Desirability, Matching, and the Illusion of Exchange in Partner Selection

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ABSTRACT: Scholars have long been interested in exchange and matching (assortative mating) in romantic partner selection. But many analyses of exchange, particularly those that examine beauty, fail to control for matching and/or consider only gendered patterns of exchange. Because traits that are desirable in mates are positively correlated between partners and within individuals, ignoring matching produces spurious evidence of exchange. I use data from the National Longitudinal Study of Adolescent Health Romantic Pair Sample, a large (N = 1,502), nationally representative probability sample of dating, cohabiting and married couples, to investigate whether desirable characteristics are traded for different desirable traits, net of matching. I revisit findings from a variety of previously published studies and find that controlling for matching eliminates nearly all evidence of exchange. The discussion focuses on the implications that these results have for socioeconomic stratification, gender equality, and sociobiological theories of partner selection.

INTRODUCTION:

This paper revisits the claim that individuals (generally women) of relatively high physical attractiveness barter their beauty in order to attract a partner of higher socioeconomic status. This is the popular "trophy wife" stereotype that pretty women marry high-status men. By investigating this stereotype, this paper challenges the common perception that partner selection can be modeled as a competitive market process. Instead, it argues that individuals pursue a matching model, seeking similar partners: Whether due to personal preferences or structural constraints, many traits are not exchanged as on an open market. As discussed below, whether the partner selection adheres to a classic market model or to a matching model has implications for social mobility and stratification. In the context of a purported gendered exchange in which beautiful women partner with high-status men, patterns of partner selection are also highly relevant to gender inequality and to sociobiological models of partner selection.

Partner selection has long been a topic of scholarly interest in part because it is an important means of reproducing group boundaries and social inequalities (Gordon; Rosenfeld 2008). For example, partner matching on race reveals and reinforces the social distance between groups. Similarly, matching on socioeconomic status compounds inequality as high-earners partner with other high-earners and low-earners with other low-earners (Blossfeld and Buchholz; Schwartz 2010; Schwartz and Mare 2005). This tendency for parents to be of similar socioeconomic status contributes to the reproduction of social class and the stability of family status over time. Theoretically, under a market model of partner selection individuals could leverage a desirable non-economic trait to achieve socioeconomic mobility, potentially undermining the tendency for partner selection to reproduce existing patterns of inequality.

In particular, under the beauty-status exchange model, physical attractiveness can be seen as a means of class mobility for women, but such an exchange would also serve to enforce women's economic dependency in marriage. Indeed, partner selection is closely related to gender inequality. For example, norms dictating that the man be older and more successful in his career reinforce power inequalities within marriage (Presser). Of particular relevance to this paper, the stereotypes that men prioritize their partner's appearance and women prioritize their partner's status are pre-feminist and ignore women's growing economic independence and their valuation of men's physical attractiveness.

Although these stereotypes may be derived from social structural and sociobiological theories, it is the sociobiological literature that is most adamant in suggesting that men will select long-term partners on the basis of youth and beauty while women will select partners that will be good providers (Buss 1990; Buss). If the sociobiological model is correct, this gendered pattern of exchange should be relatively stable across different economic and cultural conditions. Thus, in questioning whether physical attractiveness is indeed exchanged for socioeconomic resources, I am questioning the sociobiological account of partner selection.

Finally, this paper addresses the popular conception of romantic partner selection as a competitive market process, a conception that is widely accepted in both popular culture and in academia. Under the market model of romantic relationship formation, individuals negotiate an informal exchange by trading their own assets for those of their partner. This market metaphor has often been applied to the exchange of socioeconomic status for other desired resources such as homemaker skills (Becker), marrying a White partner (for a critique of this literature, see Rosenfeld; Rosenfeld 2010), youth (Coles and Francesconi 2007; England and McClintock), or physical attractiveness (Burdett and Coles; Carmalt, Cawley, Joyner, and Sobal 2008; Elder

1969; Stevens, Owens, and Schaefer 1990; Taylor and Glenn 1976; Udry 1977). In popular culture the concept of a gendered beauty-status exchange in which an economically successful man partners with a beautiful "trophy wife" has become commonplace. The rising popularity of internet dating makes the market metaphor even more salient because personal advertisements often use deal-making language in which the advertiser offers certain traits in exchange for other traits in a partner.

But these market-based exchange models are difficult to reconcile with the consistent empirical finding that romantic partners tend to match on many dimensions. Indeed, in contradiction to the theory of beauty-status exchange, economically successful women partner with economically successful men (Sweeney and Cancian), and physically attractive women partner with physically attractive men (Murstein). In this paper I attempt to reconcile the empirical paradox presented by the evidence of matching on physical attractiveness and on socioeconomic status with the literature affirming beauty-status exchange. I argue that the positive correlation between physical attractiveness and socioeconomic status at the individual level, combined with a tendency for partners to match on both physical attractiveness and on status, might be easily misconstrued as exchange, particularly in regression models that do not account for matching. In my analysis, I suggest that some prior evidence of beauty-status exchange is not robust under different – and arguably superior – model specifications.

BACKGROUND:

Matching in Partner Selection:

The strongest force in the partner selection market is matching, or assortative mating (in the case of marital matching, "endogamy"): Men and women select partners with characteristics

similar to their own. Couples tend to be alike in education, age, race, and religion (Bereczkei and Csanaky 1996; Blackwell and Lichter 2004; Mare; Rosenfeld 2008; Schoen and Cheng 2006; Schoen and Weinick 1993; Stevens 1991). They also tend to be similarly physically attractive (Berscheid and Dion 1971; Feingold 1988; Kalick and Hamilton III 1986; Murstein 1972; Murstein and Christy 1976; Stevens, Owens, and Schaefer).

Matching has been well-documented, but the processes resulting in matching are more elusive. Prior literature suggests at least three forces that are important in generating matching: (1) homophily, or individuals' preferences for similar (in-group) partners, (2) pressure from third parties to select similar (in-group) partners, and (3) lack of contact with potential dissimilar (out-group) partners (for a review of this literature see Kalmijn). These explanations are undoubtedly important and may be sufficient to explain matching on many traits, particularly those for which preferences vary greatly between individuals. For these traits, such as religion, no one group is generally desired more than others. Instead, individuals want partners of their own group, whatever that may be. But for other traits, such as income and physical attractiveness, there is sometimes assumed to be a generally agreed upon ranking: More is better. For these consensually ranked (universally more desired) traits, it is plausible that individuals prefer partners that are superior to themselves, rather than preferring partners that are their equals. In addition, in the case of physical attractiveness, it is not obvious that interested third parties would object to violations in matching or that social structural barriers prevent contact between more and less physically attractive individuals.

A competitive marriage market model might explain some degree of matching on ranked traits, including physical attractiveness: In a competitive market everyone may desire the most beautiful and/or wealthiest partners, but only those individuals that are themselves very desirable

will be able to attract these partners (for examples of this perspective see: Burdett and Coles 1997; Burdett and Coles; Burdett and Coles 2001; Choo and Siow 2006; Loughran 2002). Individuals will discover that the most desirable partner they can attract is one of their own desirability. Still, matching on specific traits is not the only possible outcome: In a competitive marriage market individuals might exchange a high level of one desirable trait for a partner with a high level of a different desirable trait (engaging in cross-trait exchange while matching on total desirability).

In this paper, I am interested in physical attractiveness and socioeconomic status because they are often thought to be consensually ranked traits and because theories of partner selection indicate that such traits might be either matched or exchanged. There is strong evidence of matching on physical attractiveness (Carmalt, Cawley, Joyner, and Sobal; Feingold 1988; Murstein 1972; Murstein and Christy 1976; Stevens, Owens, and Schaefer 1990) and on socioeconomic status (Blackwell and Lichter; Gardyn 2002; Mare 1991; Stevens, Owens, and Schaefer 1990). Despite this, prior papers have argued that physical attractiveness is traded for socioeconomic status (Bjerk 2009; Carmalt, Cawley, Joyner, and Sobal 2008; Elder; Taylor and Glenn 1976; Udry 1977), but as these papers generally ignored matching it is not known whether having more of one universally desired trait can be used to attract a partner with a high level of a different desirable trait, after fully accounting for matching. In other words, prior authors have not considered how the positive correlation of desirable traits within individuals might contribute to matching on ranked traits and might generate the illusion of exchange.[1] Additionally, the majority of these papers assumed a gendered pattern of exchange in which women trade beauty for men's socioeconomic status, so it is not clear whether patterns of exchange (insofar as they may exist after controlling for matching) are gender-symmetric.

Is More of a Good Thing Always Better?

Prior studies espousing beauty-status exchange have implicitly assumed that physical attractiveness and social status are consensually ranked traits: That they can be measured and that partners with higher levels of physical attractiveness and social status are generally more desired (e.g., Elder; Taylor and Glenn 1976). Socioeconomic status is a somewhat abstract concept, but it is often approximated by years of education, income, or occupation – all tangible and quantifiable characteristics. Physical attractiveness might also be measurable: There is almost certainly a subjective component to evaluations of physical attractiveness, but prior studies report a great deal of consensus in rating attractiveness (Langlois, Kalakanis, Rubenstein, Larson, Hallam, and Smoot; Murstein 1972). In the U.S. there may be racial differences in the perception of ideal body shape (Cohn and Adler; Lovejoy; Webb, Looby, and Fults-McMurtery), but assessment of facial attractiveness does not vary by race (Cunningham, Roberts, Barbee, Druen, and Wu; Moss, Miller, and Page 1975). Given that there is a general consensus in rating appearance – even across national and racial groups – it seems reasonable to assume that physical attractiveness can be measured.

Still, that physical attractiveness and socioeconomic status are quantifiable does not necessarily imply that partners with greater levels of physical attractiveness and socioeconomic status are universally more desired. In fact, many studies indicate that neither men nor women attach much importance to physical attractiveness and socioeconomic status. For example, when asked to rank the importance of 76 traits in a romantic partner, none of the measures of appearance or socioeconomic status made the top ten (Buss and Barnes). This low ranking of physical attractiveness and of indicators of socioeconomic status is consistent with other similar studies (Furnham 2009; Howard, Blumstein, and Schwartz; Nevid 1984). These studies

generally find that men value appearance more than women whereas women value socioeconomic indicators more than men, but that neither gender ranks either physical attractiveness or socioeconomic status highly (This gender difference may be declining in recent cohorts: Buss, Shackelford, Kirkpatrick, and Larsen; Regan and Joshi 2003).

But in contrast to the low value placed on physical attractiveness and socioeconomic status when individuals are asked to rank the importance of various traits, experimental studies designed to measure individual's acted preferences (as opposed to stated preferences) find that physical attractiveness is highly valued by both genders and that women also value men's socioeconomic status (Li, Bailey, Kenrick, and Linsenmeier; Li and Kenrick 2006; Sprecher 1989). In one of these experiments, undergraduates were given varying budgets to purchase an assortment of desirable characteristics and 'design' a mate for a short- or long-term relationship, and both women and men prioritized physical attractiveness, spending enough to obtain an acceptable level of good looks, and then allocating their remaining funds among secondary characteristics (Li and Kenrick 2006).

These experimental results are consistent with findings from studies that observe respondents' actual dating choices. For example, when college students attended a dance with a randomly-assigned partner, the only predictor of liking for the partner was the partner's physical attractiveness – individuals preferred more physically attractive partners, regardless of their own physical attractiveness (Walster, Aronson, and Abrahams). Similarly, recent speed-dating studies have found that the partner's physical attractiveness and earnings potential are both strong predictors of attraction to that partner (Eastwick and Finkel 2008; Fisman, Iyengar, Kamenica, and Simonson 2006; Luo and Zhang). Evidence is mixed as to whether there is a gender difference in the relative importance of attractiveness and earnings potential in

determining attraction to speed-dating partners (compare, for example: Eastwick and Finkel; Fisman, Iyengar, Kamenica, and Simonson). Consistent with the findings from speed-dating studies, women and men using an online dating website both valued physical attractiveness highly (Hitsch, Hortacsu, and Ariely). This study found only a slight difference in the valuation of physical attractiveness across genders but it did find that women attached more importance than men to a potential partner's income.

Overall, prior studies indicate that when it comes to physical attractiveness and socioeconomic status in romantic partners, more is better. This is a necessary but not sufficient condition for exchange to occur. Exchange requires not only that these traits are valued, but also that individuals are willing to substitute one for the other. Alternatively, it is possible that individuals are unwilling to compromise on one dimension (for example, by accepting a physically unattractive partner), even when compensated on another dimension (if the physically unattractive partner were high in socioeconomic status).

The Co-Occurrence of (Un)Desirable Traits:

Perhaps in part because physically attractive individuals are treated preferentially by teachers, peers, and employers, they enjoy improved school performance, greater occupational success, and higher earnings (Clifford and Walster 1973; Hamermesh and Biddle 1994; Haskins and Ransford 1999; Jackson, Hunter, and Hodge 1995; Langlois et al.; Rosenblat 2008; Rosenblat and Mobius 2006; Singer 1964; Umberson and Hughes 1987; Wardle, Waller, and Jarvis 2002). It is also possible that income may help one purchase goods and services (such as dental care and gym membership, for example) that make one more attractive. Some of this correlation might also be explained by rater bias: Individuals thought to be of higher status may be rated somewhat more favorably (Kowner).[2]

Because physical attractiveness and socioeconomic attainment are positively related, the tendency toward matching might create a spurious correlation between one partner's appearance and the other partner's status. Specifically, if attractive men and women are (on average) of higher socioeconomic status, partner matching on status would create a positive correlation between women's physical attractiveness and men's socioeconomic status, and between men's physical attractiveness and women's socioeconomic status, even in the absence of any exchange of appearance for status. When considering the exchange of one partner's socioeconomic status for the other partner's physical attractiveness, prior studies have failed to fully control for matching and for the within-individual correlation between socioeconomic status and physical attractiveness. Thus, the evidence of exchange in these studies may be spurious: Until accounting for the cross-trait correlation that would result from matching and from the co-occurrence of (un)desirable traits it is not possible to claim evidence of exchange.

Evidence of Exchange:

Many early studies of exchange in partner markets proposed a gendered exchange of women's beauty for men's socioeconomic status. Such studies found that both physical attractiveness and education help women achieve upward class mobility through marriage (where mobility for a woman means marrying a man of higher occupational status than her father: Elder 1969; Udry 1977) and also to marry a man of high occupational status, in absolute terms (Taylor and Glenn). But these studies are incomplete without also considering men's physical attractiveness. Because partners tend to have similar levels of physical attractiveness and socioeconomic status, and because physically attractive individuals are socioeconomically advantaged, failing to control for male attractiveness may create spurious results. Controlling for both partner's physical attractiveness may not eliminate the relationship between female beauty

and male socioeconomic status, but it should at least reduce this relationship substantially. The earliest study known by the author to include male attractiveness noted a high degree of similarity between spouses' levels of physical attractiveness and education (Stevens, Owens, and Schaefer 1990). Despite noting these correlations, the regression analysis in this paper does not fully control for matching.

A recent paper using the National Longitudinal Study of Adolescent Health (Add Health) Romantic Pair Data, a nationally representative sample of young adult dating, cohabiting, and marital partners, examined whether personal assets such as education, physical attractiveness, personality, and grooming can be used to overcome the stigma of obesity and obtain a physically attractive partner (Carmalt, Cawley, Joyner, and Sobal). The authors found evidence of exchange in that these traits predict having an attractive partner, potentially offsetting the disadvantage of obesity. But, comparing exchange and matching was not their primary aim and they failed to control for the partner's education, obesity, personality, and grooming. Because education, obesity, personality, and grooming are strongly associated with physical attractiveness, it is not clear from this study whether these traits are exchanged to offset the disadvantage of obesity or whether the findings are spurious and result from matching. In this study I use the same data to evaluate patterns of exchange after fully controlling for matching.

There is some evidence that individuals *think* they would be willing to trade high levels of one trait for high levels of a different trait. For example, personal advertisements are often couched in deal-making language: The writer offers her assets and in exchange she requests certain assets in a partner (Davis; Harrison and Saeed). Studies of personal advertisements find that both men and women request physical attractiveness, women request financial security and offer physical attractiveness, and men and sometimes also women offer financial security. This

implies, for example, that some women might be willing to trade their own physical attractiveness for men's financial security and some men might be willing to trade their socioeconomic status for a physically attractive but lower-status partner. But experimental studies indicate that in practice women (and men) are not willing to compromise on physical attractiveness (Li, Bailey, Kenrick, and Linsenmeier; Li and Kenrick 2006; Sprecher 1989). Thus, individuals might find that in practice they are unwilling to make the cross-trait exchanges that they anticipated making.

Absolute or Relative Measures of Desirability?:

A methodological concern when investigating exchange in partner selection is whether to focus on absolute measures or on relative measures, specifically difference measures (the difference between the partners' levels of a given asset). Models using difference measures always incorporate equal information on both partners. But using difference measures is not equivalent to a model that uses absolute measures and includes all of both partners' characteristics: In the difference model the coefficient on the partner's outcome variable is constrained to be one (Allison) and the difference model assumes that absolute levels are not important (in a model using only the differences between partner's traits, the absolute levels of these traits are unknown).

Although prior studies have tended to focus on absolute measures as explanatory variables (for an exception, see McNulty, Neff, and Karney), exchange theory may be more applicable to relative measures. Exchange theory predicts that when one partner possesses more of one asset, it will be offset by the other partner possessing more of a different asset: Which partner has *more* of a given asset is best measured by the difference in their endowments of that asset. Using differences implies that each partner's absolute level of a given asset does not

matter, and this is consistent with an exchange model. For example, a woman might marry a man who is less physically attractive than she is because the man has higher socioeconomic status than the woman – but neither partner is necessarily high or low in attractiveness or status, measured in absolute terms. In my analysis I use both the absolute and the difference approach: If couples truly engage in cross-trait exchange, evidence of exchange should be robust across both models, and should be especially apparent in the difference models.

Are log-linear models more appropriate?

Researchers studying other aspects of partner selection, such as the possible exchange of racial status and socioeconomic status, have often used log-linear or negative binomial regression models (for examples, see: Rosenfeld 2001; Rosenfeld; Rosenfeld 2010). These models are well-suited to studies of partner selection because they do not require an arbitrary choice of dependent variable: The dependent variable is the distribution of couples (Agresti). This addresses an important weakness in prior models addressing beauty-status exchange: The hypothesis that physical attractiveness is traded for socioeconomic status does not implicate either physical attractiveness or socioeconomic status as a dependent variable. As a result, some prior papers use a measure of socioeconomic status as the dependent variable (Elder; Taylor and Glenn 1976; Udry 1977) whereas others use physical attractiveness as a dependent variable (Carmalt, Cawley, Joyner, and Sobal) or use both (Stevens, Owens, and Schaefer). Log-linear and negative binomial regression models are also particularly appropriate for identifying patterns of matching or exchange. Parameters can directly model the tendency for partners to match (by having equal levels of a given trait) or to exchange (when one partner has a higher level of one trait and the other partner has a higher level of another trait).

Disadvantages of log-linear and negative binomial models include limited flexibility to add variables and the requirement that all variables be categorical. The large number of independent variables included in some prior studies (such as Carmalt, Cawley, Joyner, and Sobal) cannot be included in a log-linear model. By taking the distribution of couples as given, log-linear and negative binomial models miss exchange patterns that determine selection into unions (vs. remaining single), but alternative models (those used in prior literature and models using difference measures) are equally unable to address selection. In this paper, I estimate a variety of models, including difference models and negative binomial models as well as models that are more directly comparable to the analyses in the prior papers that found support for exchange. By using a variety of models I am able to demonstrate that my results are robust under a range of alternative model specifications.

HYPOTHESES:

Although prior research has demonstrated some support for the theory that individuals trade one desirable trait to obtain a partner with more of a different desirable trait, there is much more evidence in support of matching. At most, I expect exchange to be a secondary force. In particular, I expect that *patterns of beauty-status exchange found in earlier papers are, at least in part, artifacts of matching on partner traits not controlled in the model.*

STUDY DESIGN:

Data:

I use data from the 2001-2002 National Longitudinal Study of Adolescent Health Romantic Pair sample, a supplementary dataset to the 1994-2008 National Longitudinal Study of

Adolescent Health (Add Health). Add Health is a nationally representative longitudinal survey of adolescents in grades seven to twelve at the time of the initial interview (Bearman, Jones, and Udry; Chantala 2006). In the third wave of data collection (Wave III), when they were mostly in their early twenties (the average age at Wave III is about 21.5), respondents were asked to provide information on their past and current romantic and sexual relationships. From among the current sexual relationships of at least three months duration, approximately 500 dating, 500 cohabiting, and 500 marriage partners were selected to complete a slightly modified version of the Wave III interview: These 1,502 couples comprise the Romantic Pair sample.

The individuals selected for the Romantic Pair sample are, on average, slightly older than the average Wave III respondent (women in the Romantic Pairs sample average about 22 years and men average about 23.5 years). Although the young age of this sample is a disadvantage, these data improve upon that used by prior researchers (with the exception of Carmalt et al. who also use the Add Health Romantic Pair data) because prior analyses have used small convenience samples (Elder; Stevens, Owens, and Schaefer 1990) and/or datasets that measure only one partner's attractiveness (Elder 1969; Taylor and Glenn 1976; Udry) (in prior analyses using datasets that do contain full information on both partners' attractiveness and socioeconomic status the authors failed to use all of this information in their regression models: Carmalt, Cawley, Joyner, and Sobal 2008; Stevens, Owens, and Schaefer). The Romantic Pair data are also similar in age to at least two of the samples used in prior analyses: Stevens et al. (1990) do not know the average age of their sample but estimate it to be in the middle or early twenties, and Carmalt et al. (2008) use these same Romantic Pair data. The samples used by Udry (1977) and Taylor and Glenn (1976) have the advantage of substantial variation in age (from 25 to 40 years), but in these datasets there is only full information on one partner, and in many instances the

ratings of physical attractiveness were made several years after the marriage occurred. Thus, although the Romantic Pair data may not be ideal due to the sample's young average age and the limited range of ages, it is an improvement upon datasets used in prior analyses. Still, in my analysis I investigate (to the extent that it is possible to do so) whether the young age of this sample is biasing results.

For the recruited partners, all of the measures that I use are derived from the Wave III interview. For the partners in the original sample, I use some characteristics (such as father's occupation) measured at the Wave I survey (for the recruited partners these questions are added to the Wave III interview). I exclude couples in which the female partner is pregnant because of the temporary weight gain associated with pregnancy, resulting in a sample size of 1,405. This is consistent with prior research using these data (specifically, Carmalt, Cawley, Joyner, and Sobal).

Measures:

See Table 1 for descriptive statistics on all variables

Socioeconomic Status: I show results using two measures of socioeconomic status, years of completed education and the Duncan Socioeconomic Index (SEI; a measure of occupational status).[3] In results not shown, I conducted the same analysis using the seven-level Hollingshead Occupational Prestige Index (Hollingshead OPI), the Nam-Powers-Boyd Occupational Prestige Index (Nam-Powers-Boyd OPI), a measure of expected four-year college graduation status (whether one is a college graduate or enrolled in a four-year degree program vs. having never attended or having dropped out), and a four-item index of socioeconomic status (of educational attainment and the three occupational status measures). These results are not shown because results using the different measures of occupational prestige and of education are nearly identical

to those using the Duncan SEI. For the analysis using difference measures, I subtract her level of each socioeconomic indicator from his level. I also create categorical variables to use in the log-linear models. Education is classified as less than high school, high school graduate, some college, or four-year college graduate or higher. SEI is grouped into four categories with divisions at the gender-specific 25th, 50th, and 75th percentiles.

Personal Attractiveness: In each wave of data collection, the interviewer rates the respondent's physical attractiveness, personality attractiveness, and grooming. I use the rating from Wave III, when the Romantic Pairs data are collected. In rating physical and personality attractiveness, the interviewer uses a 5-point scale from (1) very unattractive to (5) very attractive. Grooming is rated on a 5-point scale from (1) very poorly groomed to (5) very well groomed. It would be better to have the average of several observers' ratings of each of these dimensions, but prior studies indicate that evaluations of attractiveness are consistent between raters (Langlois et al.; Murstein 1972). It is also reassuring that in the Add Health data interviewers' ratings are positively and significantly correlated across waves (results not shown). From these three items, I create an index of overall personal attractiveness. Cronbach's alpha is .78 for females and .76 for males. Prior papers have used both indexes (similar to this one) and one-item scales of physical attractiveness.[4] I show regression results estimated using the index of personal attractiveness but results using the three individual measures are nearly identical. I also construct difference measures (his minus her level of each personal attractiveness indicator).

Race: Race groups are Non-Hispanic White, Non-Hispanic Black, and Other Race (includes Hispanic). As in prior work (Carmalt, Cawley, Joyner, and Sobal; Udry 1977), I use race from the perspective of the respondent when the outcome variable is a measure of that respondent's partner's level of some desirable trait. When estimating the difference models I use

couple race: Both partners Non-Hispanic White, both Non-Hispanic Black, and both Other Race or Mixed Race.

Age: I control for age at the time of the interview (measured in years). When estimating the difference models I use the couples' average age.

Union Status: Couples are categorized as dating, cohabiting, or married.

Relationship Duration: The duration of the couple's relationship, in months.

Father's Occupational Status: In results not shown, I use the status of the occupation (measured by the Duncan SEI) that the respondent's father worked in when the respondent was an adolescent to test whether patterns of attractiveness-status exchange vary by the respondent's socioeconomic background.

[Table 1 about here]

Analysis:

I begin by describing the data and using descriptive analyses to evaluate whether the data support the matching or exchange model. I investigate to what degree desirable traits tend to co-occur at the individual and at the couple level to illustrate the importance of including complete information on both partners' characteristics in regression models testing exchange theories. In searching for evidence of exchange I also examine the differences between partners' endowments of desirable traits.

I next move to multivariate regression models, estimating models that are comparable to prior research and then adding variables to fully control for matching and for the within-individual correlation of desirable traits. Consistent with prior work, these regression models are estimated separately for women and men and all models include age, race, relationship duration, and union status. After reproducing prior work and adding partner characteristics, I next

estimate regression models using the difference measures (his minus her level of each trait). Rather than arbitrarily selecting control variables (marital status, relationship duration, race, and age) from either her or his perspective, I use couple-level measures, averaging relationship duration and age and creating couple-level race variables (both White, both Black, or mixed/other-race couple) Last, I estimate negative binomial regression models. Negative binomial regression models are a generalization of log-linear models that are preferred when data are scarce and over-dispersion is a problem (King; Long and Freese 2006). In the Romantic Pair data, there are relatively few couples with disparate levels of attractiveness and socioeconomic status (data are scarce in these cells). I show results from negative binomial regression models, but log-linear models produce the same conclusions (results not shown).

With the exception of Carmalt et al. (2008), all prior studies included only married couples. It is plausible that patterns of matching or exchange might vary by marital status or by the age of the couple. Also, prior studies considering women's exchange of beauty to achieve upward mobility through marriage or to marry a man of high occupational status have found differences in patterns of exchange by women's father's occupational status and by women's race (Elder; Taylor and Glenn 1976; Udry 1977). Patterns of matching and exchange might also vary by union duration. For example, couples may grow more similar over time or they may be more willing to make certain exchanges in short- or long-term relationships. Although I present models using the entire sample (combining married, cohabiting, and dating couples), I also estimate and discuss models that interact the effects of interest with union status, relationship duration, father's occupational status, and with race. To test whether the young age of this sample is biasing results, I also estimated models restricting my analysis to couples in the top 25

percentile of the age distribution (women of at least 23 years and men of at least 24 years, sample size of 353; results not shown).

Although no one variable is missing for a large number of cases, many cases are missing data on at least one variable. Dropping all cases with missing data would dramatically reduce the sample size and would likely introduce bias (Acock). As an alternative to complete case analysis (dropping cases with missing data), I used imputation by chained equations to impute missing values, using the ICE procedure in the statistical software program Stata 10.1 (Royston). In this procedure, missing data are imputed by using switching regression, an iterative multivariable regression technique (Royston). I show results from regression models estimated using the MIM procedure in Stata 10.1 (Royston). In results not shown I also estimated models using complete case analysis (dropping cases with missing data): Results were nearly identical to those using MIM.

RESULTS:

Evidence of Matching & Exchange:

The various measures of "desirability" are highly correlated at the individual level (Table 2a and Table 2b). Rather than each person having a random portfolio of personal assets, the traits generally considered desirable in a mate tend to co-occur, making matching a more likely pattern than exchange. Cross-trait exchange requires that individuals are desirable on some dimension(s) but undesirable on some other dimension(s), and this is less likely if dimensions of desirability are positively correlated. Instead, when desirable traits co-occur, matching on any one trait encourages matching on the other related dimensions. The within-individual correlations between desirable traits are not strong enough to preclude exchange, but they are

strong enough to generate spurious evidence of exchange. If models are not correctly specified, the between-partner cross-trait correlations that would result from matching on one or more of the co-occurring desirable traits might easily be mistaken for exchange.

[Table 2a and Table 2b about here]

Indeed, in these data there is strong evidence of matching on physical attractiveness, grooming, personality, education, and occupational status (SEI). For each of these traits, one partner's endowment is positively and significantly correlated with the other partner's endowment (Table 3). Not only are these traits positively correlated, but many couples have exactly equal levels: 34% have the same years of education, 46% are rated as equally physically attractive, 54% are rated as equally well-groomed, and 49% are rated as having equally attractive personalities (results not shown). In addition, the various measures of one partner's personal attractiveness are positively and significantly correlated with the measures of her/his own and her/his partner's socioeconomic status. These couple-level cross-trait correlations might be interpreted as evidence of exchange, but given that the same cross-trait correlations are also evident at the individual-level and that the couple-level within-trait correlations are usually the strongest, matching may be a sufficient explanation. Further analysis is needed to adjudicate whether exchange is also occurring.

[Table 3 about here]

Evidence of Exchange:

If partners engage in cross-trait exchange, then when the partners possess an unequal amount of one particular trait, this should be offset by an inequality in the other direction on some other trait. For example, if one partner is personally attractive and the other is not, the unattractive partner should compensate by possessing more of some other asset, such as

education or high occupational status. In this case, the differences between the partners' levels of these desirable traits would be *negatively* correlated. Alternatively, when partners possess an unequal amount of one particular trait, they may simply be an aberration: Nothing is exchanged, but one partner is more desirable by conventional measures. In this case, whichever partner is more desirable on one measure will also tend to be more desirable on other measures because the different dimensions of desirability are highly correlated within individuals. In this case, the differences between partners' levels of desirable traits will be positively correlated.

The correlations between the differences in partners' levels of desirable traits are shown in Table 4. Many of the correlations are statistically significant, and without exception the statistically significant correlations are positive, in contradiction to the exchange model. In particular, in the one instance when the difference in a measure of socioeconomic status is significantly correlated with the difference in a measure of personal attractiveness, the correlation is positive (the difference in SEI is positively correlated with the difference in grooming): This contradicts the exchange model because the exchange model predicts *negative* correlations between the differences in socioeconomic status and the differences in personal attractiveness. Rather than providing any evidence of exchange, the correlations in Table 4 can be explained by the co-occurrence of desirable traits: When one partner is more attractive on a given dimension that same partner tends to be more attractive on other dimensions because the various measures of desirability are strongly correlated within individuals.

[Table 4 about here]

These simple descriptive statistics would lead one to reject the exchange model in favor of the matching model because there is strong evidence of matching but no indication of

exchange.   Still, patterns of exchange may become evident when more than two variables are considered jointly.   In order to test this, I turn to multivariate regression models.

Can Socioeconomic Status be used to obtain an Attractive Partner?

I first turn to the question of whether individuals exchange socioeconomic assets to obtain a personally attractive partner. More generally, can individuals use a high level of one desirable trait (such as socioeconomic status) to overcome a disadvantage on some other dimension? For example, Carmalt et al. (2008) proposed that obese individuals are able to use their other personal assets, particularly education, to offset the disadvantage of being obese and obtain a physically attractive partner. Similarly, Stevens et al. (1990) investigated whether education can be used to secure a more attractive partner.

In Table 5, I use men's education and SEI to predict their partner's personal attractiveness (3-item index). In results not shown, I also estimated models that use women's socioeconomic status to predict their male partner's personal attractiveness and results were equivalent. Results using the individual measures of personal attractiveness (physical attractiveness, grooming, and personality) are also nearly identical (not shown). Models 1a and 2a include no controls for the partner's characteristics or for the correlation of desirable traits within individuals: As in prior papers, these models ignore women's socioeconomic status and men's personal attractiveness. They suggest a positive relationship between men's socioeconomic status and their partner's personal attractiveness. Although prior papers have interpreted this as evidence that men exchange socioeconomic status for women's attractiveness, I argue that this relationship might be accounted for by partner matching on socioeconomic status and on personal attractiveness and by the positive within-individual correlation between socioeconomic status and personal attractiveness.

Indeed, when Models 1b and 2b add women's socioeconomic status and men's personal attractiveness, the relationship between men's socioeconomic status and women's personal attractiveness loses significance. These models do not support exchange theory, but they provide evidence of matching in that more personally attractive men tend to have more personally attractive partners. These results suggest that men's status is only a significant predictor of women's attractiveness in Models 1a and 2a because men's status was serving as a proxy for men's attractiveness.

[Table 5 about here]

I also estimated models that use difference measures (his minus her) and are comparable to those in Table 5 (results not shown). These models are consistent with the traditional multivariate regression models in Table 5 in that they contradict the exchange model. Only the difference in SEI (not the difference in education) is significantly associated with the difference in personal attractiveness, and the association is positive, whereas the difference model predicts an inverse association. This suggests that when partners possess an unequal amount of one particular trait, they are simply miss-matched in terms of overall desirability (as measured by conventional standards): When one partner is more desirable on one measure, that same partner tends to be more desirable on other measures because the different dimensions of desirability are highly correlated within individuals.

Do Attractive Individuals Marry Up?

I next turn to the question of whether individuals use personal attractiveness to obtain a partner of higher socioeconomic status. Specifically, Elder (1969) examined whether women use personal attractiveness to achieve upward social mobility through marriage, by marrying a husband of higher occupational status than their father (as measured by the Hollingshead index).

Stevens et al. (1990) investigated whether physical attractiveness can be used by either gender to attract an educated partner. Similarly, Taylor and Glenn (1976) tested whether women use attractiveness to secure a husband of high occupational status, measured by the Duncan SEI. Like Elder (1969), Udry (1977) considered whether women use physical attractiveness to achieve upward mobility through marriage, by marrying a husband of higher occupational status than their father (as measured by the Nam-Powers index). With the exception of Stevens et al. (1990), these authors assumed a gendered exchange in which women offer beauty and men offer status: I show results modeling a possible "gender-traditional" exchange model in which women use attractiveness to obtain high-status partners, but results predicting women's status are equivalent (results not shown).

In Table 6, Models 1a and 2a use women's personal attractiveness to predict the two measures of men's socioeconomic status. Models 1b and 2b add the male partner's attractiveness and the female partner's socioeconomic status to control for matching and for the within-individual correlation of desirable traits. This tests whether any apparent exchange effect (of attractiveness for status) in Models 1a and 2a was due to matching on attractiveness and to the within-individual correlation of attractiveness with status. In Model 2b (but not in Model 1b), adding the male partner's attractiveness and the female partner's socioeconomic status eliminates the apparent relationship between women's attractiveness and men's status. But there still remains evidence that women might exchange attractiveness for a more educated partner. However, using the other measures of occupational status, the alternative measure of education (expected college graduation status), and the four-item index of status all produce results consistent with Model 2b (not shown). Thus, evidence of matching is more consistent (across different measures of status) than is evidence of exchange. Additionally, models that use a

"social mobility" measure similar to that used by some prior authors (a woman is considered socially mobile if she marries a man of higher occupational status than her father) do not produce any evidence of exchange (results not shown).

[Table 6 about here]

Moreover, in the models using difference measures (results not shown) there is no evidence of exchange: The exchange effect apparent in Models 1a and 1b is not robust to differences in model specifications. Specifically, these models use the difference in personal attractiveness (his minus her score on the 3-item personal attractiveness index) to predict the difference (his minus her) in the various measures of socioeconomic status. In no instance (including when predicting the difference in education) is there support for exchange.

Log-Linear Models:

Table 7 presents results from two sets of negative binomial models, which are a generalization of log-linear models. I use negative binomial models rather than log-linear models on account of over-dispersion, but results from log-linear models (not shown) are equivalent. As in the other tables I show results for only two measures of socioeconomic status (education and SEI), but there was no evidence of exchange for models using any of the socioeconomic measures not shown. The personal attractiveness index is divided into four quartiles (four categories with divisions at the first quartile, median, and third quartile). Occupational status (SEI) is likewise divided into four quartiles. Years of completed education is divided into four levels: (1) less than high school, (2) high school graduate, (3) some college, and (4) four-year college graduate or higher. Thus, all tables are 4x4. The equations are as follows:

Log(P) = Constant + MPA + FPA + MEDU + FEDU + Matching on PA + Matching on EDU +

PA-EDU Exchange (1a)

Log(P) = Constant + MPA + FPA + MEDU + FEDU + Matching on PA + Matching on EDU +

PA-EDU Exchange + FPA-MEDU Exchange (1b)

Log(P) = Constant + MPA + FPA + MSEI + FSEI + Matching on PA + Matching on SEI +

PA-SEI Exchange (2a)

Log(P) = Constant + MPA + FPA + MSEI + FSEI + Matching on PA + Matching on SEI +

PA-SEI Exchange + FPA-MSEI Exchange (2b)

Where MPA is the male's physical attractiveness, FPA is the female's physical attractiveness,

MEDU is the male's education, FEDU is the female's education, MSEI is the male's

occupational status, FSEI is the female's occupational status, Matching on PA is matching on

physical attractiveness (equal to one if MPA equals FPA; zero otherwise), Matching on EDU is

matching on education (equal to one if MEDU equals FEDU; zero otherwise), Matching on SEI

is matching on occupational status (equal to one if MSEI equals FSEI; zero otherwise), PA-EDU

Exchange is gender-neutral exchange of physical attractiveness for education (equal to one if

MPA > FPA and MEDU < FEDU; also equal to one if MPA < FPA and MEDU > FEDU; equal

to zero otherwise), and FPA-MEDU Exchange is gender-traditional exchange of the female's

physical attractiveness for the male's education (equal to one if MPA < FPA and MEDU >

FEDU; equal to zero otherwise), PA-SEI Exchange is gender-neutral exchange of physical

attractiveness for occupational status (equal to one if MPA > FPA and MSEI < FSEI; also equal

to one if MPA < FPA and MSEI > FSEI; equal to zero otherwise), and FPA-MSEI Exchange is

gender-traditional exchange of the female's physical attractiveness for the male's status (equal to

one if MPA < FPA and MSEI > FSEI; equal to zero otherwise).

In no set of models is there any evidence of cross-trait exchange, but all models indicate a strong tendency toward matching. For each of the two measures of socioeconomic status, I first present a model testing for matching and for gender-symmetric exchange (either partner might trade attractiveness for status or vice-versa). I next add a parameter modeling gender-traditional exchange (in which men offer socioeconomic status and women offer attractiveness): Neither pattern of exchange is evident in these data. However, the log-linear models provide strong evidence of matching on attractiveness and on education (although there is not evidence of matching on Duncan SEI).

[Table 7 about here]

Differences by race, socioeconomic background, union status, relationship duration, and age:

Prior papers have proposed that women of middle- and working-class origins differ in their propensity to use beauty as a means of securing a high-status husband (Elder). Prior authors have also suggested differences between Black and White respondents (Udry). To test this first possibility, I estimated models similar to Model 1b and 2b in Table 6, adding women's fathers' occupational status and the interaction of women's attractiveness with their fathers' occupational status. To test whether exchange varies by race I estimated models similar to Model 1b and 2b in Table 6 but that include the interaction of women's attractiveness with their race. I did not find that exchange patterns vary by the father's occupational status or by the women's race.

It is also plausible that patterns of matching and exchange might vary by union status (married, cohabiting, or dating) or by relationship duration. To test these possibilities, I estimated models similar to Model 1b and 2b in Table 5 and models similar to Model 1b and 2b in Table 6, first adding interactions of attractiveness and status with union status (with dating as

the reference group) and next adding interactions of attractiveness and status with relationship duration (and removing the interactions with union status). Although inconsistent, there was some evidence that matching might be stronger among more committed couples (married and cohabiting couples) and couples that have been together longer. Perhaps couples grow more similar over time or are less likely to continue relationships with dissimilar partners. But matching was strong among all couples (including dating couples and couples in relationships of short duration) and there was no indication of exchange for any type of couple.

Another concern with this analysis is that the young age of the Romantic Pair sample might be biasing results. To address this concern, I estimated models using only the oldest quartile of couples (women of at least 23 years and men of at least 24 years; results not shown). Exchange was no more evident among these couples than among the entire sample. Still, even the oldest fourth of couples are very young and the young might attach more importance to similarity or may face greater structural constraints that ensure matching: In future research it would be interesting to repeat this analysis using couples of a wider age span (unfortunately, data are not currently available to make such a study possible).

The young age of this sample is also problematic in that education and occupational status in the early twenties might not be a good indication of longer-terms economic prospects. To some extent, the measure of expected college graduation status (discussed earlier) addresses this concern and it provides evidence against exchange and in favor of matching. In additional analyses not shown, I used data from the subsequent Wave IV, collected when respondents average about 29 years of age, to test whether physical attractiveness at Wave III is traded for a partner's future socioeconomic status. Unfortunately, information on occupation, education, and income at Wave IV is only available for the original respondents (not for their recruited

partners). Therefore, for each of these three measures of status (occupational status, education, and income), I used the recruited partner's personal attractiveness at Wave III to predict the original respondent's future status (status at Wave IV), controlling for the original respondent's personal attractiveness at Wave III and for the recruited partner's status at Wave III. This tests whether physically attractive individuals leverage their beauty to obtain partners with high *expected* status (insofar as actual future status can be considered a proxy for expected future status). Likewise, I used the original respondent's status at Wave IV (her future status) to predict the recruited partner's personal attractiveness (at Wave III), controlling for the original respondent's personal attractiveness (at Wave III) and the recruited partner's status (at Wave III). These models did not produce any evidence of exchange.

As a final check of the robustness of these results, I estimated models for only those couples that differ substantially on education (by at least one degree level) or on occupational status (by belonging to different quartiles). Similarly, I estimated models for couples that differ in physical attractiveness ratings (by one or more of the five levels). It is the couples that differ on socioeconomic status or on physical attractiveness that might possibly be engaging in an exchange of one trait for the other, but partnering patterns among these couples mirrored those presented for the entire sample.

Summary of results:

I began by conducting bivariate analyses and found strong evidence of matching but did not find evidence of exchange. Second, I estimated multivariate regression models that are similar to those used in prior analyses (by other authors) in that they do not account for between-partner matching or for the within-individual correlation of desirable traits. As in prior analyses, in these models there appears to be an exchange of socioeconomic status for personal

attractiveness but I demonstrate that it is nearly always eliminated in a correctly specified model that accounts for matching and for the within-individual correlation of desirable traits. Thus, the apparent cross-trait exchange effect in prior analyses may have been spurious, resulting from matching and from the within-individual correlation of desirable traits. Third, I estimated models using difference measures: These models provide a more direct test of exchange than the traditional multivariate regression models but they produced no evidence of exchange. In the fourth stage of my analysis I estimated negative binomial models (a generalization of log-linear models), which are particularly well suited to identifying patterns of matching or exchange in partner selection. In none of the negative binomial models is there any support for cross-trait exchange, although matching is evident. These results are consistent across race, class, union status, union duration, and alternative measures of socioeconomic status (including future status). Even couples with disparate levels of socioeconomic status or of physical attractiveness adhere to the matching model rather than the exchange model.

DISCUSSION:

This paper makes three contributions to the literature on romantic partner selection. First, it revisits the question of whether physical attractiveness is traded for socioeconomic status from a gender-neutral perspective. Second, it investigates whether the prior findings that women trade attractiveness for men's status (and vice-versa) are artifacts of between-partner matching on attractiveness and on status and of the within-individual correlation of attractiveness and status. Third, the results of this analysis have implications for more general theoretical understandings of partner selection.

This analysis found very little support for exchange theory, and what little evidence it did found was not robust under different model specifications. Specifically, in only one of the

traditional multivariate regression models (in Tables 5 and 6) the exchange effect was not fully eliminated by accounting for between-partner matching and for the within-individual correlation of desirable traits. But this possible exchange effect (of women's attractiveness for men's education) was not evident in the difference models or in the negative binomial (log-linear) models, nor was there any indication of cross-trait exchange in the descriptive analysis. In contrast, the matching model was supported in all stages of analysis.

Thus, although this paper does not entirely reject exchange theory, it does suggest that some prior findings seemingly in support of exchange theory may have resulted from partner matching and from the within-individual co-occurrence of desirable traits: In these instances the apparent exchange effect is eliminated by accounting for between-partner matching and for the within-individual correlation of desirable traits and/or by testing for exchange more directly (as in the difference models and the negative binomial models). Future research on exchange would benefit from more attention to matching and to the tendency for individuals to have similarly high (or low) levels of various desirable traits. Admittedly, some of the prior studies claiming evidence of a gendered beauty-status exchange addressed earlier cohorts in which women may have had greater incentive to use beauty as a means of social mobility (two of the studies focus on more recent cohorts—partnerships formed in 1990 and in 2001-02, respectively). However, the absence of exchange in the Add Health data cannot be entirely attributed to women's new economic independence: The argument that women traded beauty for money out of economic necessity implies that modern women might use their labor market success to secure physically attractive men with poor labor market prospects (e.g., Press) but this does not occur.

Moreover, it is not just social structural theories that predict that women would trade beauty for men's socioeconomic resources: The sociobiological model makes the same

prediction and it suggests little variation between cohorts. But at least among the recent cohort of young adults in this study, partner choices do not seem to be driven by hypothetical evolutionary adaptations that cause men to value beauty and women to value men's ability as breadwinners. That this gendered beauty-status exchange does not occur casts doubt on the sociobiological account of partnering: If evolutionary adaptations for beauty-status exchange exist, they are less impervious to social structural counter-forces than usually assumed in sociobiological models.

More generally, the absence exchange between any two consensually-ranked traits challenges the validity of the competitive market model of partner selection. One explanation for the lack of exchange in these data is that social constraints prevent individuals from meeting partners outside their own socioeconomic level. In fact, the majority of the Add Health sample is of an age when social structural and peer pressures to select a partner of similar socioeconomic status are especially strong. Many respondents are enrolled in or recently graduated from college: College attendance encourages educationally-homogenous peer groups and limits contact with potential educationally-dissimilar partners. Additionally, individuals in their early twenties may be especially susceptible to peer and familial pressure to select a partner with similar educational attainment. Obviously, selecting a partner of one's own educational level precludes trading education for other desired traits such as physical attractiveness. Given the strength of the association between education and occupational status, matching on education also encourages matching on occupational status and thus limits individuals' ability to trade occupational status for physical attractiveness. Although the Add Health Romantic Pair data used in this paper has the advantage of providing full information on both partners, it does not allow me to test whether beauty-status exchange is more evident among individuals selecting partners in later, more independent life stages.

Another explanation for the failure of the market model might be found in individuals' preferences. For example, they may be happy to "trade up" in physical attractiveness by accepting a partner more beautiful than themselves but yet be reluctant or even unwilling to "trade down" by accepting a less beautiful partner (regardless of what other assets this less beautiful partner might possess). In this case, perhaps it is only the very wealthy that can "afford" a partner more attractive than themselves: There are not enough wealthy individuals in these data to test that possibility. Also, individuals might find that in practice they are less eager to "trade up" in socioeconomic status than they had imagined. There is substantial evidence that the tendency for partners to be of similar socioeconomic status is driven in large part by a desire for cultural compatibility (Bourdieu 1984; Kalmijn). Thus, a beautiful woman with little education might find that in practice she has too little in common with college-educated men for a viable companionate marriage. Likewise, a college educated man might value a woman's beauty more than her income, but if he requires that his mate shares his middle class culture this may prevent him from exchanging his status for a beautiful but lower-status partner.

The possibility that a desire for cultural similarity prevents individuals from exchanging their socioeconomic position to secure a more physically attractive partner makes individuals who are outliers in wealth or income (relative to their similarly-educated peers) especially interesting. These individuals would theoretically be able to match on education and culture while still exchanging their high income to attract a more physically attractive partner. As mentioned above, it is also possible that only the very wealthy can overcome individuals' reluctance to trade down on physical attractiveness. Thus, it is plausible that exchange of wealth for physical attractive might occur between partners who are educational and cultural equals.

Despite the lack of support for exchange theory in these data, it is possible that exchange acts as a difficult-to-detect secondary force in the partner market, or that it occurs only under unusual conditions (such as among the very wealthy). Still, the main focus of this paper was to test whether exchange or matching best accounts for partner selection among typical young couples: This analysis finds evidence in favor of matching. A secondary focus was to test sociobiological and market models of partner selection. By failing to find evidence of gendered beauty-status exchange this paper questions the importance of evolutionary adaptations in determining partner selection among modern young adults. Moreover, by failing to find any evidence of exchange (gendered or gender-neutral), this paper questions the validity of the market model of partner selection. Instead it suggests that social structural barriers and a desire for compatibility and companionship may be the most important determinants of partner choice.

Bibliography

Acock, Alan C. 2005. "Working with missing values." *Journal of Marriage and Family* 67:1012-1028.

Agresti, Alan. 1996. *An Introduction to Categorical Data Analysis*. New York: John Wiley and Sons, Inc.

Allison, Paul D. 1990. "Change Scores as Dependent Variables in Regression Analysis." *Sociological Methodology* 20:93-114.

Bearman, Peter, Jo Jones, and J. Richard Udry. 2004. "The National Longitudinal Study of Adolescent Health: Research Design." vol. 2008. Chapel Hill, NC: Caroline Population Center.

Becker, Gary S. 1991. *A Treatise on the Family, expanded ed.* Cambridge, MA: Harvard University Press.

Bereczkei, Tamas and Andras Csanaky. 1996. "Mate Choice, Marital Success, and Reproduction in a Modern Society." *Ethology and Sociobiology*:17-35.

Berscheid, Ellen and Karen Dion. 1971. "Physical Attractiveness and Dating Choice: A Test of the Matching Hypothesis." *Journal of Experimental Social Psychology* 7:173-189.

Bjerk, David. 2009. "Beauty vs. earnings: Gender differences in earnings and priorities over spousal characteristics in a matching model." *Journal of Economic Behavior and Organization* 69:248-259.

Blackwell, Debra L. and Daniel T. Lichter. 2004. "Homogamy Among Dating, Cohabitating, and Married Couples." *The Sociological Quarterly* 45:719-737.

Blossfeld, Hans-Peter and Sandra Buchholz. 2009. "Increasing Resource Inequality among Families in Modern Societies: The Mechanisms of Growing Educational Homogamy, Changes in the Division of Work in the Family and the Decline of the Male Breadwinner Model." *Journal of Comparative Family Studies* 40:603-616.

Bourdieu, Pierre. 1984. *Distinction: A Social Critique of the Judgment of Taste*. London: Routledge.

Burdett, Kenneth and Melvyn G. Coles. 1997. "Marriage and Class." *The Quarterly Journal of Economics* 112:141-168.

—. 1999. "Long-Term Partnership Formation: Marriage and Employment." *The Economic Journal* 109:307-334.

—. 2001. "Transplants and Implants: The Economics of Self-Improvement." *International Economic Review* 42:597-616.

Buss, David M. 1990. "International Preferences in Selecting Mates : A Study of 37 Cultures." *Journal of Cross-Cultural Psychology* 21:5-47.

—. 1998. "Sexual Strategies Theory: Historical Origins and Current Status." *The Journal of Sex Research* 35:19-31.

Buss, David M. and Michael Barnes. 1986. "Preferences in Human Mate Selection." *Journal of Personality and Social Psychology* 50:559-570.

Buss, David M., Todd K. Shackelford, Lee A. Kirkpatrick, and Randy J. Larsen. 2001. "A Half Century of Mate Preferences: The Cultural Evolution of Values." *Journal of Marriage and Family* 63:491-503.

Carmalt, Julie H., John Cawley, Kara Joyner, and Jeffery Sobal. 2008. "Body Weight and Matching With a Physically Attractive Romantic Partner." *Journal of Marriage and Family* 70:1287-1296.

Chantala, Kim. 2006. "Guidelines for Analyzing Add Health Data." vol. 2008. Chapell Hill, NC: Carolina Population Center.

Choo, Eugene and Aloysius Siow. 2006. "Estimating a Marriage Matching Model with Spillover Effects." *Demography* 43.

Clifford, Margaret M. and Elaine Walster. 1973. "The Effect of Physical Attractiveness on Teacher Expectations." *Sociology of Education* 46:248-258.

Cohn, Lawrence D. and Nancy E. Adler. 1992. "Female and Male Perceptions of Ideal Body Shapes: Distorted Views Among Caucasian College Students." *Psychology of Women Quarterly* 16:69-79.

Coles, Melvyn G. and Marco Francesconi. 2007. "On the Emergence of Toyboys: Equilibrium Matching with Ageing and Uncertain Careers." *Institute for the Study of Labor Working Paper Series* Discussion Paper No. 2612.

Cunningham, Michael R., Alan R. Roberts, Anita P. Barbee, Perri B. Druen, and Cheng-Huan Wu. 1995. "'Their Ideas of Beauty Are, on the Whole, the Same as Ours': Consistency and Variability in the Cross-Cultural Perception of Female Physical Attractiveness." *Journal of Personality and Social Psychology* 68:261-279.

Davis, Simon. 1990. "Men as Success Objects and Women as Sex Objects: A Study of Personal Advertisements." *Sex Roles* 23:43-50.

Eagly, Alice H., Richard D. Ashmore, Mona G. Makhijani, and Laura C. Longo. 1991. "What is Beautiful is Good, But...: A Meta-Analytic Review of Research on the Physical Attractiveness Stereotype." *Psychological Bulleton* 110:109-128.

Eastwick, Paul W. and Eli J. Finkel. 2008. "Sex Differences in Mate Preferences Revisited: Do People Know What They Initially Desire in a Romantic Partner?" *Journal of Personality and Social Psychology* 94:245-264.

Elder, Glen H. 1969. "Appearance and Education in Marriage Mobility." *American Sociological Review* 34:519-533.

England, Paula and Elizabeth Aura McClintock. 2009. "The Gendered Double Standard of Aging in US Marriage Markets." *Population and Development Review* 35:797-816.

Feingold, Alan. 1988. "Matching for Attractiveness in Romantic Partners and Same-Sex Friends: A Meta-Analysis and Theoretical Critique." *Psychological Bulleton* 104:226-235.

Fisman, Raymond, Sheena S. Iyengar, Emir Kamenica, and Itamar Simonson. 2006. "Gender Differences in Mate Selection: Evidence from a Speed Dating Experiment." *The Quarterly Journal of Economics* 121:673–697.

Furnham, Adrian. 2009. "Sex Differences in Mate Selection Preferences." *Personality and Individual Differences* 47:262-267.

Gardyn, Rebecca. 2002. "The Mating Game." *American Demographics* 24:33-37.

Gordon, Milton. 1964. *Assimilation in American Life*. New York: Oxford University Press.

Hamermesh, Daniel S. and Jeff E. Biddle. 1994. "Beauty and the Labor Market." *The American Economic Review* 84:1174-1194.

Harrison, Albert A. and Laila Saeed. 1977. "Let's Make a Deal: An Analysis of Revelations and Stipulations in Lonely Hearts Advertisements." *Journal of Personality and Social Psychology* 35:257-264.

Haskins, Katherine M. and H. Edward Ransford. 1999. "The Relationship between Weight and Career Payoffs among Women." *Sociological Forum* 14:295-318.

Hitsch, Gunter J., Ali Hortacsu, and Dan Ariely. 2010. "Matching and Sorting in Online Dating." *American Economic Review* 100:130-163.

Howard, Judith A., Philip Blumstein, and Pepper Schwartz. 1987. "Social or Evolutionay Theories? Some Observations on Preferences in Human Mate Selection." *Journal of Personality and Social Psychology* 53:194-200.

Jackson, Linda A., John E. Hunter, and Carolyn N. Hodge. 1995. "Physical Attractiveness and Intellectual Competence: A Meta-Analytic Review." *Social Psychocoly Quarterly* 58:108-122.

Kalick, S. Michael and Thomas E. Hamilton III. 1986. "The Matching Hypothesis Reexamined." *Journal of Personality and Social Psychology* 51:673-682.

Kalmijn, Matthijs. 1994. "Assortative Mating by Cultural and Economic Occupational Status." *The American Journal of Sociology* 100:422-452.

—. 1998. "Intermarriage and Homogamy: Causes, Patterns, Trends." *Annual Review of Sociology* 24:395-421.

Kanazawa, Satoshi and Jody L. Kovar. 2004. "Why beautiful people are more intelligent." *Intelligence* 32:227-243.

King, Gary. 1989. "Variance Specification in Event Count Models: From Restrictive Assumptions to a Generalized Estimator." *American Journal of Political Science* 33:762-784.

Kowner, Rotem. 1996. "Effect of Group Status in Physical Attractiveness Preferences--From the Japanese Case to a General Cognitive Perspective." *Genetic, Social & General Psychology Monographs* 122:215-248.

Langlois, Judith H., Lisa Kalakanis, Adam J. Rubenstein, Andrea Larson, Monica Hallam, and Monica Smoot. 2000. "Maxims or Myths of Beauty? A Meta-Analytic and Theoretical Review." *Psychological Bulleton* 126:390-423.

Li, Norman P., J. Michael Bailey, Douglas T. Kenrick, and Joan A. W. Linsenmeier. 2002. "The Necessities and Luxuries of Mate Preferences: Testing the Tradeoffs." *Journal of Personality and Social Psychology* 82:947-955.

Li, Norman P. and Douglas T. Kenrick. 2006. "Sex Similarities and Differences in Preferences for Short-Term Mates: What, Whether, and Why." *Journal of Personality and Social Psychology* 90:468-489.

Long, J. Scott and Jeremy Freese. 2006. *Regression Models for Categorical Dependent Variables Using Stata*. College Station, Texas: Stata Press.

Loughran, David S. 2002. "The Effect of Male Wage Inequality on Female Age at First Marriage." *The Review of Economics and Statistics* 84:237–250.

Lovejoy, Meg. 2001. "Disturbances in the Social Body: Differences in Body Image and Eating Problems among African American and White Women." *Gender and Society* 15:239-261.

Luo, Shanhong and Guangjian Zhang. 2009. "What Leads to Romantic Attraction: Similarity, Reciprocity, Security, or Beauty? Evidence From a Speed-Dating Study." *Journal of Personality* 77:933-963.

Mare, Robert D. 1991. "Five Decades of Educational Assortative Mating." *American Sociological Review* 56:15-32.

McNulty, James K., Lisa A. Neff, and Benjamin R. Karney. 2008. "Beyond Initial Attraction: Physical Attractiveness in Newlywed Marriage." *Journal of Family Psychology* 22:135-143.

Moss, Martin K., Richard Miller, and Richard A. Page. 1975. "The Effects of Racial Context on the Perception of Physical Attractiveness." *Sociometry* 38:525-535.

Murstein, Bernard I. 1972. "Physical Attractiveness and Marital Choice." *Journal of Personality and Social Psychology* 22:8-12.

Murstein, Bernard I. and Patricia Christy. 1976. "Physical Attractiveness in Marriage Adjustment in Middle-Aged Couples." *Journal of Personality and Social Psychology* 34:537-542.

Nevid, Jeffery S. 1984. "Sex Differences in Factors of Romantic Attraction." *Sex Roles* 11.

Press, Julie E. 2004. "Cute Butts and Housework: A Gynocentric Theory of Assortative Mating." *Journal of Marriage and Family* 66:1029-1033.

Presser, Harriet. B. 1975. "Age differences between Spouses." *American Behavioral Scientist* 19:190-205.

Regan, Pamela C. and Anupama Joshi. 2003. "Ideal Partner Preferences Among Adolescents." *Social Behavior and Personality* 31:13-20.

Rosenblat, Tanya S. 2008. "The Beauty Premium: Physical Attractiveness and Gender in Dictator Games." *Negotiation Journal* 24:465-481.

Rosenblat, Tanya S. and Markus M. Mobius. 2006. "Why Beauty Matters." *The American Economic Review* 96:222-235.

Rosenfeld, Michael. 2001. "The Salience of Pan-National Hispanic and Asian Identities in U.S. Marriage Markets." *Demography* 38:161-175.

—. 2005. "A Critique of Exchange Theory in Mate Selection." *The American Journal of Sociology* 110:1284-1325.

—. 2008. "Racial, Educational, and Religious Endogamy In the United States: A Comparative Historical Perspective." *Social Forces* 87:1-32.

—. 2010. "Still Weak Support for Status-Caste Exchange in Black-White Intermarriage." *American Journal of Sociology* 115:1264-1276.

Royston, Patrick. 2004. "Multiple Imputation of Missing Values." *Stata Journal* 4:227-241.

Ruggles, Steven, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek. 2010. "Integrated Public Use Microdata Series: Version 5.0 [Machine-readable database]." Minneapolis: University of Minnesota.

Schoen, Robert and Yen-Hsin Alice Cheng. 2006. "Partner choice and the Differential Retreat From Marriage." *Journal of Marriage and Family* 68:1-10.

Schoen, Robert and Robin M. Weinick. 1993. "Partner Choice in Marriage and Cohabitations." *Journal of Marriage and Family* 55:408-414.

Schwartz, Christine R. 2010. "Earnings Inequality and the Changing Association between Spouses' Earnings." *American Journal of Sociology* 115:1524-1557.

Schwartz, Christine R. and Robert D. Mare. 2005. "Trends in Educational Assortative Marriage from 1940 to 2003." *Demography* 42:621-46.

Singer, Jerome E. 1964. "The Use of Manipulative Strategies: Machiavellianism and Attractiveness." *Sociometry* 27:128-150.

Sprecher, Susan. 1989. "The Importance to Males and Females of Physical Attractiveness, Earning Potential, and Expressiveness in Initial Attraction." *Sex Roles* 21.

Stevens, Gillian. 1991. "Propinquity and Educational Homogamy." *Sociological Forum* 6:715-726.

Stevens, Gillian, Dawn Owens, and Eric C. Schaefer. 1990. "Education and Attractiveness in Marriage Choices." *Social Psychology Quarterly* 53:62-70.

Sweeney, Megan M. and Maria Cancian. 2004. "The Changing Importance of White Women's Economic Prospects for Assortative Mating." *Journal of Marriage and Family* 66:1015-1028.

Taylor, Patricia Ann and Norval D. Glenn. 1976. "The Utility of Education and Attractiveness for Females' Status Attainment Through Marriage." *American Sociological Review* 41:484-498.

Udry, J. Richard. 1977. "The Importance of Being Beautiful: A Reexamination and Racial Comparison." *The American Journal of Sociology* 83:154-160.

Umberson, Debra and Michael Hughes. 1987. "The Impact of Physical Attractiveness on Achievement and Psychological Well-Being." *Social Psychology Quarterly* 50:227-236.

Walster, Elaine, Vera Aronson, and Darcy Abrahams. 1966. "Importance of Physical Attractiveness in Dating Behavior." *1966* 5:508.

Wardle, Jane, Jo Waller, and Martin J. Jarvis. 2002. "Sex Differences in the Association of Socioeconomic Status With Obesity." *American Journal of Public Health* 92:1299-1304.

Webb, Tammy T., E. Joan Looby, and Regina Fults-McMurtery. 2004. "African American Men's Perceptions of Body Figure Attractiveness: An Acculteration Study." *Journal of Black Studies* 34:370-385.

[1] In a parallel argument, Kalmijn (1998) notes that the within-individual correlation of socioeconomic origins, educational attainment, race, and religion might result in overestimating the strength of matching on any one of these traits considered independently. For example, some part of the correlation between spouses' education is accounted for by the tendency for spouses to be of similar socioeconomic origins (and vice-versa).

[2] In a recent paper advocating the gendered model of beauty-status exchange in which physically attractive women marry intelligent, high status men, the authors note that insofar as physical attractiveness, intelligence, and status are heritable, this pattern of marital exchange would generate a correlation between physical attractiveness and socioeconomic status (Kanazawa, Satoshi and Jody L. Kovar. 2004. "Why beautiful people are more intelligent." *Intelligence* 32:227-243.). But this paper is a review of existing work, and I argue that the evidence of exchange in the studies it reviews might be a spurious effect of matching. The heritability explanation for the beauty-socioeconomic status correlation assumes a pattern of exchange that I argue does not occur (or occurs only rarely).

[3] Add Health provides information on the respondent's current occupation, using Census 6-digit occupational codes. I map these codes onto data from the 2000 US census provided by the Integrated Public Use Microdata Series (IPUMS) in order to obtain the Duncan SEI score provided in the IPUMS data (Ruggles, Steven, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek. 2010. "Integrated Public Use Microdata Series: Version 5.0 [Machine-readable database]." Minneapolis: University of Minnesota.). The Duncan SEI is based on the regression of occupational prestige ratings on average occupational education and income for a select group of occupations. This statistical model is used to predict prestige ratings for all occupations from average occupational education and income. In using years of education and SEI as measures of socioeconomic status I deviate from prior authors in three ways. First, I limit each model to a single measure of socioeconomic status rather than including multiple measures that are highly correlated (as in Carmalt, Julie H., John Cawley, Kara Joyner, and Jeffery Sobal. 2008. "Body Weight and Matching With a Physically Attractive Romantic Partner." *Journal of Marriage and Family* 70:1287-1296.). Second, in two of the five analyses I reproduce the authors used a measure of social mobility (the difference between a woman's father's and husband's occupational status) rather than a direct measure of socioeconomic status (Elder, Glen H. 1969. "Appearance and Education in Marriage Mobility." *American Sociological Review* 34:519-533, Udry, J. Richard. 1977. "The Importance of Being Beautiful: A Reexamination and Racial Comparison." *The American Journal of Sociology* 83:154-160.). In an era when women have their own careers, I argue that it is the similarity or difference between the partners' own occupational prestige scores that is relevant (without reference to their fathers). Additionally, I am interested in matching, and I have no reason to believe that individuals will match on social mobility (I do expect matching on occupational status). However, I also estimated models predicting "social mobility" and results were consistent with those using direct measures in that they provided no evidence of exchange (results not shown). Third, because I am interested in matching, I use parallel measures for each partner's socioeconomic status: I use education to predict education and occupational prestige to predict occupational prestige (rather than using one partner's education to predict the other partner's occupational prestige as in Elder, Glen H. 1969. "Appearance and Education in Marriage Mobility." *American Sociological Review* 34:519-533, Taylor, Patricia Ann and Norval D. Glenn. 1976. "The Utility of Education and Attractiveness for Females' Status Attainment Through Marriage." *American Sociological Review* 41:484-498, Udry, J. Richard. 1977. "The Importance of Being Beautiful: A Reexamination and Racial Comparison." *The American Journal of Sociology* 83:154-160.). For comparison, the measures used by prior authors are: Years of education (Carmalt, Julie H., John Cawley, Kara Joyner, and Jeffery Sobal. 2008. "Body Weight and Matching With a Physically Attractive Romantic Partner." *Journal of Marriage and Family* 70:1287-1296, Elder, Glen H. 1969. "Appearance and Education in Marriage Mobility." *American Sociological Review* 34:519-533, Stevens, Gillian, Dawn Owens, and Eric C. Schaefer. 1990. "Education and Attractiveness in Marriage Choices." *Social Psychology Quarterly* 53:62-70, Taylor, Patricia Ann and Norval D. Glenn. 1976. "The Utility of Education and Attractiveness for Females' Status Attainment Through Marriage." *American Sociological Review* 41:484-498, Udry, J. Richard. 1977. "The Importance of Being Beautiful: A Reexamination and Racial Comparison." *The American Journal of Sociology* 83:154-160.), the wife's social mobility (Elder, Glen H. 1969. "Appearance and Education in Marriage Mobility." *American Sociological Review* 34:519-533, Udry, J. Richard. 1977. "The Importance of Being Beautiful: A Reexamination and Racial Comparison." *The American Journal of Sociology* 83:154-160.), and the husband's occupational status (Taylor, Patricia Ann and Norval D. Glenn. 1976. "The Utility of Education and Attractiveness for Females' Status Attainment Through Marriage." *American*

Sociological Review 41:484-498.). Carmalt et al (2008) also include the log of income and the Add Health Picture Vocabulary Test score but they only claim to find evidence of exchange involving education.

[4] Three of the five authors whose work I consider, Taylor and Glenn (1976), Udry (1977), and Carmalt el al (2008) used a single 5-level scale to measure physical attractiveness. In another of these papers, Stevens et al (1990), the authors used a similar scale but with a different range. Carmalt el al (2008) used a single five-level scale of physical attractiveness but as their dependent variable they recoded it into a binary variable indicating that the partner is attractive or very attractive (vs. average, unattractive, or very unattractive). Elder (1969) used an index of personal attractiveness similar to the one I use.

Table 1. Mean characteristics by gender. National Longitudinal Study of Adolescent Health Romantic Pair Sample (2001-2002).[a]

	Women		Men	
Personal Attractiveness	Mean or proportion	SD	Mean or proportion	SD
Physical attractiveness[b]	3.63***	.87	3.44	.75
Grooming[b]	3.59***	.77	3.40	.73
Personality attractiveness[b]	3.79***	.85	3.61	.79
Personal attractiveness (3-item index[c])	3.67***	.69	3.48	.62
Socioeconomic Status				
Years of education	12.99**	1.99	12.78	2.01
Duncan Socioeconomic Index[d]	45.02***	21.07	38.37	21.47
Demographic Characteristics				
Age (years)	21.86***	2.38	23.47	3.29
Race				
White	.68		.67	
Black	.18		.20	
Other	.14		.14	
Relationship Characteristics				
Relationship duration (months)	39.42	27.82	39.42	27.93
Married	.35		.34	
Cohabitating	.37		.38	
Dating	.29		.28	

Notes:

[a]I use all available complete data to generate descriptive statistics, so the sample size varies between approximately 1,000 and 1,405.

[b]Scored from 1 (very physically unattractive, very poorly groomed, very unattractive personality) to 5 (very physically attractive, very well groomed, very attractive personality).

[c]An average of scores on physical attractiveness, grooming, and personality attractiveness (Cronbach's alpha=.78 for females, alpha=.76 for males).

[d]A measure of occupational prestige. Ratings range from 0 (low) to 96 (high).

* $p < 0.05$. ** p ;< 0.01. *** $p < 0.001$. P-values indicate significant gender differences.

Table 2a. Within-individual correlation of desirable characteristics, women only. National Longitudinal Study of Adolescent Health Romantic Pair Sample (2001-2002)[a]

	Personal Attractiveness				Socioeconomic Status	
	Physical	Grooming	Personality	Index	EDU	SEI
Personal Attractiveness						
Physical Attractiveness	1.00					
Grooming	.60***[b]	1.00				
Personality Attractiveness	.59***[b]	.49***[b]	1.00			
Personal attractiveness (3-item index)	.87***[b]	.79***[b]	.83***[b]	1.00		
Socioeconomic Status						
Years of education (EDU)	.12***[b]	.20***[b]	.14***[b]	.17***[c]	1.00	
Duncan Socioeconomic Index (SEI)	.13***[b]	.15***[b]	.12***[b]	.15***[c]	.24***[c]	1.00

Notes:

[a]I use all available complete data to generate descriptive statistics, so the sample size varies between approximately 1,000 and 1,405.

[b]Correlations and significance tests involving one or more ordinal variables are calculated using Spearman's Rho.

[c]Correlations and significance tests involving only interval variables are calculated using Pearson's correlation.

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

Table 2b. Within-individual correlation of desirable characteristics, men only. National Longitudinal Study of Adolescent Health Romantic Pair Sample (2001-2002)[a]

	Personal Attractiveness				*Socioeconomic Status*	
	Physical	Grooming	Personality	Index	EDU	SEI
Personal Attractiveness						
Physical Attractiveness	1.00					
Grooming	.54***[b]	1.00				
Personality Attractiveness	.56***[b]	.47***[b]	1.00			
Personal attractiveness (3-item index)	.83***[b]	.78***[b]	.84***[b]	1.00		
Socioeconomic Status						
Years of education (EDU)	.17***[b]	.23***[b]	.18***[b]	.23***[c]	1.00	
Duncan Socioeconomic Index (SEI)	.06[b]	.14***[b]	.07*[b]	.12***[c]	.43***[c]	1.00

Notes:
[a]I use all available complete data to generate descriptive statistics, so the sample size varies between approximately 1,000 and 1,405.
[b]Correlations and significance tests involving one or more ordinal variables are calculated using Spearman's Rho.
[c]Correlations and significance tests involving only interval variables are calculated using Pearson's correlation.
* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

Table 3. Correlation of women's and men's characteristics. National Longitudinal Study of Adolescent Health Romantic Pair Sample (2001-2002).[a]

	Male Partner's Traits					
	Personal Attractiveness				*Socioeconomic Status*	
Female Partner's Traits	Physical	Grooming	Personality	Index	EDU	SEI
Personal Attractiveness						
Physical Attractiveness	.26***[b]	.24***[b]	.24***[b]	.30***[b]	.18***[b]	.02[b]
Grooming	.27***[b]	.40***[b]	.23***[b]	.35***[b]	.20***[b]	.07*[b]
Personality Attractiveness	.29***[b]	.28***[b]	.33***[b]	.37***[b]	.17***[b]	.05[b]
Personal attractiveness (3-item index)	.32***[b]	.35***[b]	.31***[b]	.39***[c]	.19***[c]	.06*[c]
Socioeconomic Status						
Years of education (EDU)	.15***[b]	.18***[b]	.13***[b]	.19***[c]	.56***[c]	.27***[c]
Duncan Socioeconomic Index (SEI)	.09**[b]	.14***[b]	.08*[b]	.12***[c]	.20***[c]	.23***[c]

Notes:

[a]I use all available complete data to generate descriptive statistics, so the sample size varies between approximately 1,000 and 1,405.
[b]Correlations and significance tests involving one or more ordinal variables are calculated using Spearman's Rho.
[c]Correlations and significance tests involving only interval variables are calculated using Pearson's correlation.
* p < 0.05. ** p < 0.01. *** p < 0.001.

Table 4. Correlation of difference (his minus her) between women's and men's characteristics. National Longitudinal Study of Adolescent Health Romantic Pair Sample (2001-2002). [a]

	Difference (his minus her) in Personal Attractiveness				Difference (his minus her) in Socioeconomic Status	
	Physical	Grooming	Personality	Index	EDU	SEI
Difference in Personal Attractiveness						
Physical Attractiveness	1.00					
Grooming	.46***	1.00				
Personality Attractiveness	.46***	.33***	1.00			
Personal attractiveness (3-item index)	.83***	.73***	.78***	1.00		
Difference in Socioeconomic Status						
Years of education (EDU)	-.03	.04	.03	.02	1.00	
Duncan Socioeconomic Index (SEI)	.06	.07*	.04	.07	.19***	1.00

Notes:

[a]I use all available complete data to generate descriptive statistics, so the sample size varies between approximately 1,000 and 1,405.

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$. Correlations and significance tests are calculated using Pearson's correlation.

Table 5. Regression of the female partner's personal attractiveness on the male partner's socioeconomic status and personal attractiveness, and on the female partner's own socioeconomic status. National Longitudinal Study of Adolescent Health Romantic Pair Sample (2001-2002). N = 1,405. [a]

	Dependent Variable: Female Partner's Personal Attractiveness (3-Item Index)			
	Model 1a	Model 1b	Model 2a	Model 2b
Socioeconomic Status:				
Male partner's years of education	.17***	.06		
Female partner's years of education		.06		
Male partner's Duncan Socioeconomic Index			.07*	-.00
Female partner's Duncan Socioeconomic Index				.13***
Personal Attractiveness (3-item index)				
Male partner's personal attractiveness		.37***		.38***

Notes:
[a] Models are estimated using multiple imputed datasets. With the exception of dichotomous variables, all measures are standardized. All regressions control for race, age, relationship duration, and union status. Models predicting the male partner's attractiveness produce equivalent results.
* p < 0.05. ** p < 0.01. *** p < 0.001.

Table 6. Regression of a selection of measures of the male partner's socioeconomic status on the female partner's personal attractiveness and socioeconomic status, and on the male partner's own personal attractiveness. National Longitudinal Study of Adolescent Health Romantic Pair Sample (2001-2002). N = 1,405. [a]

	Dependent Variable: Male Partner's Socioeconomic Status (EDU or SEI)			
	EDU		SEI	
	Model 1a	Model 1b	Model 2a	Model 2b
Personal Attractiveness (3-Item Index):				
Female partner's personal attractiveness	.17***	.05*	.08*	.01
Male partner's personal attractiveness		.11***		.10**
Socioeconomic Status:				
Female partner's years of education (EDU)		.51***		
Female partner's Duncan Socioeconomic Index (SEI)				.19***

Notes:

[a] Models are estimated using multiple imputed datasets. With the exception of dichotomous variables, all measures are standardized. All regressions control for race, age, relationship duration, and union status. Models predicting the female partner's socioeconomic resources produce equivalent results.

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

Table 7. Coefficients from negative binomial regressions that examine patterns of exchange and matching. National Longitudinal Study of Adolescent Health Romantic Pair Sample (2001-2002). N = 1,405.[a]

	Education & personal attractiveness		SEI & personal attractiveness	
	Model 1a	Model 1b	Model 2a	Model 2b
Matching on:				
Educational attainment (EDU)[b]	1.18***	1.18***		
Duncan Socioeconomic Index (SEI)[c]			.17	.17
Personal attractiveness (3-item index)[c]	.89***	.89***	.87***	.87***
Gender-neutral exchange:[d]				
Personal attractiveness for EDU	.00	.10		
Personal attractiveness for SEI			-.12	-.06
Gender-traditional exchange:[d]				
Her personal attractiveness for his EDU		-.20		
Her personal attractiveness for his SEI				-.12
Model Fit				
Model degrees of freedom	7	8	7	8
Residual degrees of freedom	249	248	249	248
Likelihood-Ratio Chi^2 (average)	80***	80***	64***	65***

Notes:
[a] Regressions are estimated using multiple imputed datasets.
[b] Less than high school, high school graduate, some college, four-year college graduate or higher.
[c] Grouped into four categories with divisions at the gender-specific 25th, 50th, and 75th percentiles.
[d] In a gender-neutral exchange either partner may trade socioeconomic status for the other partner's personal attractiveness. In a gender-traditional exchange the male partner trades his socioeconomic status for the female partner's personal attractiveness.
* p < 0.05. ** p < 0.01. *** p < 0.001.