattern supports the hypothesis. For men married to women in the high preference group, the odds of exogamy are highest when having an older partner, but they are also increased when having a substantially younger partner (seven or more years). For men married to women in the medium or low preference group, the odds of exogamy are higher for all age heterogamy categories compared to age homogamy, but the by far strongest effect is seen for the partner younger (+7 years) category.

Women's patterns of dyadic status exchange have a remarkable resemblance to the ones of men. In Model 1, both age homogamy and educational homogamy appear to be least common among women in exogamous relationships, however, patterns of status exchange are more obvious than for men, as the odds of outmarriage are increased for educationally hypergamic more than for hypogamic women, and more for women with younger than for women with older partners. Looking at differences across dating preference groups, we do not find any indication of educational status exchange in line with expectations. Hypothesis 2b.1 can thus not be confirmed for women either. We find a striking pattern of age exchange across preference groups with having a substantially younger partner increasing the odds of exogamy dramatically if husbands are in the medium or low preference group.

Not only ethnicity is a marriage market relevant status that can be exchanged, but also securing residence. Comparing marriages with marriage migrants to marriages with immigrants who are Swedish residents reveals a pattern of low status among Swedish men and women being associated with marrying marriage migrants (except for men with higher education which is positively associated with the outcome). In overall terms we see Hypothesis 3 supported as the pattern matches theoretical expectations. Especially remarkable is the strong association for women in their *second* and particularly *third and higher* order relationships. Our findings of age exchange across origin groups depicts a very clear pattern of age exchange in marriages with marriage migrants that mirrors the expected hierarchy of ethnicities and support Hypothesis 3s. This pattern is in line with a perceived hierarchy of ethnicities predominantly for Swedish men but also holds for Swedish women (despite Latin American husbands and Middle Eastern wives being an outlier).

The strong symmetry of status exchange patterns between men and women is opposite to expectations. We do not find support for Hypothesis 4. Even though we find support for Hypothesis 4a as for men, age exchange is a more dominant pattern than education exchange, we cannot confirm Hypothesis 4b. Women do not trade for education, but for age. Albeit being contrary to conventional beliefs, research on the "cougar phenomenon" shows that this is not a marginal phenomenon (Alarie &

Carmichael, 2015). For women in our study however this is particularly surprising, given that exogamous women on average are several years younger than exogamous men.

Conclusion

Our study focuses on patterns of status exchange in Swedish men's and women's marriages that were formed in the period 1991 to 2009. We address more generally *determinants* of exogamy and assess if lower status leads to a higher likelihood of outmarriage (as predicted by Fu's (2001) hypothesis of status exchange as market exchange). We find relatively strong evidence for this for both men and women. Swedes with lower income, Swedes who are older and Swedes who experienced dissolution of one or more marriages/committed relationships are more likely to marry immigrants. Lower educational status clearly increases the odds of exogamy for Swedish women, but does not seem to be a similarly strong predictor for men. Similar to Gullickson and Torche (2014), we find less educational homogamy in intermarried couples but with no clear direction towards natives' hypergamy. These results clearly indicate that educational status is not the only and – at least in a Swedish context – not the most important status characteristic on the marriage market. Our findings for age and relationship order show the importance of looking at other marriage market relevant characteristics and are an important contribution to the status exchange literature.

Likewise, we do not find evidence for *dyadic* educational status exchange in ethnic intermarriages. Given a perceived hierarchy of ethnicities on the Swedish dating market (Potârcă & Mills, 2015; Osanami Törngren, 2011), one would expect patterns of educational status exchange to be more common in marriages between Swedes and immigrants with low ethnic status rather than in endogamous marriages or marriages with high-status immigrants. We do not find any support for this, as native educational hypogamy is common in marriages with immigrants with medium and low ethnic status. These results could indicate that there is either no (or a different) perceived hierarchy of ethnicities on the Swedish marriage market, or that education is not the main characteristic being traded. Our results support rather the latter interpretation, as age exchange patterns – for both men and women – support the existence of an ethnic hierarchy. Swedish men and Swedish women with substantially younger partners have increased odds of marrying immigrants, and particularly those from countries with a medium or low perceived ethnic status.

Generally, status exchange patterns are more apparent among marriages with marriage migrants than among marriages with residing immigrants. This is particularly true for age exchange, but we even

find stronger evidence for education exchange. However, given the not entirely consistent patterns of the Swede's own education and education exchange in all other models, we do not see this as direct support for education exchange in marriages with marriage migrants.

Ethnic intermarriage is often regarded as a barometer of social distance between ethnic groups (Muhsam, 1990; Qian & Lichter, 2007), and immigrant-native intermarriage can be understood as the ultimate test of immigrant integration (for a critical account of this hypothesis see Song, 2009). The status exchange hypothesis challenges the view of intermarriage being an indicator of acceptance of minority group members as equals and discloses perceptions of ethnic hierarchies on the marriage market. The role of the white majority population in intermarriages is vastly understudied but essential for the understanding of interethnic marriage patterns. Our research is an important contribution in this regard.

Sweden often appears as a more open society with e.g. lower levels of educational homogamy (Domański & Przybysz, 2007). Our results show that educational homogamy is even lower in intermarriages between native Swedes and immigrants, but this does not support the idea that there are no patterns of status exchange and ethnic hierarchies in Swedish intermarriages. Our findings show that Swedes with low marriage market status are more likely to be exogamous, and that the main characteristic that immigrants have to offer for exchange is age. This seems to be particularly true for marriage migrants from certain countries of origin (wives from Asia and Africa, and husbands from Asia, Africa, and the Middle East) (similar to findings of Guetto & Azzolini, 2015). This could indicate that in Sweden, spouses do not trade racial with educational status, but age with residence status. Our findings support the notion that nativity and particularly ethnicity serve as boundaries on the native marriage market and hence challenge Sweden's self-conception as a fairly equal and multiculuralistic society (cf. Dahlstedt & Neergaard).

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Table 1. Descriptive statistics, in percent

	Men	Women		Men	Women
Dependent variables			Independent variables		
Model 1 (N=)	620 956	623 749	Education		
Endogamy	91.44	93.06	Compulsory	1177	9.36
Exogamy	8.56	6.94	Upper secondary	70.41	66.90
Model 2 (N=)	620 956	623 749	Higher education	17.82	23.74
Endogamy	91.44	93.06	Labor income in 1000 SEK		
High preference	4.56	4.39	40 to 151	8.79	19.62
Medium preference	3.33	1.18	151 to 186	9.59	19.06
Low preference	0.66	1.37	186 to 213	11.75	16.91
Model 3 to 5 (N=)	53 133	43 263	213 to 241	14.09	14.54
Residing Immigrant	79.11	82.06	241 to 276	16.33	12.25
Marriage Migrant	20.89	17.94	276 to 337	18.50	10.05
			337 and higher	20.95	7.57
			Age		
			18 to 25	12.87	24.34
			26 to 34	58.50	56.20
			35 to 40	17.64	12.60
			41 and older	10.99	6.86
			Relationship order		
			First	85.62	84.28
			Second	13.24	14.25
			Third or higher	1.15	1.47
			Education Exchange		
			Homogamy	38.23	38.324
			Partner higher education	37.59	23.96
			Partner lower education	24.18	37.72
			Age Exchange		
			Age homogamy	46.52	46.34
			Partner older	10.70	43.26
			Partner younger (3 to 6 years)	28.61	7.93
			Partner younger (+7 years)	14.16	2.47
			Partner origin (Models 3 to 5)		
			West/European	12.18	24.30
			Scandinavian	25.58	28.21
			Central/East European	15.52	10.78
			Latin American	9.75	9.74
			Asian	29.22	7.22
			African	3.46	6.97
			Middle Eastern	4.30	12.78

Table 2. Men. Estimates of logistic regression models for exogamy (Model 1, ref: endogamy), dating preference (Model 2, ref: endogamy), and marriage migrant marriages (Model 2, ref: residing immigrants)

	Model 1			Model 2									Model 3		
	Exogamy			High preference			Medium preference			Low preference			Marriage Migrant		
Predictor	B	SE B	OR	B	SE B	OR	B	SE B	OR	B	SE B	OR	B	SE B	OR
Education (ref: upper secondary)															
compulsory	0.07***	0.02	1.07	-0.05**	0.02	0.95	0.24***	0.02	1.28	0.08	0.05	1.08	-0.06	0.04	0.94
higher education	0.14***	0.01	1.15	0.40***	0.02	1.49	-0.23***	0.02	0.79	0.24***	0.04	1.28	0.21***	0.03	1.24
Labor income in 1000 SEK (ref: 41 to 151)															
151 to 186	-0.24***	0.02	0.78	-0.23***	0.03	0.80	-0.25***	0.03	0.78	-0.27*	0.07	0.76	-0.36***	0.05	0.70
186 to 213	-0.35***	0.02	0.71	-0.33***	0.03	0.72	-0.35***	0.03	0.71	-0.44***	0.07	0.65	-0.52***	0.05	0.59
213 to 241	-0.43***	0.02	0.65	-0.40***	0.03	0.67	-0.45***	0.03	0.64	-0.53***	0.07	0.59	-0.67***	0.05	0.51
241 to 276	-0.49***	0.02	0.61	-0.45***	0.03	0.64	-0.53***	0.03	0.59	-0.60***	0.06	0.55	-0.72***	0.05	0.49
276 to 337	-0.47***	0.02	0.63	-0.42***	0.02	0.66	-0.48***	0.03	0.62	-0.71***	0.06	0.49	-0.73***	0.04	0.48
337 and higher	-0.49***	0.02	0.61	-0.38***	0.02	0.69	-0.57***	0.03	0.56	-0.73***	0.06	0.48	-0.94***	0.04	0.39
Age (ref: 26 to 34)															
18 to 25	-0.19***	0.02	0.83	-0.27***	0.02	0.77	-0.09**	0.03	0.92	-0.01	0.07	0.99	-0.31***	0.05	0.74
35 to 40	0.41***	0.01	1.50	0.47***	0.02	1.61	0.32***	0.02	1.37	0.4***	0.04	1.49	0.27***	0.03	1.31
41 and older	0.89***	0.02	2.44	0.97***	0.02	2.65	0.79***	0.02	2.21	0.76***	0.05	2.14	0.52***	0.04	1.69
Relationship order (ref: first)															
second	-0.06***	0.01	0.94	0.09***	0.02	1.10	-0.28***	0.02	0.76	0.01	0.04	1.01	0.08**	0.03	1.09
third or higher	0.21***	0.03	1.23	0.33***	0.04	1.39	0.00	0.05	1.00	0.44***	0.09	1.56	0.46***	0.07	1.59
Partner origin (ref: West/European)															
Scandinavian													-1.78***	0.06	0.17
Central/East European													0.39***	0.04	1.47
Latin American													0.40***	0.05	1.49
Asian													0.80***	0.04	2.23
African													0.76***	0.06	2.14
Middle Eastern													-0.72***	0.08	0.49
Education Exchange (ref: homogamy)															

Partner higher education	0.23***	0.01	1.26	0.31***	0.02	1.36	0.14***	0.02	1.15	0.27***	0.04	1.31	0.61***	0.03	1.84
Partner lower education	0.43***	0.01	1.54	0.08***	0.02	1.09	0.84***	0.02	2.31	0.63***	0.04	1.87	0.13***	0.03	1.14
Age Exchange (ref: age homogamy)															
Partner older	0.40***	0.02	1.49	0.5***	0.02	1.66	0.19***	0.03	1.21	0.42***	0.06	1.52	0.08	0.05	1.08
Partner younger (3 to 6 years)	0.13***	0.01	1.14	0.01	0.02	1.01	0.28***	0.02	1.32	0.34***	0.04	1.40	0.32***	0.03	1.37
Partner younger (+7 years)	0.73***	0.01	2.07	0.25***	0.02	1.29	1.23***	0.02	3.41	1.10***	0.05	3.02	0.98***	0.03	2.66
baseline	-2.46***	0.02	0.09	-2.77***	0.03	0.06	-4.06***	0.04	0.02	-5.22***	0.08	0.01	-1.53***	0.06	0.22
N	620 956			620 956									53 133		
% exogamy	8.56			4.56			3.33			0.66					
% marriage migrant													20.89		

Note: Models control for type of municipality of residence and period. Labor income is averaged over t-3 to t0. Education exchange is based on a seven-category registration of education. Age homogamy is defines as an age gap of less than three years. OR=odds ratios

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

Table 3. Women. Estimates of logistic regression models for exogamy (Model 1, ref: endogamy), dating preference (Model 2, ref: endogamy), and marriage migrant marriages (Model 2, ref: residing immigrants)

	Model 1			Model 2									Model 3		
	Exogamy			High			Medium			Low			Marriage Migrant		
Predictor	B	SE B	OR	B	SE B	OR	B	SE B	OR	B	SE B	OR	B	SE B	OR
Education (ref: upper secondary)															
compulsory	0.21***	0.02	1.23	0.14***	0.02	1.15	0.26***	0.04	1.29	0.37***	0.03	1.45	-0.12**	0.04	0.89
higher education	-0.03*	0.01	0.97	0.05**	0.02	1.05	-0.14*	0.03	0.87	-0.21***	0.03	0.81	-0.07	0.04	0.93
Labor income in 1000 SEK (ref: 41 to 151)															
151 to 186	-0.40***	0.02	0.67	-0.34***	0.02	0.71	-0.46***	0.04	0.63	-0.47***	0.03	0.62	-0.65***	0.04	0.52
186 to 213	-0.50***	0.02	0.61	-0.41***	0.02	0.66	-0.57***	0.04	0.57	-0.68***	0.04	0.51	-0.94***	0.05	0.39
213 to 241	-0.54***	0.02	0.58	-0.41***	0.02	0.66	-0.72***	0.04	0.49	-0.75***	0.04	0.47	-1.04***	0.05	0.35
241 to 276	-0.58***	0.02	0.56	-0.43***	0.02	0.65	-0.73***	0.04	0.48	-0.86***	0.04	0.42	-1.05***	0.06	0.35
276 to 337	-0.66***	0.02	0.52	-0.44***	0.03	0.64	-0.94***	0.05	0.39	-1.05***	0.05	0.35	-1.18***	0.06	0.31
337 and higher	-0.75***	0.02	0.47	-0.45***	0.03	0.64	-1.2***	0.06	0.30	-1.31***	0.05	0.27	-1.13***	0.07	0.32
Age (ref: 26 to 34)															
18 to 25	-0.03*	0.01	0.97	-0.25***	0.02	0. 78	0.43***	0.03	1.54	0.28***	0.03	1.32	0.11**	0.04	1.11
35 to 40	0.14***	0.02	1.15	0.26***	0.02	1.30	-0.19***	0.04	0.83	-0.07	0.04	0.94	-0.08	0.05	0.93
41 and older	0.19***	0.02	1.21	0.35***	0.03	1.42	-0.34***	0.06	0.72	0	0.04	1.00	0.04	0.06	1.04
Relationship order (ref: first)															
second	-0.01	0.02	0.99	-0.01	0.02	0.99	-0.05	0.04	0.95	0.03	0.03	1.03	0.25***	0.04	1.28
third or higher	0.28***	0.04	1.32	0.19***	0.05	1.21	0.28**	0.09	1.32	0.52***	0.07	1.68	0.62***	0.09	1.86
Partner origin (ref: West/European)															
Scandinavian													-2.14***	0.07	0.12
Central/East European													-0.06	0.05	0.94
Latin American													-0.26***	0.05	0.77
Asian													0.22***	0.05	1.25
African													1.47***	0.05	4.34
Middle Eastern													0.43***	0.04	1.54
Education Exchange (ref: homogamy)															

Partner higher education	0.41***	0.01	1.51	0.38***	0.02	1.46	0.38***	0.03	1.46	0.57***	0.03	1.78	0.7***	0.04	2.01
Partner lower education	0.20***	0.01	1.22	0.06***	0.02	1.06	0.32***	0.03	1.37	0.57***	0.03	1.76	0.13**	0.04	1.14
Age Exchange (ref: age homogamy)															
Partner older	0.25***	0.01	1.29	0.29***	0.01	1.34	0.07*	0.03	1.07	0.27***	0.03	1.30	-0.40***	0.03	0.67
Partner younger (3 to 6 years)	0.52***	0.02	1.68	0.31***	0.02	1.36	0.70***	0.04	2.01	1.08***	0.04	2.94	0.7***	0.05	2.01
Partner younger (+7 years)	1.33***	0.02	3.78	0.53***	0.04	1.70	1.94***	0.05	6.99	2.56***	0.04	12.91	1.74***	0.06	5.69
baseline	-2.11***		0.12	-2.54***	0.02	0.08	-4.23***	0.05	0.01	-3.85***	0.04	0.02	-1.09***	0.06	0.34
N	623 749						623 749						43 263		
% exogamy	6.94			4.40			1.18			1.37					
% marriage migrant													17.93		

Note: Models control for type of municipality of residence and period. Labor income is averaged over t-3 to t0. Education exchange is based on a seven-category registration of education. Age homogamy is defines as an age gap of less than three years. OR=odds ratios

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

Figure 1. Model 4 - Education exchange across country group, men

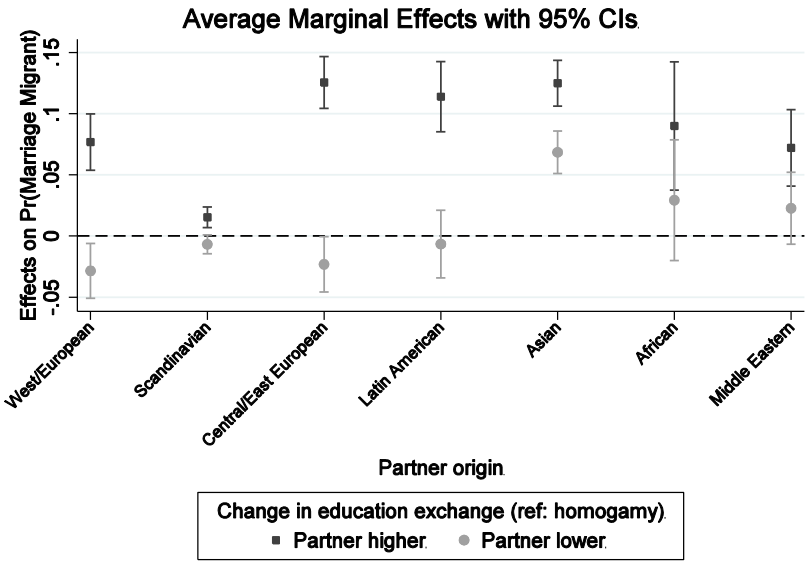

Figure 2. Model 4 - Education exchange across country group, women

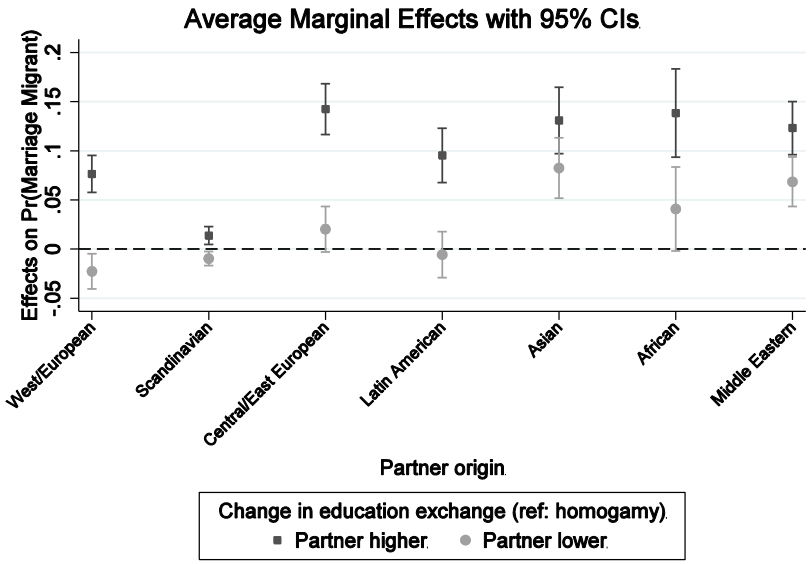

Figure 3. Model 5 - Age exchange across country group, men

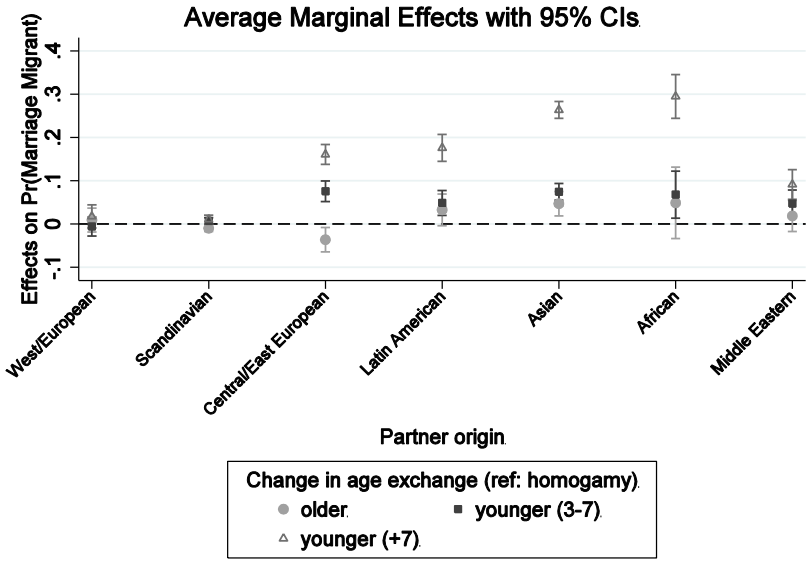

Figure 4. Model 5 - Age exchange across country group, women