The Rockwool Foundation Research Unit

Study Paper No. 95

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Evidence from Danish Registry Data

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Copenhagen 2015

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December 2015

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ABSTRACT

Wives come with in-laws, and if these families include delinquent males, their delinquency could undo the prosocial effects of marriage. In this paper, I focus on having a convicted brother-in-law as one general indicator of this broader phenomenon. I use propensity score matching and registry data on all men from birth cohorts 1965-1975 in Denmark to show that when a man marries, new family ties to delinquent brothers-in-law indeed hinder his criminal desistance. Results suggest that influences from the broader social network one is exposed to through marriage are important for the protective effects of marriage. Men who vary by no other observable characteristic than the previous conviction of their brother-in-law have similar conviction rates up to three years before the marriage, yet their conviction rates differ by 50 percent after the wedding. Results also suggest that the effect of delinquent brothers-in-law arise not from co-offending among the in-laws, but from decelerating the desistance process among previously convicted men and from offsetting criminality among men who were not previously convicted.

INTRODUCTION

Of all the pathways that could lead to criminal desistance, marriage has repeatedly been emphasized as one of the most important ones (e.g., Craig, Diamond, and Piquero, 2014). Although scholars of criminology debate whether this important correlation between marriage and desistance from crime is indeed causal (e.g., Laub and Sampson, 2003; Sampson and Laub, 1993; Warr, 1998), or whether it is confounded by selection issues (e.g., Gottfredson and Hirschi, 1990), empirical studies consistently find lower crime rates among married men (e.g., Beaver, Wright, Delisi, and Vaughn, 2008; King, Massoglia, and Macmillan, 2007; Maume, Ousey, and Beaver, 2005; Savolainen, 2009; Theobald and Farrington, 2010). And, in fact, research has shown that marriage is an especially important pathway for desistance from crime when the bonds between husband and wife are strong and the wife does not engage in delinquent behavior (Andersen, Andersen, and Skov, 2015; Cernkovich and Giordano, 2001; Cobbina, Huebner, and Berg, 2010; Farrall, Godfrey, and Cox, 2009; Laub and Sampson, 2001; Laub, Nagin, and Sampson, 1998; Sampson, Laub, and Wimer, 2006; Simons, Steward, Gordon, Conger, and Elder, 2002; van Schellen, Apel, and Nieuwbeerta, 2012).

Yet factors from outside the internal dynamics of the marriage, such as in-laws, may also influence men's behavior. Research has shown that the relationship to in-laws is important for the marital ties between the spouses (Fingerman, Gilligan, VanderDrift, and Pitzer, 2012); that it is often characterized by ambivalence (Turner, Young, and Black, 2006; Willson, Shuey, and Elder Jr., 2003); and that the married couples' relationship success may depend on the relationship to in-laws (Bryant, Conger, and Meehan, 2001; Högnäs and Carlson, 2010). And as all of us who are married know, wives come with in-laws, and if these in-laws include delinquent males, their delinquency could undo the prosocial effects of marriage.

In this paper, I focus on having a convicted brother-in-law as one general indicator of how factors from outside the internal dynamics of marriage influence the protective effect of marriage. To achieve a sample which holds the wide array of information on criminal justice outcomes and on family relations that are required to analyze how brothers-in-law impact men's criminal desistance, I rely on Danish register data. These data—which have precise measures of family relations, marriages, and criminal convictions—not only provide criminal justice outcomes on all men from the entire birth cohorts 1965-1975 in Denmark. The data also allow me to pair spouses and link information on the spouses' siblings (and their criminal justice outcomes); something that would not be possible with most other existing data source.

Controlling for initial differences between men who are exposed to different types of brothers-in-law (i.e., selection issues), I show that a man's criminal desistance varies by whether he gets a previously convicted or a previously non-convicted brother-in-law. Results from propensity score matching suggest that men who vary by no other observable characteristic than the previous conviction of their brother-in-law have similar conviction rates up to three years before the marriage, yet differing rates following the wedding. In fact, men who are tied to a previously convicted brother-in-law face around 50 percent higher risk of criminal conviction after this new family tie. This substantial number indicates that for these men, marriage as a pathway to criminal desistance is gravely impaired by factors external to the internal dynamics of marriage.

To provide evidence on which mechanisms drive the effect of having a convicted brother-in-law on desistance from crime, I break down results by previous conviction to analyze whether new family ties to delinquent brothers-in-law decelerate a man's desistance process or whether they offset criminality among men who were not convicted before getting this new family tie. I

then analyze whether co-offending between the man and his brother-in-law drives the reduced desistance among men with previously convicted brothers-in-law. The first set of results show that the conviction rates of previously convicted men who get a delinquent brother-in-law are indeed higher than among comparable men who get non-convicted brothers-in-law, even though their conviction rates do not differ before marriage. Also, getting a delinquent brother-in-law has the potential to ignite the criminality of previously non-convicted men, as the conviction rates of these men after the wedding are also higher than among comparable men who get non-convicted brothers-in-law—even though all these men had no convictions before the marriage. The second set of results show that co-offending is rare among the men in my sample and that co-offending among men who get previously convicted brothers-in-law are higher before they become in-laws.

Criminologists tend to view marriage as a union formed between two spouses, and its protective effects have been theorized within this context. But when the criminal history of a brother-in-law matter for men's desistance, as this paper shows it does, this alludes to the importance of acknowledging how marriage simultaneously unites two families. Results from this paper suggest that characteristics of these new family members are important for how likely a marriage is to exert its well-known positive influence and lead the spouses down the pathway of criminal desistance.

MARRIAGE, CRIME, AND IN-LAWS

The claim that marriage promotes desistance from crime is central to the social scientific explanation of criminal behavior. Tracing back to Émile Durkheim (2002 [1897]), who laid the

foundation for modern social research and proclaimed that marriage was important for the understanding of suicide, researchers from all branches of the social sciences have emphasized marriage as important for life course outcomes, such as wages (e.g., Antonovics and Town, 2004), life satisfaction (e.g., Næss, Blekesaune, and Jakobsson, 2015; however, see Lavner and Bradbury, 2010), and well-being (e.g., Waite, 1995). Also, marital status, timing, transition, and duration have been shown to correlate with mortality (e.g., Dupre, Beck, and Meadows, 2009; Sbarra, Law, and Portley, 2011) and with health outcomes, especially with mental health (Hewitt and Turrell, 2011).

Theoretical accounts of the connection between marriage and desistance from crime debate whether marriage promotes desistance by securing social bonds between the spouses (e.g., Sampson and Laub, 1993) or by changing the spouses' routine activities, especially regarding time men spend with peers (e.g., Warr, 1998). Building on qualitative as well as quantitative evidence, *informal social control theory* (Sampson and Laub, 1993) views marriage as a social unit which creates a system of mutual obligation and interdependence between the spouses. If freed of social obligations and interdependencies, all people would be inclined to antisocial behavior (which, again, is a Durkheimian assumption), but social units, such as marriage, have the potential to redirect the life course of men. Thus, marriage as a social unit provides informal social control, which accelerates processes of desistance from crime.

Peer association theory (Warr, 1998) also states that marriage has a causal effect on desistance from crime. But according to this approach, marriage affects desistance by changing the routine activities of the spouses, especially changing the amount of time spend with peers. Spending less time with peers implies spending less time in situations which enable or require

criminal behavior, and the benefits of marriage are essentially a mechanical consequence of this change in routine activities (Giordano, Cernkovich, and Holland, 2003; Warr, 1998).

The connection between marriage and desistance could also be driven by pre-existing differences between men who marry and men who do not (e.g., Gottfredson and Hirschi, 1990). According to this argument, there are so many differences between men who marry and men who do not, that they are fundamentally incomparable. The association between marriage and desistance is, in other words, confounded by pre-existing differences—and these differences might as well be the reason why some men marry while others do not (Rhule-Louie and McMahon, 2007).

Empirical research has shown that the effect of marriage depends on the marital quality and on the strength of the marital ties (Cernkovich and Giordano, 2001; Farrall, Godfrey, and Cox, 2009; Laub, Nagin, and Sampson, 1998; Maume, Ousey, and Beaver, 2005; Rhule-Louie and McMahon, 2007; Sampson, Laub, and Wimer, 2006). Also, the criminal histories of the spouses (Andersen, Andersen, and Skov, 2015; van Schellen, Apel, and Nieuwbeerta, 2012) as well as changes in a person's relation to peers (Giordano, Cernkovich, and Holland, 2003; Maume, Ousey, and Beaver, 2005; Simons, Steward, Gordon, Conger, and Elder, 2002; Warr, 1998) have been shown to matter for the desistance process. Thus, internal dynamics of the marriage as well as specific characteristics of the spouses could matter for the desistance promoting effect of marriage.

Theories as well as empirical studies of the effect of marriage on desistance from crime view marriage as a closed social circuit, a social unit made up of two persons who affect each other. Missing from the literature are considerations on the importance of factors from outside the internal dynamics of marriage. Such factors could influence the protective effect of marriage by, for example, providing obligations and dependencies which expand beyond the two spouses, or by introducing new peers to the spouses.

Wives come with in-laws. In marriage we almost inevitably obtain social ties to in-laws whom we were less likely to form ties to in the absence of marriage. Being direct family ties to our loved one, in-laws are important to us and to the inner dynamics of marriage (Fingerman, Gilligan, VanderDrift, and Pitzer, 2012; Turner, Young, and Black, 2006; Willson, Shuey, and Elder Jr., 2003). In fact, the married couple's relationship success may depend on their relationship to in-laws (Bryant, Conger, and Meehan, 2001; Högnäs and Carlson, 2010).

Considering the importance of in-laws, it seems reasonable that specific characteristics of these new family ties could matter for men's desistance from crime. As a general example of this broader social phenomenon, I propose the hypothesis that the desistance process of newly married men is impaired by delinquent brothers-in-law.

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Marriage restrains men by changing their access to (delinquent) peers and by providing informal social control because of the internal dynamics of the marriage. Getting a law-abiding brother-in-law, who is more likely to disapprove of crimes, could strengthen these mechanisms by adding prosocial influences to the internal dynamics of the marriage and by condemning the man's routine activities if they include delinquent or at-risk peers. For example, if a married man commits a crime, a non-convicted brother-in-law is more likely to openly condemn this act and influence the wife's judgment of that act, than a previously convicted brother-in-law, who might be more understanding of such behavior because of his own history. In this sense, the potential costs associated with committing crimes are higher among men with law-abiding brothers-in-law.

Even though I am unable to distinguish empirically between informal social control and changes in a man's relation to his peers, getting a previously convicted brother-in-law could impair the desistance benefits of marriage along three empirical mechanisms. First, delinquent brothers-in-law could serve as co-offenders. Second, they could decelerate the desistance process among previously convicted men. Third, they could draw previously non-convicted men into crimes. Providing empirical evidence on which of these mechanisms that seems most pertinent in my data is an important extension to the theoretical understanding of how factors from outside the internal dynamics of marriage could influence the desistance promoting effects of marriage.

Co-offending. Crimes often occur as the result of peer pressure (e.g., Hochstetler, Copes, and DeLisi, 2002). And just as getting a law-abiding brother-in-law could provide additional pressure on a man to desist from crimes, so too could getting a convicted brother-in-law provide pressure to engage in such behavior. If so, co-offending rates should be higher among men and their previously convicted brothers-in-law than among men and their non-convicted brothers-in-law. And, provided that the ties between in-laws are secured through marriage and would be less likely to exist in the absence of marriage, co-offending should mainly occur after the wedding.

If co-offending is the main driver of how delinquent brothers-in-law impair the desistance benefits of marriage, higher co-offending rates between the in-laws before marriage would, however, suggest problems of simultaneity. Such a finding would indicate that social ties between delinquent men may provide access to marriage, and marriage would be an outcome of criminality rather than a cause for desistance. Most people do not marry the first day they meet, and co-offending before marriage might just express the timing of events. But still, even such marriages (which result from co-offending between two men, one of them who has a sister) could promote desistance, as the internal dynamics of such marriages could also redirect men by adding social costs to their decision to commit crimes and being sentenced—men who achieve marriage because of co-offenses are still separated from their loved one during periods of incarceration, for example.

Decelerated Desistance. Desistance from crime implies not acting in specific ways, and when criminologists talk about desistance processes, they typically refer to the gradual decrease in criminality from one level to a new and lower level (Laub and Sampson, 2001). This also means that empirically, processes of desistance are most readily measured among previously convicted men, because these men have already revealed their level of criminality in actual offenses (Hirschi and Gottfredson, 1986). Marriage influences this process and accelerates the desistance process, meaning that when previously convicted men marry, their criminality will take an extra drop compared to their non-married peers. But because this is especially true regarding marriages where the bonds between husband and wife are strong and the wife does not engage in delinquent behavior, it could be equally false for other types of marriages. One way in which delinquent brothers-in-law could impair the desistance process is by decelerating it. And, again, because processes of desistance require some measurable level of criminality to desist

from, decelerated desistance should be empirically most visible among previously convicted men.

Ignited Criminality. It is possible that delinquent brothers-in-law impair the benefits of marriage by serving as gateways to criminality for men who have not exhibited such behavior prior to the marriage. Delinquent brothers-in-law could signal to a man that in the new family, to which he is tied through marriage, delinquency is not a reason for exclusion. This implies that the wife is more accepting or understanding of criminal activity. Delinquent brothers-in-law could also introduce the man to delinquent peers. In such cases, marriage actually works against the mechanism proposed by *peer association theory*, and introduces to the man delinquent peers with whom to socialize. And, again, because crimes often arise as the result of peer pressure (e.g., Hochstetler, Copes, and DeLisi, 2002), this would lead to the expectation that delinquent brothers-in-law lead to higher crime rates. Thus, one might expect higher crime rates among men who are not previously convicted following the wedding, if their marriage ties them to delinquent brothers-in-law.

DATA AND METHOD

I exploit detailed Danish registry data to analyze whether and how a married man's criminal desistance depends on the criminality of his brothers-in-law. Danish registry data are recorded by various governmental agencies and are collected and organized by Statistics Denmark. The data are accurate, they suffer from little or no attrition, and the level of detail in Danish registry data exceeds that of most other data sources.

Danish registry data consist of a broad range of communications with the welfare system, such as demographic events and criminal justice contacts. The data, which are recorded at the individual level, are linkable across registers and across years using a personal identification number and provide a full population panel which allows researchers to pair family members. These data allow me to measure a man's criminal convictions before and after his marriage. And they allow me to distinguish between men who get previously convicted brothers-in-law and men who do not—and add to the data a wide array of background characteristics as well as information on whether or not the newly tied brothers-in-law co-offend.

Thus, Danish registry data are ideal for the purposes of this paper, as it would be impossible to analyze how delinquent brothers-in-law impair the desistance benefits of marriage using most other data sources. A few caveats of using Danish data merits discussion, however. Denmark has one of the lowest incarceration rates among developed democracies, for example (Walmsley 2013). But this low incarceration rate does not imply that the Danish society is less burdened with crimes than other developed democracies. In fact, Denmark has consistently had one of the highest rates of burglary crimes in the world throughout the last decade (results from UNODC Statistics). The low incarceration rate thus simply alludes to the wide range of noncustodial alternatives to imprisonment in use in Denmark over the recent decades (probation, treatment programs, community service, and electronic monitoring, for example). Also of importance, marriage rates in Denmark have undergone substantial changes over the past half century, and today, marriage is typically preceded by prolonged periods of cohabitation. In fact, Denmark and the other Nordic countries have been the forerunners of what demographers term the Second Demographic Transition (van de Ka, 1987; Sobotka, 2008), by which the timing of family formation events has changed substantially. But the Second Demographic Transition has

also occurred in other developed democracies, and because of these changes, results from Danish birth cohorts 1965-1975 might present important knowledge on just what results from more recent birth cohorts in other countries would be.

SAMPLE

From the registry data I select all men from birth cohorts 1965-1975 who, in their first marriage before 2006, married a woman who had at least one brother (N = 94,787). I further restrict the sample to include only men who were alive at least until three years following the wedding and who have no missing information in any of the many registers I merge to achieve control variables. This brings the analytical sample size to N = 73,240.

Measures

Dependent Variable. The dependent variable measures criminal conviction within each of the three years following the wedding. Criminal conviction indicates whether a man was convicted during that year or not, and is thus a binary indicator. For the analyses of co-offending between the man and his brother-in-law, the dependent variable measures whether or not the man and at least one of his brothers-in-law were convicted of the same crime (had the same case file), again within each of the three years following marriage.

Treatment Variable. The treatment variables measures whether or not a man, when he marries, gets at least one brother-in-law who was convicted of a criminal offense at some point before the marriage, or whether all his brothers-in-law are previously non-convicted. Some men

marry a woman with just one brother, and whether or not this one brother is previously convicted determines whether the man is treated (brother-in-law is previously convicted) or control (brother-in-law is not previously convicted). If the woman has more brothers, the man is counted as treated if at least one of the brothers-in-law is previously convicted, and control if none of the brothers-in-law are. 14,220 men from the selected birth cohorts get at least one previously convicted brother-in-law in their first marriage before 2006, and 59,020 get non-convicted brothers-in-law.

Control Variables. I add a range of control variables, all measured before the marriage. From demographic registers, I add the man's birth year and his age when he marries for the first time. I also indicate whether or not the man has ethnic minority background. Six variables indicate whether, for each of the three years before the marriage, the man had children of his own, and whether the man resided with children. The education register provides years of education. And employment and taxation registers provide unemployment (number of days unemployed) during each of the three years before the marriage, as well as earnings in each of these years (in DKK 10,000, roughly corresponding to USD 1,500). From criminal justice registers, I obtain information on whether or not the man was arrested during each of the three years before the marriage, as well as information on whether or not the man was previously convicted and previously incarcerated.

ANALYTIC STRATEGY

First, I provide descriptive results to illustrate possible differences between men who get previously convicted brothers-in-law and men who get previously non-convicted brothers-in-law.

I show the Age-Crime Curve for these men, and I compare their means and standard deviations across all the control variables. This first analytic step is important because it will show that there are differences between men who get different types of brothers-in-law (i.e., selection issues), which stresses the need for taking methodological steps to secure unbiased estimates.

Second, as is often used in studies of the effect of marriage on desistance (e.g., King, Massoglia, and MacMillan, 2007), I use propensity score matching to control away the differences between men who get different types of brothers-in-law and obtain unbiased estimates. I use the wide array of control variables to estimate the propensity for each person in the sample of getting a previously convicted brother-in-law. The point in estimating the propensity score for each of the men is that men who get a delinquent brother-in-law and men who do not, but who have identical propensity scores, will also, on average, have identical distributions of all variables used to predict the propensity score (Rosenbaum and Rubin, 1983). This makes it possible to compare the outcomes only of men who are comparable on those control variables, while discarding incomparable men. If all selection into getting a delinquent brother-in-law occurs on the observed variables, this comparison of outcomes among comparable men yields unbiased estimates of the effect of getting a delinquent brother-in-law on desistance from crime (this is the Conditional Independence Assumption, Morgan and Harding, 2006). To see whether the choice of matching algorithm affects the main conclusions, I run the analyses using 1-to-1, 1-to-5, and 1-to-10 nearest neighbor matching. In order to assess the quality of the matchings—and thereby assess the credibility of my results derived from matchings—I (a) test whether or not the covariate distribution of matched individuals are identical among those who get convicted brothers-in-law and those who get non-convicted brothers-in-law, and I (b)

calculate Rosenbaum Bounds to see just how large any unobserved selection of specific types of men into specific types of marriages needs to be in order to deflate my main conclusions.

Third, to analyze the mechanisms of why getting a delinquent brother-in-law impairs the desistance benefits of marriage, I run additional analyses. I analyze whether the effect of getting a delinquent brother-in-law only pertains to men who are previously convicted, or whether men with no prior criminal record are also lured into crimes after the wedding. And I analyze whether the effect of getting a delinquent brother-in-law is driven by co-offending between the man and his brother-in law.

RESULTS

DESCRIPTIVE EVIDENCE

Figure 1 shows the Age-Crime Curves of the men in my sample who get a convicted brother-in-law and men who get non-convicted brothers-in-law. Both groups of men exhibit the well-known connection between age and conviction, namely that conviction rates increase up to around age 19 and then decrease. But the two groups differ substantially in their level of these rates, both during the peak years in late adolescence and during the years of decline. Throughout the depicted age span, the conviction rate of men who at some point get a previously convicted brother-in-law is around twice that of men who get non-convicted brothers-in-law.

[Insert Fig. 1 about here]

These differences in conviction rates between the treatment and control group could indicate that getting a delinquent brother-in-law hinders men's chances of achieving

resocialization. However, as the two groups differ in their conviction rates at a much younger age than the mean age at first marriage in my sample (28 years of age), the difference in their conviction rates is more likely to express selection issues, namely that there are important differences between men who get convicted brothers-in-law and men who get non-convicted brothers-in-law.

Table 1 provides descriptive statistics of the men in my sample who get a delinquent brother-in-law and those who get non-convicted brothers-in-law. By comparing the means and standard deviations of all variables, this table also points in the direction that there are differences between these two types of men. Men who get a convicted brother-in-law are generally more disadvantaged. They have higher crime rates, as was also shown in Figure 1, they have less education, and more of them where living with children and more had children of their own before marriage. They have higher unemployment and lower earnings before marriage, and they have far more criminal history than men who marry women with non-convicted brothers.

[Insert Table 1 about here]

In sum, descriptive evidence suggests that men who get previously convicted brothers-in-law have much higher conviction rates throughout life. But results also suggest that there are important differences between them and men who get non-convicted brothers-in-law. Taken together, these results imply that in order to understand and measure the effect of getting a delinquent brother-in-law on men's desistance process, and see just how much of their higher conviction rate is caused by getting a delinquent brother-in-law, additional methodological steps are needed.

MATCHING RESULTS

Table 2 presents parameter estimates from the binary logistic regression model used to predict the probability that each man in my sample gets a previously convicted brother-in-law (the propensity score). Considering the differences in criminal history between men who get a convicted brother-in-law and men who do not, it is of little surprise that previous conviction, previous incarceration, recent arrest, and having been convicted of crimes within each of the three years before marriage are among the strongest predictors. And, also of little surprise, being socially disadvantaged correlates with higher probability of marrying a woman with previously convicted brothers.

[Insert Table 2 about here]

Comparing only the men in my sample who are comparable, as defined by their propensity scores, Table 3 shows results from the three matching procedures. Across estimators, there are small and statistically insignificant differences in criminal conviction among men who get a convicted brother-in-law and men who do not during each of the years before marriage. But after the wedding, however, differences emerge. Each year after the wedding, the effect of getting a delinquent brother-in-law erupts to substantial size and is statistically significant for all three estimators.

[Insert Table 3 about here]

To show just how large the damaging effects of getting a previously convicted brother-in-law is for men's criminal desistance, Figure 2 shows mean conviction rates before and after the wedding, among men who get a convicted brother-in-law and their matched men from the control group. As expected, the conviction rates of all these men decline over the years,

consistent with the connection between age and crime. During the years before marriage, the conviction rate decreases from around 2.5 to around 1.5 percent in both groups. After the wedding, both types of comparable men halt the decrease in their conviction rates, and have stable conviction rates for all three years following the wedding. Yet the decrease in convictions from before to after the wedding is much smaller for men who get a previously convicted brother-in-law than comparable men in the control group. During each of the three years following the wedding, these men have around 50 percent higher conviction rates: 1.5 percent among men who get a convicted brother-in-law and 1 percent among men who get non-convicted brothers-in-law. In fact, the conviction rate of the treatment group even increases slightly—although most likely not statistically significant—from first to second year after the wedding, whereas comparable men in the control have stable conviction rates at this point.

[Insert Fig. 2 about here]

Matching Quality and Sensitivity to Unobserved Selection

Results from propensity score matching depend on the matching quality, which means they depend on the number of variables used to calculate the propensity score, and on how well the matching procedure succeeds in balancing the treatment and control group across these variables. Figure 3 shows the T-test scores from comparing means and standard deviations among the matched men, across all 33 covariates which I used to calculate the propensity scores, by matching procedure.

[Insert Fig. 3 about here]

T-test scores numerically exceeding 1.96 indicate statistically significant differences at the 5 percent level, and thus indicate substantial differences between the matched men on that particular background variable. None of the background variables have T-test scores exceeding this critical value in any of the matching procedures. And only one T-test score numerically exceeds 1.64, which is the critical value at the 10 percent significance level (previous imprisonment in 1-to-1 matching). Thus, the matching succeeded in balancing all observed characteristics of the men who are compared, and that the differences in outcomes do not arise from differences in background characteristics.

One concern that always accompanies matching studies is whether or not the variables and techniques sufficiently account for unobserved selection issues. In my case, one might wonder whether the 33 variables in the propensity score model handle the full range of selection of specific types of men into marrying women who have delinquent brothers. The large differences in these men's Age-Crime Curves did, after all, indicate that they might differ in various respects, just as one theoretical explanation of the lower crime rate among married men points in this direction. Unfortunately, there is no formal test to see whether unobserved selection is accounted for (Becker and Caliendo, 2007).

What degree of bias caused by unobserved selection mechanisms would it take for the difference in conviction rates between matched men who get previously convicted and non-convicted brothers-in-law to turn statistically insignificant? To answer this question, I calculated Rosenbaum Bounds for each of the matching results. Rosenbaum Bounds gradually introduce a component of unobserved selection (i.e., bias) into the model to see how large this component needs to be, in order to undermine the main results. Results (not shown but available on request) show that the bias component would need to be large to do so. In the 1-to-5 nearest neighbor

matchings, the correlation between the unobserved component and getting a previously convicted brother-in-law, net of all other variables in the propensity score model, would need to exceed the correlation between being convicted the year before the marriage and getting a convicted brother-in-law, in order to impair rates before the marriage. And it would require a correlation corresponding to that between having a child three years before the marriage and getting a convicted brother-in-law, in order to impair results after the wedding. In the 1-to-1 nearest neighbor matching the bias would need to be smaller, yet still substantial, for the main conclusions to alter. And in the 1-to-10 nearest neighbor matching the bias would need to be excessively large to do so, both before and after the wedding. All in all, it does not seem credible that such large unobserved selection issues impair the model, considering the 33 control variables I used to calculate the propensity score, and the large components of unobserved selection it would take to change the main conclusions.

MECHANISMS

Table 4 shows results by previous convictions and by co-offending. The first two columns of the table show means and standard deviations of the conviction rates, by whether or not a man gets a previously convicted or a non-convicted brother-in-law. These columns describe that across all years and across previous conviction as well as co-offending, men who get convicted brothers-in-law have higher conviction rates than men who get non-convicted brothers-in-law. The conviction rates of previously convicted men are high before the marriage, up to 12 percent three years before the marriage among men who get convicted brothers-in-law. And their post-wedding conviction rates are also dwarfed by those among previously non-convicted men.

There is a parallelism in results across whether or not the brother-in-law is convicted or not, as those who are previously convicted in both groups have tenfold higher conviction rates following the wedding than previously non-convicted men. Results for co-offending, which are presented in the lower third of the table, show that co-offending is rare in the sample. For co-offending, the table therefore shows an additional decimal point in order to show that, descriptively, co-offending rates are higher during the years leading up to marriage than after. Co-offending rates are especially low among men who get previously non-convicted brothers-in-law, although some of these men are convicted for co-offending with their brother-in-law following the marriage.

[Insert Table 4 about here]

The last column of Table 4 shows results from 1-to-5 nearest neighbor matching, to present results on how delinquent brothers-in-law impair the desistance benefits of marriage that are not conflated by selection issues. Three interesting results unfold. First, even though there are no differences in post-wedding co-offending rates, men who are previously convicted and who get previously convicted brothers-in-law have co-offending rates which differ statistically from zero during all years before the marriage. Thus, although co-offending between brothers-in-law is rare in my sample, some of these men co-offend with their brother-in-law already before this family tie has been formalized through marriage. Second, among men who are previously convicted, those who get a convicted brother-in-law and those who do not have similar conviction rates during the years before marriage. But after marriage, their conviction rates differ substantially, and men who get convicted brothers-in-law have much higher conviction rates—more than twice the rate among men who get non-convicted brothers-in-law. Thus, getting a convicted brother-in-law decelerates the desistance process among previously convicted men.

Third, comparable men who were not convicted before the marriage differ in their conviction rates following marriage depending on whether or not they get a convicted brother-in-law or not. Again, conviction rates among men who get previously convicted brothers-in-law, but who were not previously convicted themselves, are around twice as high as among similar men who get non-convicted brothers-in-law. Thus, getting a previously convicted brother-in-law has the potential to ignite the criminality of otherwise non-convicted men.

DISCUSSION

When criminologists view marriage as a union formed between two spouses and theorize the protective effects of marriage within this context, they often pay little attention to factors from outside the internal dynamics of the marriage, such as in-laws. But in-laws could be important for the marital ties between the spouses. And when the criminal history of a brother-in-law matter for men's desistance from crime, as this paper has shown it does, this implies that criminological theories should more explicitly take into account that marriage simultaneously unites two families. Results from this paper suggest that characteristics of these new family members may be important for how likely a marriage is to exert its well-known positive influence and lead the spouses down the pathway of criminal desistance.

Men who, on average, are identical on a broad range of background characteristics have similar conviction rates at least during the three years leading up to marriage. But after the marriage, men who get previously convicted brothers-in-law have consistently (and statistically significant) higher conviction rates than men who get non-convicted brothers-in-law. In fact, during each of the first three years after the wedding, their conviction rate is around 50 percent

higher than among comparable men who got non-convicted brothers-in-law, a substantial difference. And even though there are a range of important differences between men who get delinquent brothers-in-law and men who do not—as was made clear by comparing their Age-Crime Curves and background characteristics—the figures that I just mentioned come from propensity score matching and thus express the difference in conviction rates among comparable men.

Marriage restrains men by changing their access to (delinquent) peers and by providing informal social control because of the internal dynamics of the marriage. My results show that these processes depend on the criminal profile of brothers-in-law, to whom family ties are formalized through marriage. Law-abiding brothers-in-law are likely to add to the desistance-promoting effect of marriage by adding prosocial influences to the internal dynamics of the marriage and by condemning the man's routine activities if they include delinquent or at-risk peers. Delinquent brothers-in-law are likely to hinder the desistance promoting effect of marriage by signaling to the man that the wife is more understanding of such behavior, and by providing access to criminal peers. And even though I am unable to empirically distinguish between the mechanisms derived from *informal social control theory* and *peer association theory*, results from three sets of additional analyses did provide evidence on how the benefits of marriage are impaired by delinquent brothers-in-law. Results showed that delinquent brothers-in-law decelerate the desistance process among previously convicted men, and delinquent brothers-in-law introduce or ignite criminality among previously non-convicted men. Delinquent brothers-in-law do not, however, lure the new family member into co-offending. In fact, rates of co-offending between the in-laws are remarkably low, and co-offense rates are higher before the marriage than after.

Looking at the triad of husband, wife, and brother-in-law raises questions about who initiates the undoing of criminal desistance. Does the brother-in-law approach the husband with criminal offers and view this new family tie as a new partner in crime? Is the wife perhaps more accepting of such behavior if she has a previously convicted brother? Or do criminally inclined husbands deliberately choose a wife and brother-in-law dyad that seems willing to provide marriage and the possibility for crimes simultaneously? All three possibilities would lead to the same outcome—reduced desistance among men who get previously convicted brothers-in-law—yet their implications for theories of marriage and desistance from crime differ substantially.

The reasons why each part of the husband, wife, and brother-in-law triad responds in the way that they do to the new family tie is an equally important and interesting path for future research and theory development. It is important for our understanding of the dynamics of marriage to find out just why some husbands do not reject criminal offers (or, if not in the form of direct criminal offers, then moral influences) from their brother-in-law, even though they recently entered one of the social institutions which is supposed to exert the greatest prosocial effects. Even among husbands who were not previously convicted, and whom theories of criminal desistance lead us to expect to resist criminal inclinations, there is more criminality after the wedding if they get previously convicted brothers-in-law. Also important for theoretical advancement, we need to know whether, how, and why the wife's (possible) non-rejection of her brother's criminality transfers to her new husband—something which could be a theoretical implication of my findings in this paper. And last, why would a woman (and her brother) accept romantic (and criminal) advances from a potential husband who is antisocial—and especially so for women who presumably know the social costs of criminal conviction from having convicted brothers? Marriage unites more than spouses, and criminologists as well as social scientists in

general should disentangle how all people who are tied together by a marriage respond to the dynamics of the marriage—and what the implications are for the crime-fighting benefits of marriage.

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Table 1. Descriptive Statistics of Men who get a Convicted Brother-in-Law (Treated) and Men who do Not (Control). Danish Birth Cohorts 1965-1980.

	Control: Man marries woman w/ no convicted brother		Treated: Man marries woman w/ convicted brother		
Variable	Mean	SD	Mean	SD	
Crime rate, t – 3	0.009	0.093	0.024	0.153	***
Crime rate, t – 2	0.007	0.085	0.022	0.147	***
Crime rate, t – 1	0.006	0.076	0.018	0.132	***
Crime rate, t = 0	0.005	0.069	0.015	0.120	***
Crime rate, t + 1	0.005	0.070	0.014	0.118	***
Crime rate, t + 2	0.005	0.069	0.015	0.123	***
Crime rate, t + 3	0.004	0.066	0.015	0.120	***
Age at marriage	28.363	3.315	28.473	3.500	***
Ethnic minority background	0.005	0.068	0.007	0.083	**
Years of education	12.780	2.098	12.290	2.186	***
Children in home, t – 3	0.222	0.415	0.285	0.451	***
Children in home, t – 2	0.290	0.454	0.360	0.480	***
Children in home, t – 1	0.402	0.490	0.482	0.500	***
Has children, t – 3	0.190	0.393	0.273	0.446	***
Has children, t – 2	0.271	0.445	0.356	0.479	***
Has children, t – 1	0.379	0.485	0.460	0.498	***
Unemployment, t – 3	56.694	154.213	76.582	182.079	***
Unemployment, t – 2	51.524	145.527	71.794	177.966	***
Unemployment, t – 1	44.611	136.357	64.027	166.491	***
Earnings, t – 3	19.509	10.907	19.222	10.847	**
Earnings, t – 2	21.110	11.195	20.599	11.157	***
Earnings, t – 1	22.679	11.707	21.935	11.454	***
Arrested, t – 3	0.001	0.034	0.004	0.063	***
Arrested, t – 2	0.001	0.033	0.005	0.068	***
Arrested, t – 1	0.001	0.028	0.004	0.061	***
Previously convicted	0.101	0.302	0.195	0.396	***
Previously imprisoned	0.021	0.144	0.045	0.207	***
N	59020		14220		

* p < 0.05; ** p < 0.01; *** p < 0.001

Table 2. Results from Propensity Score Model.

	Man marries woman w/ convicted brother
1966 Birth cohort (ref.=1965)	0.059 (0.034)
1967 —	0.052 (0.036)
1968 —	0.075 (0.037)*
1969 —	0.088 (0.039)*
1970 —	0.138 (0.040)***
1971 —	0.075 (0.042)
1972 —	0.142 (0.043)**
1973 —	0.061 (0.052)
1974 —	0.084 (0.059)
1975 —	0.209 (0.065)**
Crime rate, t – 3	0.202 (0.079)*
Crime rate, t – 2	0.297 (0.083)***
Crime rate, t – 1	0.290 (0.092)**
Age at marriage	0.007 (0.004)*
Ethnic minority background	0.261 (0.121)*
Years of education	-0.076 (0.005)***
Children in home, t – 3	-0.079 (0.042)
Children in home, t – 2	0.000 (0.048)
Children in home, t – 1	0.291 (0.043)***
Has children, t – 3	0.347 (0.052)***
Has children, t – 2	0.043 (0.060)
Has children, t – 1	-0.140 (0.049)**
Unemployment, t – 3	0.000 (0.000)*
Unemployment, t – 2	0.000 (0.000)*
Unemployment, t – 1	0.000 (0.000)***
Earnings, t – 3	0.000 (0.002)
Earnings, t – 2	0.001 (0.002)
Earnings, t – 1	0.001 (0.001)
Arrested, t – 3	0.270 (0.194)
Arrested, t – 2	0.411 (0.191)*
Arrested, t – 1	0.588 (0.222)**
Previously convicted	0.495 (0.030)***
Previously imprisoned	0.114 (0.055)*
Intercept	-1.062 (0.106)***
N	73240
-2 Log Likelihood	70247.6

* p < 0.05; ** p < 0.01; *** p < 0.001

Table 3. Estimated Difference in Criminality among Men who get Convicted Brothers-in-Law and Men who do Not, by Year relative to Marriage. Results from Propensity Score Matching.

Estimator	Year relative to marriage	Man marries woman with convicted brother Estimate (SE)
1:1 Nearest Neighbor	-3	0.000 (0.002)
	-2	0.001 (0.002)
	-1	0.000 (0.002)
	+1	0.005 (0.002)***
	+2	0.006 (0.001)***
	+3	0.005 (0.001)***
1:5 Nearest Neighbors	-3	0.000 (0.002)
	-2	0.001 (0.002)
	-1	0.001 (0.001)
	+1	0.004 (0.001)**
	+2	0.006 (0.001)***
	+3	0.005 (0.001)***
1:10 Nearest Neighbors	-3	0.000 (0.002)
	-2	0.002 (0.001)
	-1	0.000 (0.001)
	+1	0.004 (0.001)**
	+2	0.006 (0.001)***
	+3	0.006 (0.001)***

Note: Standard errors (SE) are estimated using the bootstrap procedure (250 replications).
* p < 0.05; ** p < 0.01; *** p < 0.001

Table 4. Results by Previous Conviction and by Cooffending between Man and Brother-in-Law.

	Control		Treated		1:5 NN Matching	
Variable	Mean	Std. Dev	Mean	Std. Dev	Estimate	(SE)
Not previously convicted men						
t-3	-	-	-	-	-	-
t-2	-	-	-	-	-	-
t-1	-	-	-	-	-	-
t+1	0.002	0.050	0.005	0.069***	0.002	(0.001)*
t+2	0.002	0.050	0.004	0.067***	0.003	(0.001)***
t+3	0.002	0.047	0.005	0.072***	0.002	(0.001)**
N	53042		11451			
Previously convicted men						
t-3	0.086	0.281	0.122	0.328***	-0.001	(0.009)
t-2	0.072	0.258	0.113	0.316***	0.006	(0.008)
t-1	0.058	0.233	0.090	0.286***	0.003	(0.007)
t+1	0.025	0.156	0.055	0.227***	0.012	(0.006)*
t+2	0.027	0.161	0.053	0.224***	0.019	(0.006)**
t+3	0.027	0.162	0.057	0.232***	0.018	(0.006)**
N	5978		2766			
Cooffending						
t-3	-	-	0.0004	0.0205***	0.0004	(0.0002)**
t-2	-	-	0.0003	0.0168***	0.0003	(0.0001)*
t-1	-	-	0.0004	0.0188***	0.0004	(0.0001)*
t+1	0.0000	0.0041	0.0001	0.0119*	0.0001	(0.0001)
t+2	-	-	-	-	-	-
t+3	0.0000	0.0041	0.0001	0.0119*	0.0001	(0.0001)
N	59020		14217			

Note: Standard errors (SE) are estimated using the bootstrap procedure (250 replications).
* p < 0.05; ** p < 0.01; *** p < 0.001

Fig. 1

Age-Crime Curves among Men who get a Convicted Brother-in-Law and Men who get Non-Convicted Brothers-in-Law. Danish Birth Cohorts 1965-1980.

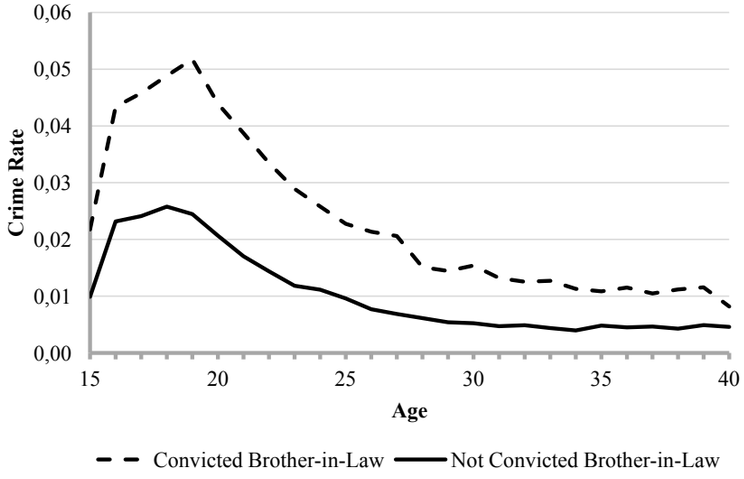


Fig. 2

Mean Crime Rates in 1:5 Nearest Neighbor Matched Sample. Men, Danish Birth Cohorts 1965-1980.

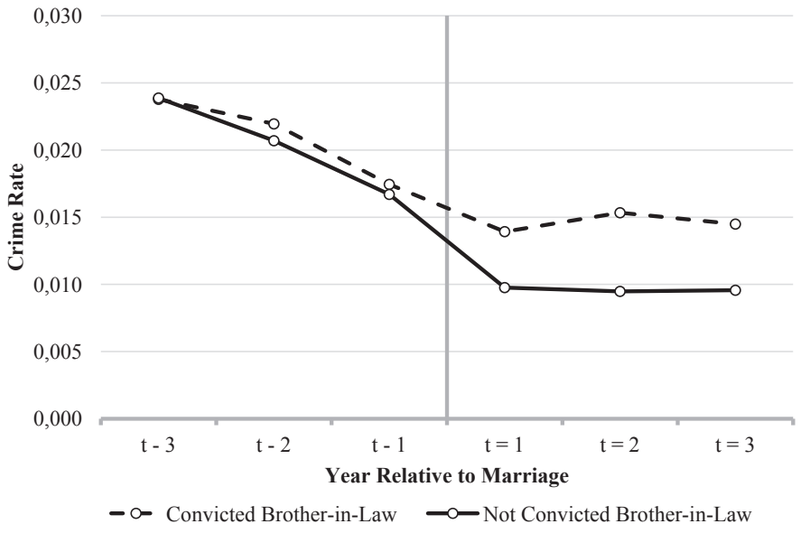
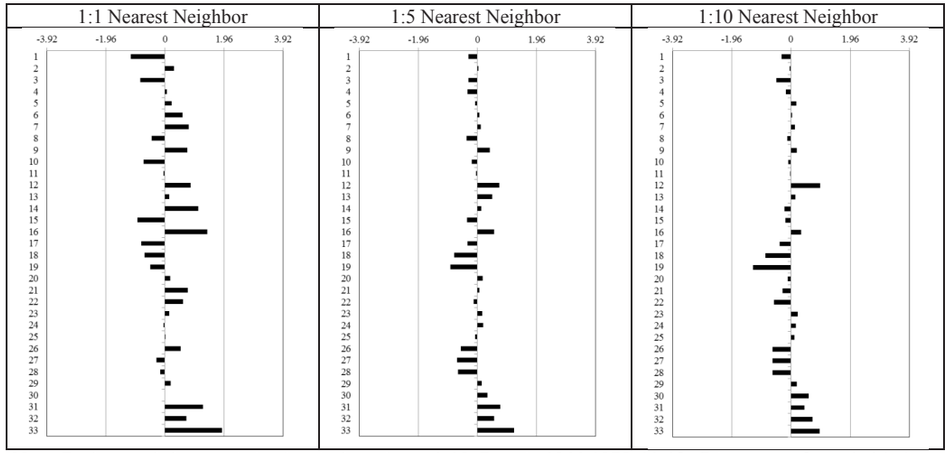


Fig. 3

T-test Scores from Matched Sample Means Comparison across Background Characteristics



Note: Background characteristics (vertical axes) are: 1-10: Born in 1966-1975. 11-13: Crime rate, t-3 to t-1. 14: Age at marriage. 15: Ethnic minority background. 16: Years of education. 17-19: Children in home, t-3 to t-1. 20-22: Parent, t-3 to t-1. 23-25: Unemployment, t-3 to t-1. 26-28: Earnings, t-3 to t-1. 29-31: Arrested, t-3 to t-1. 32: Previously convicted. 33: Previously imprisoned. T-test scores exceeding 1.96 (numerical) indicate significant differences in means at the 5 percent level.