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TRUST IN INTIMATE RELATIONSHIPS

THE INCREASED IMPORTANCE OF EMBEDDEDNESS
FOR MARRIAGE IN THE UNITED STATES

Arnout van de Rijt and Vincent Buskens

ABSTRACT

Due to the rise of a market for casual relationships, investing in a
serious relationship now requires more trust than it did four decades
ago. We develop a theory of trust and embeddedness in intimate
relationships. One implication of the theory is that given the
increased importance of trust, the effects of embeddedness on
marriage chances should have increased. Analyses were performed
on data from the Chicago Health and Social Life Survey. Various
measures of embeddedness were employed. The hypothesis on the
increasing importance of embeddedness for marriage found empiri-
cal support in the effects of each of these measures.

KEY WORDS ● embeddedness ● marriage ● social networks ● trust

Introduction

During the last decades of the 20th century, a market for short-term
intimate relationships emerged. This emergence originated in the
sexual revolution, during which technological advancements and
changes in legal and normative systems came to jointly facilitate a
new standard of sexuality (Allyn 2001). The advent of birth-control
technology made it easier for couples to have sex without commit-
ting to a durable relationship, illustrated by the more common
reports of premarital sex (Forste and Tanfer 1996; Treas and
Giesen 2000). Individualization introduced values of independence
and self-exploration that are less compatible with commitment to
a durable relationship (Lesthaeghe and Surkyn 1988; Giddens
1991; Beck and Beck-Gernsheim 1994). And through secularization,

normative systems that used to enforce premarital abstinence eroded (Espenshade 1985; Waite et al. 1986; Clarkberg et al. 1995).

The sexual liberalization of the late 20th century has had an adverse effect. The rise of the market for short-term relationships has jeopardized the market for long-term relationships. While finding a date has never been easier, finding a future spouse has become much more challenging. Those who desire more than casual intimacy can no longer be certain that the other has similar desires. Committing to a relationship is now risky. It may thus happen that a couple, because of a lack of trust, unnecessarily postpones family formation or even gives up on it altogether.[1]

Following Granovetter (1985), various researchers have emphasized the importance of *embeddedness* – the temporal, network and institutional environment of a relationship – in overcoming trust problems in durable relations (Raub and Weesie 1990, 2000; Baum and Oliver 1992; Portes and Sensenbrenner 1993; Romo and Schwartz 1995; Uzzi 1996, 1997; Montgomery 1998). At the dyadic level, relationship investments serve as indications of serious intentions and make it more costly to leave the relationship. In this way, trust can increase within a relationship over time. At the network level, shared friends and acquaintances function as sources of information on the trustworthiness of the partner and as sanctioning potential if trust is violated.

In this article, we develop a theory of embeddedness in intimate relationships. From this theory, we deduce the hypothesis that the increased importance of trust in intimate relationships has made embeddedness a more crucial factor, increasingly distinguishing those who marry from those who do not or do not yet marry. Data from the Chicago Health and Social Life Survey (CHSLS) allow us to test this hypothesis for the period 1950–1997.

Theory and Hypotheses

We present a theory on the importance of embeddedness for explaining marital decision-making. We argue that marriage constitutes a twofold trust problem in which embeddedness facilitates trust. The theory is of a level of generality that allows for the accommodation of many of the explanatory mechanisms proposed earlier in the marriage literature. Much of the language we will be using stems from the sociological rational choice tradition, which means that the reader can expect to find terms such as 'utility' and 'love' in the

same sentence. The choice for such a theoretical framework is not motivated by a desire to reduce the social processes operating in the most intimate of human relations to egoistic calculation – to be sure, sociological rational choice theory does not preclude altruism in any way (Coleman 1992; Heckathorn 2001) – but rather to underscore our belief that decisions with such potential emotional repercussions as placing trust in a loved one and committing oneself to the happiness of a single other cannot reasonably be argued to be made in pure naiveté.

Marriage as a Twofold Trust Problem in Intimate Relationships

Before we can develop a theory on the role of trust and embeddedness in marriage decisions, we have to define what we mean by trust. We define a trust situation as a choice situation of two partners that takes on the form of a trust game (Dasgupta 1988). Figure 1 is a game-theoretic representation of a trust game (Kreps 1990). The following analysis of the game shows that the placing of trust by the trustor is not necessarily rational. In a single encounter, a rational trustee will abuse trust if it is placed, because the utility from abusing trust is higher than the utility from honoring trust ($T_2 > R_2$). Therefore, a rational trustor will not place trust because the utility from no trust is higher than the utility from abused trust ($P_1 > S_1$). The two actors will as a consequence arrive at the single equilibrium outcome where they obtain P_1 and P_2. Since placing and honoring trust would have yielded a higher utility for both actors ($R_1 > P_1$ and $R_2 > P_2$), the equilibrium outcome is Pareto-inefficient. The actors face a social dilemma because individually rational behavior leads to a collectively sub-optimal result. This formalization of a trust problem allows us to define trust as the extent to which a trustor dares to place trust in the trustee. More trust is needed if the trustor loses more if trust is abused (i.e., S_1 is smaller) and if the trustee has a larger temptation to abuse trust (T_2 is larger).

In accordance with earlier research, we argue that if two partners have initiated a *traditional* long-term relationship, specialization in household labor by the woman constitutes a trust problem.[2] If the woman chooses not to specialize in household labor, both partners keep their jobs and share household activities. If she decides to specialize in household labor, she quits her job and makes the man fully responsible for the provision of income. The man then has more time to work, being freed from household labor. If the
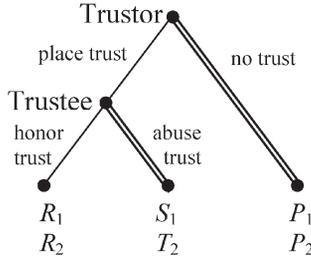
Figure 1. Extensive Form of a Trust Game. $R_1 > P_1 > S_1$ and $T_2 > R_2 > P_2$. Double Lines Indicate Equilibrium Path of Play

man finds another woman, he can choose to quit the relationship or continue the relationship with his current partner.

Figure 1 fits this decision-making situation. Many factors make honored intimate trust preferable to no trust at all, $R_1 > P_1$ and $R_2 > P_2$: love, the possibility of having one's children grow up in a two-parent family, expectations from parents and family to have a serious relationship and regular intimacy. Economic factors are also important. The lower earning capacity of a woman in a traditional relationship makes trading the income from his hours of market work for hours of household labor mutually beneficial, since it results in a higher household income combined with the same amount of performed household activities. Other economic factors are the generally better payment of full-time jobs as compared to part-time jobs and needing only one car. As the man further specializes in earning money, the woman's value on the labor market drops. Not participating in the labor market, she becomes less and less attractive to potential future employers. If the woman were to separate from her husband after having specialized in household labor, she would find herself with devalued human capital and possibly children to take care of as well, being less able to make a living. She would be worse off than if she had not placed trust ($P_1 > S_1$). Moreover, it would be disadvantageous for a woman to divorce after specializing in household work (Smock et al. (1999) estimate the negative effects of divorce on women's economic well-being and find these to be substantial yet somewhat smaller than generally assumed; see Rusbult and Martz (1995) for an analysis of the likelihood of married women remaining in abusive relationships). That is why no action on behalf of the woman is considered after trust has been placed.[3] Unlike the woman, the man has specialized in earning

money. Thus, if he were confronted with a new love, it could be rational for him to quit ($T_2 > R_2$). Anticipating this, a rational woman would withhold trust and (continue to) participate on the labor market during the course of the relationship.

The marriage contract solves to some extent the trust problem of household specialization. The contract specifies the legally enforceable payment of alimony/spousal support and child support.[4] This payment decreases the temptation (T_2) to abuse trust for the man as a husband. Also, the abuse of trust is now less costly (S_1 is larger) for the woman because she is legally guaranteed financial support. See England and Farkas (1986), Frank (1988) and Raub and Weesie (1993) on the uses and limitations of the marriage contract in the context of trust problems, and Feld (2003) for an analysis of the *covenant* marriage, which makes divorce very difficult and is available to couples in some southern states of the United States.

Although a marriage contract can alleviate the trust problem that concerns the possibility that the financially independent partner leaves, there is a second trust problem that is not covered by the marriage contract. If two partners start dating, they are not sure if their relationship will develop into a serious one. And, even if *one* partner is sure about his or her own feelings and would be willing to commit to a long-term relationship, it remains questionable whether or not the other is willing to commit as well. One of the partners might unfaithfully be having a relationship with a third person without the other partner being aware of this. In contrast to the trust problem of household specialization, the partners face this second trust problem from the moment of romantic involvement. If both partners do not intend the relationship to develop into a serious one, they take any opportunity of infidelity and the relationship will not last long. However, if at least one of them thinks he or she would like to further invest in the current relationship, there is a problem. It is hard to tell whether the other wants the same, but even if so, the other faces the same uncertainty. One may show good intentions to get the other to share his or her bed, but cheat when an alternative partner turns up. Before the marriage decision even comes into question, both partners have to be convinced that they are dealing with someone who intends to form a long-term relationship.[5]

We will now investigate what the roles of trust and embeddedness are in the decision to start building a durable relation with a partner. Women and men in the market for relationships pursue certain goals

with a future partner. Laumann et al. (2004) distinguish between *transactional goals* (such as sexual pleasure) that can be pursued in a short-term relationship and *relational goals* (such as love and raising children) that can also be pursued in long-term relationships. Correspondingly, we distinguish between relational-goal oriented and transactional-goal oriented partners. If two partners pursue only transactional goals, neither will invest in a long-term relation. They are satisfied with the short-term relation. However, if someone is interested in a long-term relationship, he or she has to choose whether or not to invest in it. As in the trust game, the problem is that the worst outcome for a relational goal-oriented partner is to invest in a long-term relationship with a partner who does not. Returns on the investment would never come. The best outcome is reached if a relational goal-oriented person meets another relational goal-oriented person and they both invest in the long-term relationship. Therefore, the decision to invest depends on three main variables:

1. One's estimate of the probability that one's partner pursues relational goals.
2. One's own interest in a marriage and potential gains of such marriage.
3. Losses as a consequence of investments in a long-term relationship, if the partner eventually turns out not to be interested in the relationship.

We thus hypothesize that the probability that a person invests in a long-term relationship *increases* with both her estimate of the likelihood that her partner also invests and her gains from a marriage and *decreases* with the losses she would incur from being deceived.

Role of Embeddedness

We have argued that the marriage contract solves to a considerable extent the trust problem of household specialization but cannot solve the preceding trust problem of durable partner selection. However, there are other possibilities for solving trust problems. Raub and Weesie (1993, 2000) distinguish three general solutions to trust problems: *dyadic embeddedness*, *network embeddedness* and *institutional embeddedness*. Embeddedness refers to the altering of the structure of the decision-making situation by its environment.

The institution of marriage is an example of institutional embeddedness. It operates through a reduction in the utility of trust abuse by attaching a legally enforceable sanction to this action. Apart from marriage (and the cohabitation contract, common in Western Europe) no institutional arrangement exists that solves trust problems in intimate relationships. In the remainder of this section, we focus on how dyadic and network embeddedness affect behavior in the particular cases of intimate partner selection and long-term commitment decisions. Recall that we have defined trust as the extent to which a trustor dares to place trust in a trustee. By reducing the utility of trust abuse, embeddedness makes placing trust for trustors less risky. Thus, there is more trust if there is more embeddedness. A trustee can therefore be considered trustworthy even if he would abuse trust without a doubt in the absence of embeddedness.

Dyadic embeddedness refers to the past and potential future interactions *between the same actors*. The effect of dyadic embeddedness operates through two mechanisms: *learning* and *control* (for a more elaborate discussion see Buskens 2002; Buskens and Raub 2002). Learning refers to the experiences partners have had in the past. If one has invested in the relationship in the past, one is more likely to be interested in a long-term relationship and can thus be expected to do so as well in the future. Similarly, if one's partner has invested more in the relationship, one will become more convinced that he or she is interested in a long-term relationship. Control is related to the sanctioning ability in the case of opportunism. The more two partners have invested in their relationship, the more they can lose if opportunistic behavior leads to the other breaking up. In this way, sanctioning potential and thus the probability that they will choose each other as long-term partners increases as relationship investments are made, possibly leading to a marriage.

Network embeddedness refers to third parties that are connected to two partners in a durable relationship. These third parties affect decision-making within the relationship. As with dyadic embeddedness, a learning mechanism and a control mechanism can be identified. Third parties who have positive or negative experiences with a person might inform potential future partners of this person about these experiences. Being embedded in a network, a person learns about the trustworthiness of a potential partner from third parties. Partners control each other's behavior, by being able to complain to other potential partners or friends of the partner about his or her behavior. A person may control a partner not only through

a *voice* network, as just described, but also through an *exit* network; i.e. if a person has many alternatives on the marriage market, this person might quite easily leave the present partner and find a new one.

There is an *ambivalent* relationship between marriage and embeddedness. Marriage implies the solution of the trust problem of durable partner selection and is *less* likely to occur if there are no solutions at hand to this trust problem. Marriage, at the same time, solves to some extent the trust problem of household special-ization and is therefore *more* likely to occur if this trust problem cannot be solved in an alternative way. Dyadic embeddedness and network embeddedness, however, are potential solutions to both problems. Therefore, they *substitute* for marriage if they solve the trust problem of household specialization, but *complement* it where the trust problem of durable partner selection is concerned. Two partners will be *less* inclined to marry if their non-contractual embeddedness is strong enough to solve the trust problem of house-hold specialization and *more* inclined to marry if it is strong enough to solve the trust problem of durable partner selection.

Therefore, we expect dyadic and network embeddedness to have a positive effect on the probability that partners decide to build a long-term relationship, but a negative effect on whether or not they marry subsequently. This implies that the *net effect* of embeddedness on marriage chances is *unclear*. However, as we stated in the intro-duction of this article, the partner selection problem has increased over time. Therefore, the relative importance of embeddedness to solve this problem has increased as well. The advent of birth control technology and the wider acceptance that people have sexual relations before they marry have led to higher uncertainty about the intentions of a partner one starts a relationship with. This un-certainty implies that learning about a partner becomes more and more important for making a partner-selection decision. In addition, having other control options that decrease the possibility that a partner will leave becomes more important as the general societal sanctions against changing partners decrease. As a consequence, dyadic embeddedness (e.g. spending free time together or cohabit-ing) and network embeddedness (e.g. sharing friends and acquain-tances) are more likely to help partners solve the trust problem of durable partner selection in the present than in the past.

There are additional reasons why one can expect an increase in the size of the embeddedness effect over time. Traditional relationships have become less common and women's economic opportunities

have improved. In many current durable intimate relationships, both partners work. Some household chores are facilitated by new technology (Nickols and Fox 1983; Weinberg and Winer 1983; Kim 1989), others are outsourced (De Ruijter et al. 2003; De Ruijter 2005), and the remainder is usually largely taken care of by the female partner (Coverman 1985; Schor 1992). Hence, the trust problem of household specialization has become smaller. The negative part of the embeddedness effect on marriage that operates through the trust problem of household specialization has therefore decreased.

Hypothesis 1. The effect of dyadic embeddedness on marriage chances has increased during the last four decades, i.e. it has become less negative or more positive.
Hypothesis 2. The effect of network embeddedness on marriage chances has increased during the last four decades, i.e. it has become less negative or more positive.

The theory we have just presented is not meant as a competing alternative to established theories of marital decision-making. On the contrary, our intention is to combine a theory of embeddedness developed elsewhere with the existing literature, thereby adding a new dimension to it. Before we turn to the empirical analyses, we show that our theory can easily accommodate factors that are known to affect marriage. The effect of each factor can be argued to operate through a change in one or more of the three before-mentioned variables: probability of dealing with a short-term oriented partner, potential gains from marriage and losses from failed investment.

Accommodation of Established Theoretical Mechanisms

Religious persons are more likely to marry (Thomas and Cornwall 1990; Thornton et al. 1992; Goldscheider and Goldscheider 1993; Thornton and Camburn 1993; Stolzenberg et al. 1995; Call and Heaton 1997; Bumpass 2002). This fact in itself makes being religious a strong signal of truly pursuing relational goals. A religious person has an easier time convincing the partner of his or her true intentions. Religiosity, however, does more than simply facilitating the identification of partners with serious intentions. The gains from a successful marriage are higher to a religious person than

to a non-religious person. In all major religions, marriage has an intrinsic value and the religious environment shows approval to married couples and disapproval to non-married couples. Because relationship failure will also be more costly to religious persons due to disapproval from the religious community, we expect a religious person to be more careful in starting romantic involvement, but as soon as this person is involved he or she is more willing to invest in a long-term relationship, in particular, if the partner is religious as well.

One's belief that sex should come after marriage is also expected to increase one's odds to marry (Laumann et al. 1994; Gottman 1998; Anderson 1999; Furstenberg 2001). First of all, having this belief increases the gains from marriage. Moreover, it serves as a signal that one is less interested in short-term transactional goals and, therefore, that one has the intention to develop a long-term relationship.

Both the traditional specialization hypothesis (Becker 1973, 1981) and the career-entry hypothesis (Oppenheimer 1988) about the effect of education on marriage chances can be accommodated. Whether it is the gains from specialization that make marriage attractive or the joint earning capacity of the spouses, either concerns relational goals.

Persons who cheat on their partners before marriage are clearly less willing to invest in a long-term relationship with the focal partner, since they invest in alternative relations at the same time (Laumann et al. 1994; Treas and Giesen 2000). Even if we neglect the possibility that the focal partner finds out about the deceit, this will decrease marriage chances.

Unmarried couples with children as well as couples in which the woman is pregnant are more likely to marry. Pregnancy and having kids are relationship investments in themselves and are indications that partners are willing to commit to a long-term relationship.

Thus, effects of factors that are known to influence marriage decisions are consistent with our theory. In our empirical analyses, we control for these factors, making sure time-dependent embeddedness effects cannot be a byproduct of parallel changes in these factors. We have argued that since the 1960s it has become much more commonplace that partners pursue transactional goals. Therefore, the theory is also compatible with the observation that

partner selection decisions take more time and marriage is increasingly being postponed (Marini 1978; Rodgers and Thornton 1985; Norton and Moorman 1987; Schoen 1987; Oppenheimer 1988; Kalmijn 1991; Qian and Preston 1993; Oppenheimer et al. 1997; Goldstein and Kenney 2001). This extra time is used for convincing one's partner that one pursues relational goals and for obtaining a better estimate of the probability that one's partner does too. The partners may nevertheless fail to convince one another. Whether or not they succeed, we argue, crucially depends on the embeddedness in the relationship.

The embeddedness indicators we will be using in the empirical analyses – the amount of shared free time, the extent to which social networks overlap, and a timely measure of cohabitation – are not novel either. Just like the indicators of marriage gains, costs, and belief in the partner's serious intentions, which we discussed above, the effects we have argued these indicators to have are not at odds with those that have previously been attributed to them. Shared free time and family-oriented social networks have been said and found to facilitate the solution of relationship problems and reinforce family-related norms (Stolzenberg et al. 1995; Furstenberg 2001; Wilcox 2002). And cohabitation has been argued to help in screening unsuitable mates (Becker 1973, 1981; Clarkberg et al. 1995; Lillard et al. 1995).

Lastly, the relationship between cohabitation and marriage has been thoroughly studied elsewhere. The facilitation of trust through a relationship investment by both sides is just one of various mechanisms linking the two. For a minority of American couples, cohabitation is an independent family arrangement (Bumpass et al. 1991; Smock 2000). Furthermore, several studies have shown that couples that cohabited prior to marriage have higher odds of divorce (Fergusson et al. 1984; Burch and Madan 1986; Balakrishnan et al. 1987; Bennett et al. 1988; Schoen 1992), which would be a puzzling finding if the only thing cohabitation did were to facilitate trust.[6] Also, Brines and Joyner's (1999) finding that cohabiting couples typically do not specialize suggests that the extent to which cohabitation-based embeddedness facilitates the solution of the trust problem of household specialization is limited. We should once more underscore that we are not primarily interested here in the net effect of cohabitation. Hypothesis 1 concerns the *change* in this effect. If the net effect used to be negative, it should have

become less so; if it were positive in the past, it should be even more positive in the present.

Data and Methods

For the test of our hypotheses we draw on data from the CHSLS, a retrospective survey containing questions about past and current relationships (National Opinion Research Center 1997). Respondents are from different birth cohorts and their relationships start and end in different years. Moreover, data is included on time changes in the embeddedness in the relationships between respondents and their partners. This allows for the estimation of a time-dependent effect of embeddedness on couples' marriage chances.

The CHSLS was performed between 1995 and 1997 on a stratified random sample of the non-institutionalized Chicago population (i.e. excluding people living in group quarters, such as barracks, college dormitories and prisons). This sample consists of five sub-samples of two geographical levels. The first is the city level, and consists of respondents from Cook County as a whole including the inner suburban ring. The other four are targeted neighborhood areas within the city of Chicago. Each neighborhood area is characterized by the dominant presence of one race. A total of 2114 respondents, 890 from the city level sub-sample and 1224 from the four neighborhood sub-samples, answered detailed questions on their past sexual experiences. Response rates were 71 percent for the city-level sub-sample and ranged from 60 to 78 percent for the neighborhood sub-samples.

The survey was executed using Computer Assisted Personal Interview (CAPI) technology, meaning that the answers of respondents were directly entered into lap-top computers. Respondents were surveyed in person by experienced interviewers from the National Opinion Research Center (NORC), who matched respondents on various master statuses such as race and ethnicity, for an interview averaging 90 minutes. Spanish-speaking interviewers were employed so that recent migrants lacking facility in English could be included. Because the survey asked very intimate questions, special care was taken of response validity. For example, a part of the questionnaire was self-administered (see Laumann et al. 2004: ch. 2, for details on these validity issues).

The multi-level structure of the dataset allows for inter-neighborhood comparison. Since differences between Chicago neighborhoods are not relevant here, all analyses are performed on the pooled sample. Because the master status variables with distributions that notably differed from those for the overall population (mainly gender and race) are included as independent variables in our models, issues of biased effect estimation are partially addressed. We further investigated the extent to which the problem of potentially biased estimation due to heterogeneity between neighborhoods could play a role. For all models shown in the results section, we ran a parallel model including neighborhood dummy variables. In addition, we ran the models for each neighborhood as well as the representative city sample separately. Results were very similar and all of our substantive findings were reproduced.

The data include information on many features of the sexual relationships of the respondents; demographic characteristics and sexual histories of both partners, information on the way they became acquainted, the physical and social venues of meeting places, the social networks surrounding relationships, in-bed activities and the subjective quality of relationships. A substantial part of the interview concerned questions about the respondent's *two* most recent sexual relationships – if these existed. This gives us particularly detailed information on the timing of events during the relationships of the respondent with her/his two most recent sexual partners. The presence of second most recent relationships in the data reduces the usual bias due to selection on successful relationships. We can therefore expect more variance between relationships in characteristics that distinguish successful from unsuccessful relationships.

Operationalization of the Variables

The questionnaire asked respondents whether or not they had ever been married to any of their two most recent sexual partners and, if so, at what time that marriage took place. This is our dependent variable.

The following independent variables were employed.[7] The relationships together spanned the period between 1950 and 1997. We created a calendar time variable with years as measurement unit in order to control for base line changes in marriage propensities

over time. Respondents reported their race and that of their partner by picking one of the following alternatives: White/Caucasian, Black/African American, Alaskan native/native American/American Indian, Asian/Pacific Islander/Oriental, indigenous Latin American, Hispanic, other (specified) and Mestizo. To control for racial marriage trends, we assigned couples to either of three categories: White–White, African American–African American, and other. The 'other' category thus includes all couples in which at most one partner is White and at most one is African-American (less than 10% of CHSLS relationships are racially mixed). The numbers of years of education completed by the respondent and by the partner were used as indicators for long-term earning power. We created a three-category *relative education* variable by subtracting the number of years of education for the woman from those for the man to incorporate the effect of earning power differences.[8]

Three measures of embeddedness are employed in the analyses. Respondents were asked to indicate the amount of *free time shared* with their partner on a six-point scale ranging from 'none' to 'all'. This variable straightforwardly measures the extent to which partners collect information about each other and are willing to invest in the relationship.

Cohabitation is an additional measure for the time that partners spend together. Moreover, sharing a household is an explicit relationship investment. In our analysis, cohabitation is a time-dependent variable. It is coded 1 for each premarital month during which the partners were living together and 0 for each premarital month during which they were not.

Respondents were further asked to list up to three adults whom they spent much free time with during the 12 months preceding the interview and three adults whom they discussed important matters with. The respondent was asked to provide some additional information about these people, including their relation to the partner of the respondent at the time of the romantic involvement. We computed the proportion of these social relations that the partner *shared* as *friends* or acquaintances and that had known the partner *before* the respondent. In this way the causality problem of marriage and shared friends is accounted for: only shared friends that were shared at the time of romantic involvement are included. Note also that as a consequence children are automatically excluded. Of course, we measure only a part of the network overlap between the respondent and his or her partner, but given that the partner

does not complete a questionnaire him or herself and questions have to be answered retrospectively, this is close to what is practically possible. Because this variable was highly skewed we transformed it by taking the logarithm of the original scores. This transformation had no effect on the results.

The following control variables were employed. Respondent's *age at* the *start* of the *relationship* was used in the analyses in both linear and quadratic form. The quadratic variable was constructed as the square of the original variable centered around the mean (25.5) such that the main effect is interpretable as the effect at the mean age. The gender of the respondent was also controlled for. The corresponding variable has value 1 if the *respondent* was *male*. We created a *couple education* variable by averaging the lengths of education of the man and the woman. The religiosity of respondents was measured by their frequency of church attendance, a seven-point scale variable ranging from no attendance (0) to daily attendance (6). A four-category variable measuring respondents' *value* towards *pre-marital sex* was included as well, ranging from 'not wrong at all' (1) to 'always wrong' (4). Respondents were asked whether they and their partner had children or whether they had *ever* tried to become *pregnant*. Further, information was available on whether the two most recent sexual relationships overlapped, in our analysis included as *concurrent relationships* variable.

Invalid missing data points for independent variables – respondent refused or did not remember – were imputed by best-subset regression (118 cases). Excluding these cases with imputed values does not change the results. Cases with valid missing data – the CAPI program skipped the question due to an answer to a previous question that made the current question irrelevant or unnecessary – were removed (22 cases). Table 1 presents the mean, standard deviation, minimum and maximum value, and the number of cases prior to imputation for all variables used in the analysis of the CHSLS data.

Statistical Model

We employ the Cox proportional hazards model (Yamaguchi 1991: ch. 2; Blossfeld and Rohwer 1995: ch. 9, including applications on marriage and divorce).[9] It estimates marriage chances per non-married relationship time unit without making any assumption on the general change of marriage chances over the course of the

relationship, and it allows for time-varying variables. The dependent variable, a couple's marriage hazard, is analyzed over the course of each relationship.[10] Each time unit that does not end in marriage is assigned a value 0, and is assigned 1 otherwise. This means that for couples that have not married (yet) all time units take on value 0, and that for couples that have married only the last time unit takes on value 1. The Cox model compares the values of the first time units of all cases and the second time units of all cases, and so on, and addresses the differences in occurrence to the independent variables included in the model. Coefficients reported on in the results section are natural logarithms of hazard ratios. These parameter estimates should be interpreted as follows. Logged effects are additive, so that a value 0 for the logarithm of the estimate b_c of the effect of covariate x_c indicates no effect. Positive values represent variables that make a couple's monthly marriage chance *increase* and negative values represent variables that make a couple's monthly marriage chances *decrease*.

The Cox model has several important advantages over alternative models for current purposes (see again, e.g. Blossfeld and Rohwer 1995). The simplest way to estimate marriage chances is by performing a probit or logistic regression model on the chance that a relationship eventually develops into marriage without including relationship time in any way in the model. One problem with such an analytical approach is that *relationships* that started rather shortly before the moment of interview have not had a fair chance to develop into marriage. This problem is fairly pronounced here because the comparison of young with old relationships plays a central role in the test of the hypotheses. A second problem is that the marriage chances of *persons* who would have had higher marriage chances than others if only they could initiate the same number of relationships as those others are underestimated. Including relationship time as an independent variable in the model as a solution creates new problems. The model then assumes a specific relationship between the general marriage chances in early stages and those in later stages. This could result in the biased estimation of variables that are correlated with relationship time or variables that are mediated by relationship time in their effects on marriage chances. A more severe limitation of such an adjusted logistic regression model is that it does not allow for time-varying independent variables. It would, for example, not be possible to distinguish between couples that cohabited during almost their entire non-

married relationship and those that started to cohabit just shortly before marriage. If these kinds of couples structurally differ in their marriage chances, estimates of the effect of prior cohabitation on a couple's chance to marry could be wrong.

CHSLS respondents reported on their two most recent relationships if they had at least two relationships. We accounted for this type of respondent-level interdependence of observations by using a clustered estimation of standard errors (Huber 1967).

The risk period ends in one of three possible ways: Through marriage, through relationship dissolution, or because the moment of interview was reached. We treated both the second and the third ending as censors. The moment of relationship dissolution was measured by the moment of last sex. The start of the relationship was measured by the moment respondents indicated they got first romantically involved with their new partner. Events that took place in the same month ('ties') were handled using the 'Efron' method (Efron 1977).[11]

Relationship months do not fall within the scope of our theory and hence are not included in the empirical analysis in the following cases: (1) if the moment of romantic involvement was reported to fall less than three months before marriage; (2) if the respondent or partner was married with someone else during that month or had been married before;[12] (3) if they had had sex only once (in this case the CAPI computer program skipped questions that are crucial for our analyses); or (4) if the relationship months took place before age 18 of either the woman or the man.[13] If the starting or ending year of the risk period was missing, the case was dropped. This case selection procedure yielded 2496 CHSLS relationships.[14] As was mentioned before, missing values on independent measures were imputed.

The Cox model allows for time-varying variables. For some of the independent variables described before, information on timing was available for the construction of a time-varying version of the variable. The following time-varying variables were employed: (1) four variables indicating whether the relationship month considered belonged to the 1950s and 1960s,[15] 1970s, 1980s or 1990s; (2) a variable indicating whether cohabitation took place before this month; and (3) a variable indicating whether one of the partners had another, concurrent intimate relationship. All are coded 1 for relationship months during the period of the relationship to which they apply, and 0 otherwise. One thing that should be kept in

Table 1. Descriptive Statistics for All Variables Used in the Analysis

Variable	Mean	St. dev.	Minimum	Maximum	N
Dependent					
Ever married to partner	0.298	0.458	0	1	2496
Independent					
Relationship start	1986	9.530	1950	1997	2496
In 1950s or 1960s	0.085	0.279	0	1	
In 1970s	0.144	0.351	0	1	
In 1980s	0.304	0.460	0	1	
In 1990s	0.467	0.499	0	1	
Racial composition couple					2479
both White	0.376	0.485	0	1	
both African American	0.294	0.456	0	1	
other	0.330	0.470	0	1	
Religiosity respondent	3.882	2.067	1	8	2496
Age respondent at relationship start	25.083	7.924	13	57	2496
Education female partner (in years)	12.762	3.751	6	21	2468
Education male partner (in years)	12.772	3.935	6	21	2479
Pre-marital value respondent	1.879	1.169	1	4	2489
Ever pregnant	0.399	0.490	0	1	2495
Relationships respondent are concurrent	0.309	0.462	0	1	2496
Shared free time	3.930	1.385	1	6	2495
Ever cohabited before marriage	0.295	0.456	0	1	2496
Shared friends	0.060	0.171	0	1	2441

mind is that effects for later years tend to yield higher levels of statistical significance – but not larger sizes – because there are more cases for these years in the dataset, as Table 1 shows.

Results

In Table 2, the results of six Cox models are shown. Models 1 through 5a are nested and the fit of each is a significant improvement of that of the previous model. In these models, calendar time is measured in years and its effect is estimated linearly. Model 5b reveals details on trend effects and has calendar time measured with decade dummies.

Model 1 includes only an estimate for the annual effect of calendar time. The effect is negative and highly significant. A clear decline in marriage is visible. More precisely, a couple's chance of marrying in a given year is about 96 percent ($e^{-0.044} = 0.96$) of their marriage chance in the previous year. This indicates that the overall US marriage decline after WWII can at least partially be attributed to a decline in the marriage chances of Americans during months in which they are already romantically involved.[16] The marriage decline could then not solely be due to a more picky search for romantic or sexual partners (Oppenheimer 1988).

In model 2, the race variables and their interactions with calendar time are included. The main effect of calendar time remains unaltered, meaning that White–White couples, the baseline category for race, have baseline marriage chances. African-American couples have lower overall marriage chances, 42 percent of those of White–White couples, and this difference increases over time (roughly $e^{-0.019} = 2\%$ each month). Thus, the diverging racial marriage trend discussed in recent marriage literature is visible in our data (Guttentag and Secord 1983; Espenshade 1985; South 1986, 1993; South and Messner 1988; Bennett et al. 1989; Ellwood and Crane 1990; Lichter et al. 1991, 1992; Raley 1995; Wood 1996; Brien 1997). The marriage chances of couples in the 'other' category differ from those of White couples as well, but to a lesser degree and this difference does not increase with calendar time.

The effects of the control variables are added in model 3. All remain constant throughout models 4–7 and mostly confirm well-known correlates with marriage chances. Couples in which the respondent attends church daily are per month 1.8 times

Table 2. Results of Cox Proportional Hazard Models for Effects on Couples' Monthly Marriage Chance

Independent variables	Dependent variable: couples' monthly marriage chance					
	Model 1	Model 2	Model 3	Model 4	Model 5a	Model 5b
Calendar time (years)	−0.044***	−0.043***	−0.013**	−0.018***	−0.027***	
1970s (vs. 1950s & 1960s)						−0.402*
1980s (vs. 1950s & 1960s)						−0.754***
1990s (vs. 1950s & 1960s)						−0.887***
African American		−0.871***	−1.099***	−1.040***	−1.019***	
× calendar time		−0.019*	−0.026**	−0.024*	−0.022*	
In 1950s & 1960s						−0.602*
In 1970s						−1.072***
In 1980s						−0.865***
In 1990s						−1.004***
Other than non-Hispanic White		0.115	−0.386***	−0.430***	−0.433***	
× calendar time		0.005	−0.009	−0.012	−0.012	
In 1950s & 1960s						−0.429*
In 1970s						−0.008
In 1980s						−0.443**
In 1990s						−0.512**
Age at relationship start			0.012*	0.007	0.008	0.007
Age at relationship start squared			−0.002***	−0.002**	−0.002**	−0.002**
Respondent is male			0.059	0.067	0.073	0.082
Sum couple education			0.015*	0.019**	0.020**	0.020**

Difference couple education			−0.007	0.000	0.001	0.000
Religiosity respondent			0.094***	0.099***	0.099***	0.100***
Pre-marital sex value			0.105**	0.107**	0.105**	0.108**
Ever pregnant while unmarried			1.375***	1.215***	1.196***	1.214***
Relationship concurrency			−1.115***	−1.028***	−1.034***	−1.040***
Shared free time				0.129***	0.155***	
× calendar time					0.006*	
In 1950s & 1960s						−0.026
In 1970s						0.108
In 1980s						0.133**
In 1990s						0.192***
Cohabiting				0.487***	0.549***	
× calendar time					0.022*	
In 1950s & 1960s						0.593
In 1970s						0.186
In 1980s						0.414**
In 1990s						0.699***
Shared friends				0.941***	1.112***	
× calendar time					0.079**	
In 1950s & 1960s						−0.741
In 1970s						0.694
In 1980s						0.743
In 1990s						1.559***
− Log-likelihood	4967.845	4919.550	4738.396	4704.707	4695.588	4689.916
Degrees of freedom	1	5	14	17	20	32
Number of cases	2496	2496	2496	2496	2496	2496

Notes: Coefficients are logarithms of hazard ratios; * = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$ (one-tailed tests).

($e^{0.094 \times 6} = 1.8$) more likely to marry than couples in which the respondent does not attend church at all. Couples in which the respondent has conservative values concerning sex and marriage marry at a rate that is 37 percent higher than the rate for non-conservative couples. Partners with more education are also more likely to marry. Monthly odds are 1.5 percent higher per year of schooling for any of the partners. The difference in education between the partners, however, does not seem to matter. The effect is virtually 0 in all models.[17] These findings match those of Mare (1991) and Sweeney (2002), who show that marriage chances increase with both female and male earning capacities. Respondents with concurrent relationships have 33 percent lower chances of marrying than those without concurrent relations. Couples in which the female partner has been pregnant during the relationship have four times the marriage chances of other couples. Whether the respondent is male or female does not affect the marriage chances of couples in any of the models. The age of respondents at the start of the relationship affects couple's marriage chances in a curvilinear way. Marriage chances initially rise but go down after age 28. It should be emphasized that the effect of calendar time is controlled for in the model and that relationship time is the time dimension in the event history model. Therefore, the effects of age do *not* partially represent effects of the cohort of the respective partners or of the stage of the relationship that they are at.

In model 4, the effects for the three embeddedness indicators are additionally estimated. All three embeddedness indicators affect marriage chances strongly and significantly. Couples that share more free time over the course of their relationship have significantly higher chances of marrying. Those who share all their free time are per month 1.9 times more likely to marry than those who share practically no free time. Furthermore, months during which partners are cohabiting are more likely to include a wedding than months during which partners are dating. This factor is 1.63. A net positive effect of cohabitation has been found before and also makes sense in the light of Brines and Joyner's (1999) findings that suggest that the extent to which cohabitation-based embeddedness alleviates the trust problem of specialization is limited. And lastly, sharing all of one's most important friends at the start of one's relationship versus sharing no friends increases marriage chances by a factor of 1.92. While the theory could not determine the net direction of the

effects of embeddedness, the empirical analyses clearly show that it is positive. What these results imply for our theory is that overall the complementary effect of embeddedness through the durable partner selection mechanism outweighs the substituting effect of embeddedness through the household specialization mechanism. One could argue that spending more time together, starting to live together, or getting to know one's partner's friends and acquaintances are not only factors that increase trust but might also be general indicators for relationship quality. Therefore, we will not make a strong claim about the main effects of embeddedness. The main confirmation of our theory should come from the tests of interaction effects with calendar time.

In model 5a, interaction effects of the three embeddedness indicators with calendar time are added. All interaction effects between embeddedness and calendar time are in the hypothesized direction and significant. The effect of free time increases each calendar year with 0.6 percent. This makes the free time effect in 1997 33 percent higher than in 1950. This interaction effect is significant at the 5 percent level. The effect of cohabitation increases each year with 2.2 percent and this interaction effect is significant at the 5 percent level as well, resulting in a 181 percent increase over the 47-year calendar time span of our data. These results provide strong support for hypothesis 1. The effect of sharing friends increases each calendar year with 8.2 percent implying that the effect in 1997 is no less than 41 times as large as the effect in 1950. This interaction effect is significant at the 1 percent level. Hence, hypothesis 2 also finds support. We want to emphasize that the support of the interaction effects with calendar time for the embeddedness indicators for our theory is less ambiguous than the support provided by the main effects in model 4. There is no alternative explanation for why our embeddedness indicators are more important for marriage in later years than in earlier years (we come back to this point in the next section). For the case of cohabitation, one would rather expect the opposite. While cohabitation used to be tightly connected to marriage until the 1970s, it has become more of a distinct way of life in the 1980s and thereafter. Model 5b makes these counteracting effects of cohabitation somewhat visible. The effect first declines between the 1960s and 1970s, but reverses in trend afterwards. The effects of the other two embeddedness indicators, shared free time and shared friends, however, increase monotonically over time.[18]

In sum, the results tell us that, in agreement with our theory, the effects of embeddedness on couples' marriage chances have increased over the last four decades. More specifically, spending free time together, knowing one another's best and closest friends, and living together have become more crucial factors in the determination of whether two intimate partners marry or not.

Some Remarks on the Validity of the Results

We have to realize that we work with retrospective data that might be biased toward the present. One implication is that the reported time partners spent together may partly be due to the fact that they spend more time together now, possibly as a consequence of the marriage. However, this alternative explanation does not apply to the other two embeddedness variables. The other two embeddedness variables were constructed such that they specifically measure premarital embeddedness. The shared friends variable includes only friends who met the respondent before the respondent met the partner. Hence, the network triangle was quite likely already in place before the moment of romantic involvement and is not an indicator for anything that was going on between the partners between the start of romantic involvement and marriage. The cohabitation variable is a time-dependent variable, so it also only measures premarital embeddedness.

A second worry concerns the downward bias that exists in reports on common friendships before romantic involvement. If this bias did not depend on relationship cohort, there would hardly be a problem. However, there is reason to believe that the bias is larger for older relationships than for recent relationships. For example, respondent memory regarding which friends were shared at the start of the relationship may vary with relationship length. And the proportion of friends that are currently shared and were shared in the past naturally declines as these friends move to another city or die. We therefore find it important to stress that such cohort-dependent bias only *strengthens* our results. Suppose our hypotheses were false and the effect of network embeddedness were time-constant (or even decreasing with time). Then, this bias would lead to a negative interaction effect with time: In the past, the same difference in marriage chance would be attributed to a smaller difference in network embeddedness. In spite of, *not* due to, the downward bias we do find an increasing effect.

It is possible that our embeddedness variables are indicators of something else in addition to premarital embeddedness. Another latent variable they may represent is relationship satisfaction. One could argue that the higher the satisfaction with the relationship, the higher marriage chances are and the higher levels of shared free time, shared friends and the more likely one is to cohabit. Such an argument would be compatible with our theory. One could then propose that relationship quality may have become more important a predictor of marriage chances, since relationship commitment is nowadays more emotion-based while it used to be based on economic necessity. These arguments together would form an alternative explanation of the increased effects of the embeddedness indicators. We tested this alternative explanation. We constructed a relationship satisfaction variable that averaged answers to the questions 'How emotionally satisfying do/did you find your relationship?' and 'How physically satisfying do/did you find your relationship?', interacted this variable with calendar time, and added it to the fifth model. The results supported the idea that relationship satisfaction has become a better predictor of marriage chances. The interaction effects of embeddedness and time, however, did *not* disappear. On the contrary, they hardly changed at all.

One could also question whether or not younger cohorts finding embeddedness more important than older cohorts causes the interactions with calendar time. We ran models without the other two measures of time as well as models with embeddedness interacted with the two other measures. This did not lead to nontrivial estimation differences, indicating little interference. As mentioned before, the data allow us to properly separate out these three time effects. The event history model disconnects 'calendar time' from 'age at the moment of interview', and when relationships start is by nature largely independent from the other two measures.

In principle, our analysis should be based on all relationships respondents have had. Therefore, one could wonder whether the bias created by having only the two latest relationships has caused the effects we find. This seems implausible. In most similar data sets, researchers only have information about the current relationship. We ran an analysis to see what we would find if we had only information on the current relationship. The effects weakened substantially. Therefore, we expect that having even more information about unsuccessful relationships would only strengthen the effects.

Conclusion and Discussion

There exists an ambiguous relation between marriage and trust. Marriage forms a confirmation of mutual trustfulness. At the same time, the marriage contract contains indications for a lack of trust. Among other things, it specifies the legally enforceable payment of alimony and child support in the case of a divorce. This ambiguity is resolved as soon as one identifies the different types of trust involved here. The marriage contract covers the risk that a preferable alternative partner shows up long after relationship investments have been made. It does *not* cover the risk that one's partner is not willing to make considerable investments in a relationship. Since such opportunists do not marry, marriage forms an indication that the trust problem of durable partner selection has been solved.

These two trust problems are explicitly distinguished in the theory we have presented. The theory constitutes an application of a more general theory of trust and embeddedness in durable relations, which has been successfully applied in the analysis of coalition government stability as well as relations between and within firms (Weesie and Raub 2000; Buskens et al. 2003). It allows for the incorporation of core elements of established theories of marriage and known effects on marriage chances. Moreover, it adds the dimension of embeddedness to the marriage literature. Since embeddedness helps to solve trust problems, it substitutes for marriage as far as the problem of household specialization is concerned, but complements marriage in the problem of durable partner selection. During the last four decades, decreased economic dependence of women, the advent of birth control technology and secularization have reduced the trust problem of household specialization, but augmented the trust problem of durable partner selection. The net effect of embeddedness has as a consequence become more positive over time.

Data from the Chicago Health and Social Life Survey, containing information on the timing of relationship events, allowed us to model the behavior in 2496 relationships dynamically. Time series analyses on these data proved the correctness of the above-mentioned prediction. Indeed, the effect of embeddedness at the dyadic as well as the network level turned out to be more positive for more recent relationships.

Our theory is consistent with the idea that the presumed decreasing social embeddedness of American society (Putnam 2000) is an explanation for decreasing marriage trends. However, our data do not indicate decreased embeddedness of couples in intimate relationships. The embeddedness variables could therefore not explain away marriage trends. Alternatively, the increased trust problem of partner selection might be part of the explanation of downward marriage trends. Due to the fact that we did not have a direct measurement of the size of trust problems we could not test this explanation.

Although the theory can be applied to the explanation of marriage trends, marriage is just one of many realizations of trust in intimate relationships. Its explanatory scope extends to variation in the prevalence of other events in intimate relationships that involve trust. It may help explain differences and trends in premarital task division, in money management such as shared bank accounts, or even in fertility and divorce rates (see Oppenheimer (1988) for evidence that after marriage network embeddedness discourages divorce and Esser (2003) that this effect has increased since the 1960s). All of the above examples concern actions that involve the trust of one partner in some future actions of the other and hence opportunities for embeddedness to differentiate between couples who successfully pursue relational goals and those who fail to do so.

Acknowledgements

NOTES

1. The notion of decreased trust in intimate relationships is in line with the hypothesis of a decline in general trust in American society, central in the work of a number of scholars (see, e.g. Fukuyama 1995; Putnam 1995; Seligman 2000).
2. Recently, the trust game is used as a description for trust situations in many contexts. See, e.g. the contributions of Gibbons (2001), Messick and Kramer (2001),

and Miller (2001) in Cook (2001). In addition, many others have argued that marriage decisions in combination with household specialization have an incentive structure that is similar to the one proposed here, see e.g. Ben-Porath (1980), Becker (1973, 1981), England and Farkas (1986), Frank (1988), Huber and Spitze (1988), England and Kilbourne (1990), Raub and Weesie (1993), Dufwenberg (1996), Sweeney (2002), Youm and Laumann (2003) and Youm (2004).

3. One could object that men also face a risk. Just as specialization in household work is costly in terms of foregone human capital investment, specialization in paid work is costly in terms of foregone investment in household work efficiency. Nevertheless, without the intention to trivialize household work, we think we can safely assume that a lack of experience in household work after a potential future break up is a negligible factor in a man's decision-making on whether to specialize or not.

4. What exactly the contract covers and what not varies from time to time and place to place.

5. The different structure of the second trust game does not change the formal analysis (see Van de Rijt 2002).

6. Three theoretical accounts for this finding predominate in family studies: (1) People who cohabit tend to be divorce-prone in the first place (Bennett et al. 1988; Booth and Johnson 1988); (2) cohabitation produces relationships, values and attitudes that increase susceptibility to divorce (Booth and Johnson 1988; Thomson and Colella 1991; Axinn and Thornton 1992); and (3) relationship dissatisfaction increases after the moment two persons start living together. Higher divorce rates for those who cohabited before marriage would then be a statistical artifact (Weston et al. 2003).

7. All non-dummy variables are centered around their means.

8. Educational level is generally regarded as a better indication of earning capacity than short-term income, because it is not subject to temporal fluctuation. Moreover, relative income was a problematic variable for the CHSLS since it was differently measured for relationships that were ever cohabiting and for those that were not. Nevertheless, we ran models that included relative income variables. The effects were weaker and had the same direction.

9. The Cox proportional hazards model is part of a class of regression models, referred to as event history analysis (EHA) models. We ran other EHA models, including ones that assume a monthly baseline hazard of marriage. Results turned out to be highly robust across these models.

10. A hazard is conceptually close to a 'probability' and is the ratio of the unconditional probability function to the survival function at a certain time t. In the remainder of this article we will nevertheless refer to hazards with the more intuitive terms 'probabilities' and 'chances', ignoring the slight conceptual difference.

11. We checked whether other methods to handle ties changed our results and they did not.

12. We realize that, as a reviewer pointed out, union history might be an important predictor for trustworthiness in subsequent relationships and we cannot test this effect limiting ourselves to first marriage. Nevertheless, we limited the scope of our analysis to first marriage, because we have data only on the two last sexual partners of a respondent. This does not provide us with enough information to operationalize union history in a way that is precise enough for this purpose.

13. Relationship time before age 18 is ignored because marriage cannot occur. The consequence is that the relationship year directly after the second partner turned 18 is treated as the first year of the relationship. We ran models not shown in the results section including a dummy variable coded 1 for such cases and it did not affect the results.

14. Even though we feel these steps were necessary for a valid analysis of first marriage chances, we did run parallel models that included cases we did not want to generalize our theory to. The embeddedness time interaction effects were even stronger and more significant in these analyses.

15. We decided to combine these two decades, because the theory predicts that changes in the effect occur only after the 1960s. Also, there are rather few cases for the 1950s and 1960s and separating them out confirmed that these periods were similar.

16. One should not be too conclusive about the sizes of these effects because they could in part be a result of case selection on relationship success. Relationships that started longer ago are likely to have been 'better' relations because the couples stayed together until the present day.

17. We do not claim this to be a strong rejection of Becker's specialization hypothesis (Becker 1973, 1981). The models do not take into account whether one or both partners are currently in school, because no adequate information on this issue was available. Since the minimum age for inclusion in our study is 18, we can be sure some are. This omission may disturb the education effects in certain ways. If young students delay family formation, both the sum effect and the differential effect of education may be biased downward.

18. In model 5b, with calendar time increasing levels of statistical significance of the embeddedness effects are in part the result of there being more recent than old relationships in the sample, and in part the result of the rarity of premarital cohabitation in the 1950s and 1960s. But again, our hypothesis concerns the increase in effect size, not the increase in significance level.

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