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# Chapter 5

## **INFLUENCES OF CRIMINAL OFFENDING ON UNION FORMATION AND UNION DISSOLUTION**

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Zoutewelle-Terovan, M.V., van der Geest, V., Liefbroer, A.C., Bijleveld, C. (submitted 2013 to *Advances in Life Course Research*). Influences of criminal offending on union formation and union dissolution.

## ***Abstract***

*Using a sample of 248 males and females from the Netherlands, our study focuses on the effects of criminal offending on union formation and union dissolution. Criminal and relational careers of high-risk respondents are analyzed using a long observation period (age 12 to age 36). Findings for men support the hypothesis that past criminal offending reduces the likelihood of being involved in a romantic relationship. Furthermore, male's past violent offending increases the probability to be single. Analysis of union dissolution for males showed that only recent violent offending is associated with the termination of a romantic relationship. Similar to our findings for men, findings for females show that the likelihood of being involved in a romantic relationship is negatively associated with past criminal offending. Moreover, it is an extended cumulated history of property offenses that significantly increases the likelihood of being single throughout the observation period. For women, the probability of separation/divorce significantly increases given recent general offending.*

## 1. INTRODUCTION

An extensive body of research has focused on the effects of romantic relationships (marriage in particular) on offending for both males and females (Farrington and West 1995; Osgood, and Marshall 1995; Sampson, Laub, and Wimer 2006; King, Massoglia, and MacMillan 2007; Bersani, Laub, and Nieuwbeerta 2009; Zoutewelle-Terovan et al. 2012). However, considerably less attention has been paid to the effects of criminal behavior on romantic relationships. Moreover, most empirical research that investigated this opposite direction of the causal chain is characterized by several important limitations.

First, the majority of existing studies analyzed the effects of *incarceration* on the likelihood of marriage and divorce. Often, incarceration studies have been criticized for observing a very selective group of individuals, namely persons who commit most serious offenses, have extended criminal histories (Apel et al. 2010), and are physically separated from (prospective) romantic partners. However, what such studies did not address is the fact that a criminal record (not necessarily associated with incarceration) might by itself significantly influence the development of romantic life (van Schellen, Poortman, and Nieuwbeerta 2011) for varying reasons. This is of particular interest in countries such as the Netherlands (the country where our study was conducted), known for a liberal penal climate, with low incarceration rates and short incarceration periods.

Second, studies investigating the effects of criminal behavior on romantic relationships predominantly concentrated on *marriage*. This was only a minor limitation for older cohorts, where marriage was the dominant form of intimate relationship (van Schellen, Poortman, and Nieuwbeerta 2011; Sampson, Laub, and Wimer 2006). In contemporary periods, family life trends have become less standardized (Elzinga and Liefbroer 2007) and non-marital unions (especially cohabitation) have in many countries become the norm rather than the exception. Furthermore, to a notable extent, previous research has analyzed the probability and timing of *first marriage* (respectively *first divorce*). In modern societies, with individuals experiencing multiple and diverse unions during adolescent and adult life, life-course research should devote considerable attention to the influence of offending on multiple romantic involvements.

Third, most of the literature centered on the effect of a cumulative number of offenses on union formation. To date, few studies have analyzed different *types of offenses* (King and South 2011). It is envisageable that some kinds of offenses jeopardize relationships more than others (notably violent offenses). Previous literature has been limited in providing answers on whether various types of offenses encompass unique characteristics or reflect different expressions of the same underlying criminal propensity.

Fourth, previous research has mainly focused on *male* offenders. Studying female offenders was often difficult given the low rate of offending among this group (Huebner 2005; Apel et al. 2010). However, it is important to extend research to female offenders and provide pertinent answers to questions about gender specificities.

The aim of this study is to investigate the influence of criminal behavior on union formation and union dissolution. Using a high-risk sample of males and females in the Netherlands, the current study will be guided by the following research questions:

- 1) *Does offending influence the likelihood of being involved in a romantic relationship?*
- 2) *Is the effect of offending on intimate relationships different for different types of unions (any relationship or a living-together relationship)?*
- 3) *Is separation from a romantic partner associated with offending?*
- 4) *Do different types of offenses (violent, property) have a similar effect on the likelihood of being involved in an intimate relationship or terminating an existing one?*
- 5) *Are there gender differences in any of the above?*

## **2. BACKGROUND AND HYPOTHESES**

### **2.1. Criminal behavior and union formation**

Symbolic interactionism offers one account of the potential effects of criminal behavior on union formation. Labeling theorists argue that criminal behavior directly reduces romantic prospects through the stigma attached to an offender. A “criminal status” might define an individual as immature, unreliable, untrustworthy, connected to criminally involved peers, and prone to reoffend. Furthermore, after engaging in initial criminal behavior (primary deviance), an individual might change his self-concept and internalize a deviant identity (Lemert 1967; Paternoster and Iovanni 1989). As individuals commit to a criminal life-style (secondary deviance), the negative consequences of stigma perpetuate and cumulate throughout adult life, limiting one’s opportunities for romantic involvement.

Most of the current knowledge about the mechanisms explaining the effect of a criminal record on romantic relationships results predominantly from research focusing on the consequences of incarceration on marital unions. A great deal of evidence supports the idea that recent incarceration reduces the probability of marriage in the short term (Huebner 2005; Sampson, Laub, and Wimer 2006). Less consensus exists regarding the long-term effects of incarceration on marriage. Some studies provided support for the hypothesis that prior incarceration reduces the probability of marriage (Sampson, Laub, and Wimer 2006; Huebner 2007). Other studies did not support long-term effects of incarceration on marriage (Lopoo and Western 2005; Apel et al. 2010). For females, the long-term effects of incarceration on marriage remain unclear given that all studies previously mentioned analyzed male respondents only.

The impact of criminal behavior on the probability of marriage received considerably less attention. Using a conviction sample, van Schellen, Poortman, and Nieuwebeerta (2011) found that the likelihood of marriage was reduced by 24% for offenders committing more than six offenses until the previous year, and by 42% for the men who committed more than 10 offenses (compared to non-offenders). Men who committed fewer offenses did not differ in their likelihood of marriage compared to non-offenders. In their analysis, the effect of a criminal record diminished over time. Another study developed by Sampson, Laub, and Wimer (2006) found that male juvenile delinquent behavior was negatively associated with the likelihood of marriage. Yet, the study of Barnes et al. (2011) found no significant effect of criminal behavior on marriage. Similar to the incarceration studies, research on criminal behavior has focused predominantly on men.

More recent approaches addressed romantic relationships (other than marriage) as an outcome. Similar to the marriage studies, there is no general consensus regarding the effects of criminal behavior/incarceration on union formation. Western, Lopoo, and McLanahan (2004) analyzed parents of new born children, and found that men with incarceration records were 19% less likely to be cohabiting (and 37% less likely to be married) in the year their child was born (compared to never-incarcerated males). In a study investigating the reciprocal relationship between cohabitation and offending for students, Lonardo et al. (2010) found that delinquent behavior was associated with 2.6 higher odds of cohabitation. Using an interaction with gender they concluded that females had higher probabilities to experience cohabitation compared to males. In contrast to these findings, London and Parker (2009) found that incarcerated individuals were about 3 times more likely to cohabit. Moreover, Rebellon and Manasse (2004) concluded that men with more delinquent activity were associated with more extended romantic activity.

Starting from these considerations, the following hypotheses were formulated:

*H1 - Offending increases the likelihood of being without a romantic partner (be single).*

*H2 - Offending decreases the likelihood of being involved in a living-together relationship (cohabitation and marriage versus singleness or non-cohabitation).*

## **2.2. Types of offenses and union formation**

Existing theories have been limited in providing clear inferences on whether specific types of offenses (e.g. violent, property) have a different influence on intimate relationships. Furthermore, the effect of various types of offenses on union formation was rarely empirically tested.

Studies analyzing the influence of violent offending on romantic relationships provided mixed results. Focusing on marital unions, Sampson, Laub, and Wimer (2006) found that a history of violent offending reduced the likelihood of marriage for males. Other studies found no significant relation between violent crime and marriage (Lopoo and Western 200; van Schellen, Poortman, and Nieuwbeerta 2011). A particular group of studies focused on domestic violence and its association with romantic relationships. When investigating incarceration effects, Western (2006) found that fathers of new-born children were more likely to be aggressive towards the mothers of their children if they had a prison record. Silverman et al. (2001) used female students in their study and concluded that being in a relationship increased the risk for physical and sexual violence. Edin and Kefalas (2005) concluded that for poor females the fear of becoming a victim of domestic violence inhibited them from entering marital unions. Overall, in selecting a violent romantic partner (whether this was reflected in domestic violence or different violent acts), individuals might raise concerns about their safety (or the safety of other significant ones), resulting in avoidance of romantic relationships with such individuals.

In the context of property offending, economic considerations might represent important criteria for romantic choices. Labeled as an individual less able to provide for the family (Buikhuisen and Dijksterhuis 1971; Pager 2003), an offender's pool of eligible intimate partners might become smaller. In addition, the increased participation of females on

the labor market in modern times might lead to an increased value of economic participation of the prospective partner on the marriage/mating market. In a recent study, King and South (2011) concluded that involvement in property offending was connected with employment instability or unemployment; therefore individuals were seen as less attractive romantic partners. The opposite effect is also possible: within specific groups (where offending is not considered deviant), property offending could be seen as a source of income increasing one's value on the mating market. This could be in line with Becker's theoretical concepts on family economics (Becker 1993), stating that individuals seek partners with potential to maximize existing well-being, therefore offenders with economic prospects might be seen as more attractive mating candidates.

In separating between different types of offenses, we start from the premise that specific criminal behavior is associated with individual particularities that would affect mating opportunities, and we formulate the following hypotheses:

*H3 – Violent offending decreases the likelihood of being in a relationship.*

*H4 – Property offending increases the likelihood of being in a relationship.*

### **2.3. Criminal behavior and union dissolution**

The stigma theorists suggest that a criminally labeled individual does not only have limited access to potential partners, but that the social consequences of criminal behavior (rejection of the peers, limited economic perspectives) might also increase the risk of separation/divorce for those involved in a romantic relationship. Research on the effects of criminal behavior on union dissolution was even rarer compared to research on union formation, and mostly focused on incarceration and divorce for males. To a large extent, the divorce literature states that incarceration increases the likelihood of divorce in both the short term and the long term. The study of Lopoo and Western (2005) found that individuals who were currently incarcerated had a higher probability of divorce than the non-incarcerated. Similarly, Apel et al. (2010) found that imprisonment was associated with a higher likelihood of divorce in the years after release, and this effect increased over time. Focusing on long-term effects of juvenile incarceration, Sampson and Laub (1993) reported that juvenile confinement increased the likelihood of divorce in both young (ages 17-25) and middle (ages 25-32) adulthood. Interestingly, in their study incarceration before marriage did not significantly influence men's transition to divorce. Other studies analyzed non-marital relationships as well. Western and McLanahan (2000) found that a cumulated history of incarceration of the father reduced the odds of living with the child's mother (in marriage or cohabitation) by 49%. Although empirical research for females received less attention, studies focusing on antisocial girls (see Pajer 1998 for a review) concluded that their adult life was associated with less marital satisfaction and a higher likelihood of divorce.

When focusing on offending diversity, Apel et al. (2010) suggested that a differentiation between different types of offenses is required. In their study, men incarcerated for more severe offenses were at higher risk for divorce compared to men imprisoned for a less serious offense. The study conducted by Lopoo and Western (2005)

found that illegal income in the past did not relate with the likelihood of divorce, but aggravated assault in the past increased the chances of divorce by 35%.

Based on these considerations, the following hypotheses were formulated:

*H5 – Offending increases the likelihood of separation/divorce.*

*H6 – Violent offending increases the likelihood of separation/divorce more than non-violent offending.*

## **2.4. Gender differences**

Most theories explaining the effects of criminal behavior on union formation/dissolution hardly discuss whether effects will differ between men and women. Nevertheless, certain assumptions can be extracted from existing literature.

Given exposure to a larger pool of male offenders, Sampson, Laub and Wimer (2006) concluded that men marry “up” and women marry “down”. In the context of mating competition, females could become more tolerant towards a criminal record of a potential partner. As such, labeling effects would have a smaller impact on males than on females. Females’ higher tolerance towards criminal behavior of their partner might also be explained in the context of feminist theories. As female offenders are considered to embrace more traditional feminine values (Curran and Renzetti 2001), a potential partner might be seen as attractive if he is willing to assume the economic responsibility of being the main breadwinner (even through criminal activities).

The effects of criminal behavior on union dissolution could also be described through gender specificities, especially in the context of intimate partner violence. In a review of 20 studies focusing on females, Pajer (1998) concluded that the adult life of antisocial girls was associated with increased chances for victimization. Tjaden and Thoennes (2000) found that married/cohabiting females were significantly more exposed to partner-perpetrated rape, physical assault, and stalking than males. Their victimization experiences were also more frequent and longer lasting. As females are socialized to be more dependent, passive, obedient and focused on the harmony of the relationship (Curran and Renzetti 2001; Moffit et al. 2001), they might not consider the criminal behavior of the partner (even if this threatens ones safety) as a sufficient reason for separation/divorce. In similar situations, males might decide earlier to terminate an intimate relationship.

## **3. UNION FORMATION IN THE NETHERLANDS**

Recent demographic changes in Western societies point to the deinstitutionalization of marriage and institutionalization of alternative unions (such as non-marital cohabitation). Young adults are more likely to cohabit before marriage and even replace marriage with cohabitation unions. In the Netherlands, the social meaning of marriage and cohabitation changed as well. Starting as a “deviant” form of union in the 1970s (Manting 1996), cohabitation became increasingly popular during the following decades. In 1980, only 60% of the population approved cohabitation as a trial period preceding marriage, while social

acceptance increased over time reaching 85% in 1991 (Manting 1996). The acceptance of cohabitation without intention to marry followed a slower path: from 41% in 1980 to 71% in 1991 (Manting 1996). In 1998, the Netherlands introduced the possibility to formally register a cohabitation union. The legal benefits of a registered partnership are virtually identical with the ones of marriage (the exception refers to parental rights of children born within the registered partnership), but the termination of a registered partnership occurs with less administrative steps and does not require participation in court. The Central Bureau of Statistics shows that registered partnerships represent about 10% of the yearly registered unions. Nevertheless, a considerable number of couples cohabit without an official registration.

In recent days, in the Netherlands, one in four unions is a registered or non-registered cohabitation (Kiernan 2004). Compared to other European countries, this represents a middle position regarding non-marital cohabitation. Sweden holds the top position with cohabitations representing about 50% of all formed unions, while in Greece only one in twelve unions is a cohabitation. Furthermore, the median age to enter a first union (marriage or unmarried cohabitation) for Dutch inhabitants is 21 (Billari and Liefbroer 2010); with small differences between European countries.

In the context of increased cohabitation rates among the Dutch population, we would expect this type of union formation to be central among high-risk individuals who are less prone to long-term commitments and avoid legal implications of marriage.

## 4. METHOD

### 4.1. Data and measures

The analysis uses data from the *17Up* longitudinal study. We started from an original sample of 540 high-risk individuals (270 males, 270 females) born in the early 1970s. Respondents were treated in their youth in a juvenile treatment center in the Netherlands for severe behavioral problems and/or delinquency. Both boys and girls were on average age 15 when they entered the institution and were treated for an average of 1.5 years. Between 2010 and 2012 individuals were asked to participate to interviews. From the original sample, 41 individuals could not be contacted for different reasons (such as death, emigration, or other reasons). Among those who could be contacted ( $N=499$ ) we interviewed 251 individuals. For three individuals we obtained incomplete interview information. Thus, for the current study<sup>16</sup> we used complete data for a sample of 248 persons (116 males, 132 females). A response analysis showed that, with the exception of an underrepresentation of homeless respondents, no significant differences between those who participated in the interviews and those who did not participate were observed in terms of criminal behavior, marriage or individual and background characteristics.

During the interviews, a life history calendar was used to obtain retrospective information on romantic relationships. The calendar helped organizing recall based on the relative importance of events (Roberts and Horney 2010), and provided visual cues that

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<sup>16</sup> Formal consent for the study was obtained from the Ministry of Justice and the CERCO ethical committee.

helped to reconstruct events and circumstances over the life course. Most people can accurately reproduce the timing of important life events, such as marriage, birth of a child, or the death of a relative. These events can act as a reference for allocating other events or transitions on their biographical timeline. We collected yearly information whether individuals were involved in a romantic relationship, what type of relationship it was (non-cohabitation union lasting longer than 3 month, cohabitation, or marriage), and what was the development of each specific relationship (changed to a different type or terminated). Two dependent variables were constructed for the main analysis. The variable *any relationship* received a value of 1 for all individuals who were involved in a romantic relationship (non-cohabitation, cohabitation and marriage) and a value of 0 for single individuals. The small number of marital unions did not allow for the separate analysis of marriage and cohabitation, therefore they were collapsed into a single category. The variable *living-together relationship* recorded a value of 1 for all individuals sharing a common household and 0 otherwise. The termination of a romantic union was also analyzed. Two dependent variables were constructed for all individuals involved in an intimate relationship. The variable *separation any relationship* records a value of 1 for every year a romantic relationship terminated and 0 otherwise. Similarly, the variable *separation living-together relationship* records a value of 1 for each year when a respondent stopped living with a partner, and 0 if they continued to be involved in the relationship.

Information on criminal careers of the offenders was available from the Judicial Documentation abstracts (comparable with “rap sheets”) starting from age 12 (the minimum age of criminal responsibility in the Netherlands). The abstracts contain information on all cases registered by the police at the Public Prosecutor’s Office, offenses and the corresponding verdicts. Offenses followed by an acquittal or a so-called technical dismissal<sup>17</sup> were not considered for this analysis. Two time-varying variables recorded the criminal behavior of our respondents. To analyze direct short-term effects of offending on romantic relationships, the variable *current offending* recorded the number of offenses an individual committed in a specific year. Long-term effects analysis made use of a variable reflecting the cumulated number of offenses until the previous year. Given that scholars suggest that the effect of a criminal past diminishes over time (van Schellen, Poortman, and Nieuwbeerta 2011), we constructed a weighted measure for the variable *past offending* ( $\text{past offending year}_j = \text{number offenses offending year}_{j-1} + 0.9 \times \text{number offenses year}_{j-2} + 0.8 \times \text{number offenses year}_{j-3} + 0.7 \times \text{number offenses year}_{j-4} + 0.6 \times \text{number offenses year}_{j-5} + 0.5 \times \text{number offenses cumulated starting with age 12 year}_{j-6}$ ). Convictions were classified into several categories according to the Statistics Netherlands Standard Classification of Offenses. In the analysis we distinguished between violent (sexual offenses, assault, abduction, robbery, extortion, threat, battery, murder and manslaughter) and property offenses (qualified and non-qualified theft, burglary, arson). Other categories of offenses were excluded given that they occurred only sporadically. Similar to the general offenses measure, both violent and property offenses were measured by two variables: one reflecting current offenses (*current violent* and *current property*), and a second one recording past weighted offending (*past violent* and *past property*).

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<sup>17</sup> Technical dismissal = the prosecutor dismisses the case because it is expected to end in acquittal (mostly because of insufficient proof)

Personal data on a set of psychological and background variables was available from treatment files constructed during institutionalization (for extended information see van der Geest, Blokland, and Bijleveld 2009). Several studies suggested that ethnicity (Lopoo and Western 2005; Lonardo et al. 2010; King and South 2011; Van Schellen, Poortman, and Nieuwebeerta 2011), intelligence (Sampson, Laub, and Wimer 2006), educational attainment (Goldscheider and Waite 1986; Huebner 2005), family size (Sampson, Laub, and Wimer 2006), family disruption (Sampson, Laub, and Wimer 2006; Lonardo et al. 2010), drug use (Lopoo and Western 2005), social skills (Spence 2011), and early sexual experiences (Silverman et al. 2001) might moderate the offending-romantic relationship nexus. *Ethnicity* was recorded corresponding to prevailing Statistics Netherlands definitions as a dichotomous variable registering value of 1 for persons with a Dutch ethnic background. The level of intelligence (*IQ*) was measured on a five point scale (retarded, below average, average, above average, gifted). When entering the treatment center, each individual's *level of education* was recorded, and coded as a dichotomous variable (1=low level). The variable *family size* recorded the number of members in the family of origin. The variable *parental divorce* recorded whether the biological parents of the individuals had divorced before institutionalization (1=divorced parents). To control for the effects of *drug addiction*, we constructed a dichotomous variable reflecting a value of 1 for all individuals declaring that they were addicted to drugs prior to institutionalization. On a psychological level, a dummy variable recorded whether individuals lacked social skills in interacting with others (1=*insufficient social skills*). An additional variable recording the age of first consensual intercourse (*age first sex*) was constructed using retrospective information obtained during interviews.

## 4.2. Analytical approach

To analyze multivariate outcomes, a person-year file was constructed. Separate information was recorded for each age year when a respondent was observed. Given our focus on the relation between offending and romantic relationships, a multilevel logistic random effects model (Rabe-Hesketh and Skrondal 2008) was chosen to estimate the effect of current and past offending on the likelihood of being involved in an intimate relationship, or terminating an existing relationship. A considerable advantage of this method is that it allows for the analysis of both within-individual and between-individual variation. For the logistic random effects model the probability of person  $i$  at time point  $t$  to have a certain status is calculated as it follows:

$$P_{it} = \frac{1}{1 + \exp(-\mu_t - \beta x_{it} - \gamma z_i - \alpha_i)}$$

where  $z_i$  is a vector of time-constant variables,  $x_{it}$  is a vector of time-varying variables,  $\mu_t$  is a subject-specific intercept allowed to vary with time,  $\beta$  and  $\gamma$  are the vectors of estimated coefficients for the predictors, and  $\alpha_i$  (following a normal distribution with a mean of 0 and variance  $\tau^2$ ) represents differences between persons that are random over time and not accounted for by the predictors.

To answer our research questions, the analysis proceeded in several steps. First, we estimated the effects of current and past offending on the likelihood of being involved in any romantic relationship. Further, we distinguished between non-cohabiting unions and unions where individuals share a common household, and estimated the short- and long-term effects of offending on the likelihood of being involved in a living-together relationship. In the following step, we repeated the previous two analyses, but estimated the effects of current and past violent and property offending instead of the general measure of offending. Starting from the models described above, for all respondents having a partner, we further estimated the likelihood of separating from a partner. Again, models estimated the effects of current and past offending, as well as current and past violent and property offending. To examine gender differences, separate models were estimated for males and females.

### 4.3. Results

#### *Descriptive statistics*

For a better understanding of the characteristics of our sample, descriptive statistics on several individual and background factors are presented in Table 1. Descriptive information regarding covariates in the study was based on data resulted after performing imputations for the missing values. More than half of the individuals had a Dutch ethnic background (60.3% males and 69.7% females). The families of origin that the individuals came from had on average about four members. More than 60% of the respondents experienced divorce of the biological parents. When institutionalized, 30.2% of the boys and 25.0% of the girls had low level of education. Intelligence level below average was registered for 24% of the males and 34% of the females (the rest were average or above average). A considerable number of respondents had been judged as having insufficient social skills (68.1% of the males and 82.6% females). In adolescence, 31.9% of the males and 14.4% of the females were addicted to drugs. Both men and women had their first sexual experience on average at age 15.

Table 1. Descriptive information regarding individual characteristics

<b>VARIABLES</b>	<b>MALES</b>	<b>FEMALES</b>
Dutch ethnicity	60.3%	69.7%
family size (average)	3.7	4.2
parental divorce	61.2%	66.7%
low educational level	30.2%	25.0%
IQ	24.1% below average	34.1% below average
insufficient social skills	68.1%	82.6%
addiction to drugs	31.9%	14.4%
age of first sexual experience (average)	15.1	15.2

In our sample, respondents' romantic relationships were followed for 16 years on average (starting with age 16). Complete information was obtained for a total of 3948 person years. From the total number of person-years registered for males, 12.5% of the years

recorded non-cohabiting relationships, 27.1% cohabitation unions and 8.6% marital relationships. For females, 19.8% of the years recorded non-cohabiting relationships, 40.8% were cohabitations and 7.7% were marriages. Across the entire observation period, both men and women were involved in two relationships on average. Almost all individuals were involved in an intimate relationship at least once (96.6% of the males and 97.7% of the females). On average, females were involved in intimate relationships for 5 years and males for 9 years. At the end of the observation period, 77.7% of the males and 85.3% of the females had separated from a partner at least once. When analyzing relationships where partners share a common household, we observed that 89.7% of the females and 87.1% of the males were at least once involved in a living-together relationship. Males were involved in living-together relationships for 11 years on average, and females for 8 years on average. Living-together relationships terminated at least once for 62.5% of the males and 78.3% of the females. For a more detailed understanding of the romantic involvement of both males and females during the entire observation period (ages 16 to 36), we constructed Figure 1 presenting the proportions of individuals having an intimate partner at each age under observation. Overall, relatively more females than males were involved in a romantic relationship (with a single exception at age 32). Already at age 18, a large proportion of females was romantically involved (and proportions remained stable until the end of the observation period). The reduced number of observations for females after age 32 explains the fluctuations towards the end of the observation period. Fewer males commit to a relationship in adolescence and emerging adulthood. Percentages for males remained more stable after age 24 when about one in two males was romantically involved. Females had shorter relationships, and experienced breakups more often.

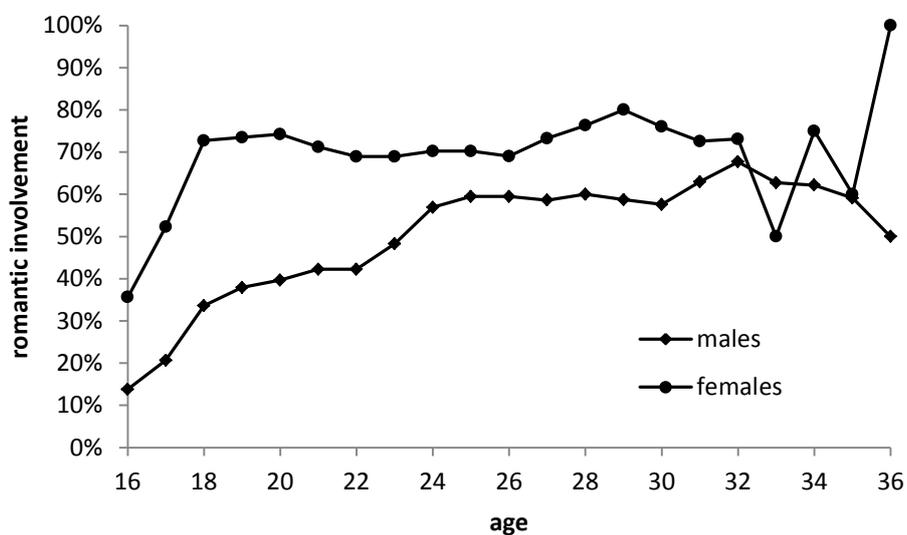


Figure 1. Percentage of individuals romantically involved

During the entire observation period for the criminal career (starting with age 12), 94.8% of the males and 75.0% of the females committed at least one offense. Among offenders, the average number of offenses was 20.2 for males and 5.9 for females. Violent offenses were committed by 62.9% of the males and 32.6% of the females. Among violent

offenders, the average number of violent offenses was 4.5 for males and 2.1 for females. Property offenses were committed by 87.1% of the males and 53.0% of the females. Male property offenders committed on average 11.4 property offenses, while females only 3.9. The proportions of males and females committing at least one offence at each specific age are presented in Figure 2. At all ages, a larger number of males committed offenses. Nevertheless, the prevalence of offending decreased by age for both males and females. An interesting trend was observed for females at ages 19-20. This decrease in the proportion of female offenders could be associated with the entrance into parenthood (which is a very common occurrence at this age within our sample).

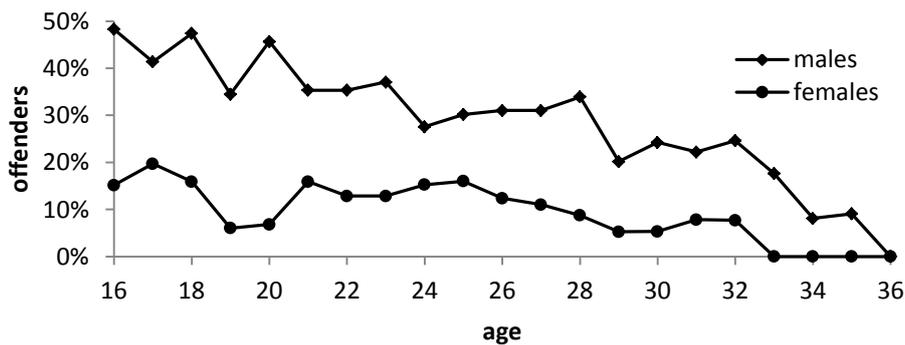


Figure 2. Percentage of individuals committing at least one offence

### ***Effects of offending on romantic relationships***

Our analysis first focused on the short-term and long-term effects of offending (general measure) on the likelihood of being involved in an intimate relationship. Results are presented in Models M1 to M4 in Table 2. These models did not identify any significant effects of current offending on having an intimate relationship (any or a living-together relationship) for neither males nor females. As such, our first two hypotheses were not confirmed as far as short-term effects are concerned. Nonetheless, *H1* and *H2* were confirmed for long-term effects of criminal behavior on having an intimate partner. Past offending significantly influenced the likelihood of having a relationship. For males, with every offense committed, the probability of being involved in any relationship diminished by 3%, and a living-together relationship by 4%. For females, each additional offense committed in the past diminished the probability to have a relationship by 11%, and the probability to have a living-together relationship by 7%.

In a second step, the analysis focused on the effects of offending on the likelihood of terminating an intimate relationship. Models M5 to M8 in Table 2 showed that past offending did not significantly influence the likelihood of separation for either males or females (*H5* not confirmed). In contrast, current offending significantly impacted on the likelihood of separation (*H5* confirmed), but only for females. With every offense committed the probability to terminate any relationship increased by 21%, and the probability to terminate a living-together relationship by 37%.

Table 2. Effects of offending on romantic relationships

VARIABLES	having a relationship				separation			
	any relationship		living-together relationship		any relationship		living-together relationship	
	Males	Females	Males	Females	Males	Females	Males	Females
Model	M1	M2	M3	M4	M5	M6	M7	M8
Age	2.19***	2.16***	3.35***	2.80***	1.26	1.37	1.19	1.07
age2	0.99***	0.99***	0.98***	0.98***	0.99	0.99	1.00	1.00
current offending	1.02	0.93	1.03	0.92	1.05	1.21*	1.07	1.37***
past offending	0.97*	0.89***	0.96*	0.93*	1.03	1.01	1.03	0.97
Dutch ethnicity	0.77	1.03	0.93	2.03	0.70	1.00	0.98	0.95
family size	0.85	1.24*	0.91	1.21	0.90	0.91	1.04	0.87*
parental divorce	1.32	1.65	0.85	1.53	1.18	0.82	1.04	0.94
level of education	1.05	1.15	1.29	0.98	0.65	0.89	1.14	1.10
Intelligence	1.22	1.01	1.11	1.10	0.88	1.10	0.84	1.18
insufficient social skills	1.19	1.89	0.95	1.17	0.78	0.63*	0.87	0.63
drug addiction	1.30	0.65	1.56	1.08	0.55	1.64*	0.85	1.63
age first sex	1.06	0.86*	0.96	0.83*	1.03	1.02	0.97	0.99
N	116	132	116	132	112	129	104	115

\*\*\* p<0.001, \*\* p<0.01, \* p<0.05

We briefly discuss the effects of individual and background factors on the likelihood of having a relationship, or terminating an existing relationship. For males, none of the considered factors significantly influenced the probability to be involved in a relationship or terminate an existing one. For females, a larger family of origin significantly increased the probability to be involved in any relationship, and decreased the probability to terminate a living-together relationship. A lack of social skills significantly reduced the likelihood of terminating any relationship for females. Addiction to drugs for females increased the probability to terminate any relationship. Last but not least, earlier sexual experiences were associated with significantly diminished probabilities to be involved in a relationship for females only.

We further directed our attention towards specific types of offenses, and analyzed whether violent and property offending have an impact on intimate relationships. Results are presented in Table 3. For males, results showed that current violent offending increased the likelihood of being involved in a relationship of any type by 28% (M9) but no significant effect was identified on living-together relationships (M11). As such, *H3* was not confirmed for short-term effects of offending on the likelihood of being single for men. When long-term effects of violent offending on romantic involvement were analyzed, we did find confirmation for *H3*. Male's past violent offending significantly decreased the likelihood of having any partner and to live together with a partner by about 15%. For females, current or past violent offending did not exert any significant influence on the likelihood of having a romantic partner (M10 and M12).

With respect to property offending, current property offenses committed had no significant influence on having a relationship for neither males nor females. The cumulated property offending in the past diminished the probability to have any partner but solely for females (by 14%). Overall, these results provide no support for *H4* associating property offending with an increased likelihood of having a romantic partner.

Termination of a romantic relationship associated with violent and property offending was analyzed as well. The only significant effect was recorded for males: current violent offending increased the likelihood of separation from any relationship by 46% (M13). As such, *H6* was confirmed only when investigating short-term effects of violent behavior on union dissolution.

The influences of individual and background characteristics in these models were similar to the ones described in the overall offending models. The exception is observed in M9 for the variable family size: males from families with more members were less likely to be involved in any intimate relationship.

Table 3. Effects of violent and property offending on romantic relationships

VARIABLES	having a relationship						separation									
	any relationship			living-together relationship			any relationship			living-together relationship						
	M9	M10	M11	M12	M13	M14	M15	M16	M9	M10	M11	M12	M13	M14	M15	M16
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
Age	2.25***	2.14***	3.40***	2.78***	1.28	1.38	1.21	1.07	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00
age2	0.99***	0.99***	0.98***	0.98***	1.46*	1.20	1.42	1.21	1.11	1.10	1.06	1.34	1.06	1.08	1.26	1.26
current violent	1.28*	0.85	1.24	1.15	0.97	0.91	1.04	0.94	1.02	1.03	1.03	0.94	1.00	0.99	0.95	0.95
past violent	0.84**	1.08	0.85*	0.97	1.21	1.21	0.90	0.87*	1.23*	1.23*	1.21	0.87*	1.05	1.05	0.87*	0.87*
current property	0.94	1.06	0.97	0.91	1.04	1.12	1.08	1.26	1.35	1.62	1.62	1.52	1.21	0.83	1.04	0.92
past property	0.98	0.86**	0.97	0.95	1.02	1.03	1.03	0.94	1.03	1.16	0.98	0.98	0.64	0.89	1.12	1.10
Dutch ethnicity	0.75	1.09	0.91	2.11	0.71	1.00	0.99	0.95	0.75	1.02	0.91	1.10	0.91	1.10	0.87	1.18
family size	0.84*	1.23*	0.90	1.21	0.91	0.91	1.05	0.87*	1.23*	1.23*	1.21	0.91	0.73	0.64*	0.84	0.63
parental divorce	1.35	1.62	0.87	1.52	1.21	0.83	1.04	0.92	1.35	1.62	1.62	1.52	1.21	0.83	1.04	0.92
level of education	1.03	1.16	1.27	0.98	0.64	0.89	1.12	1.10	1.03	1.16	0.98	0.98	0.64	0.89	1.12	1.10
Intelligence	1.20	1.02	1.09	1.10	0.91	1.10	0.91	1.18	1.20	1.02	1.09	1.10	0.91	1.10	0.87	1.18
insufficient social skills	1.21	1.78	0.97	1.11	0.73	0.64*	0.84	0.63	1.21	1.78	0.97	1.11	0.73	0.64*	0.84	0.63
drug addiction	1.29	0.58	1.55	0.98	0.61	1.63*	0.88	1.56	1.29	0.58	1.55	0.98	0.61	1.63*	0.88	1.56
age first sex	1.06	0.87*	0.96	0.83*	1.05	1.02	0.98	0.99	1.06	0.87*	0.96	0.83*	1.05	1.02	0.98	0.99
N	116	132	116	132	112	129	104	115	116	132	116	132	112	129	104	115

\*\*\* p<0.001, \*\* p<0.01, \* p<0.05

## 5. DISCUSSION

The aim of this study was to investigate the association between past and current criminal behavior, and union formation and union dissolution processes. Using a sample of high-risk males and females, criminal and relational careers were observed from adolescence to adulthood (up to 36 years of age). To control for selection bias, our study included a set of individual and background factors considered to be related to both offending and romantic experiences.

Results from our analyses are consistent with labeling theory assuming a negative relation between offending and union formation. For both males and females, past offending was associated with a lower probability of being involved in a romantic relationship (any or a living-together relationship). These results also confirm findings from previous studies (van Schellen, Poortman, and Nieuwebeerta 2011; Huebner 2007; Sampson, Laub, and Wimer 2006) that highlighted long-term effects of offending on union formation. These results offer support for the assumption that an individual labeled as a criminal will be more likely to develop a criminal life-style, with negative consequences on romantic relationships, cumulated and perpetuated in time. Unlike previous incarceration studies, our study did not find short-term negative effects of offending on union formation. This difference might be explained by the fact that incarceration not only generates a criminal label but leads to acute and absolute barriers to meet (existing or potential) partners.

To better understand the influence of criminal behavior on intimate relationships, we also investigated the impact of two categories of serious offenses: violent and property offenses. Although only marginally significant, current *violent offending* was associated with a lower probability to remain single for males. One explanation for this may be that violent males have certain personality characteristics, such as being extravert, that make them attractive on the mating market (regardless of whether potential girlfriends are aware of their violent behavior). Nonetheless, the effect was not significant when living-together relationships were analyzed. Focusing on long-term effects among men, past violent offending was associated with a lower probability to be involved in a relationship (any or a living-together relationship). In additional analyses (results not presented), we distinguished between violent offenses in the recent past (last five years) and in the distant past (more than five years ago), and found that both recent and distant violent offenses decreased the likelihood of being involved in a relationship, suggesting that the stigma attached to violent offending does not wear off with time. Violent offending (current or past) did not influence the probability to be involved in a romantic relationship for females. A first explanation for this is a methodological one: women committed far fewer violent offenses than men, and the sample size may have been too small to pick up any effects. Another explanation relates to differences in physical strength between men and women: because men are on average stronger than women, violent offending may signal the risk of domestic violence to women, but not to men. The analysis of *property offending* provided only a single significant effect: for females, a cumulated history of property offending increased the probability to remain single. From our data, it is hard to clarify why women who commit property offenses have greater chances to remain single. One explanation may be that these women were hard drug

addicts and stole to finance their habit, and as addicts they were less attractive partners. Further study is necessary to uncover this. Regardless of the outcome of such further study, it is remarkable that men's relational prospects are affected only once they have committed violent offenses, while for women property offenses impact their chances on the relationship market. Men, in that way, appear to have more leeway in offending: only when they cross a higher threshold of offending seriousness are their relationships prospects affected.

Our study also examined the effects of criminal behavior on union dissolution. Results showed that men's offending did not increase their risk of union dissolution. This is in contrast with previous studies that focused on the effects of incarceration (Western and McLanahan 2000; Lopoo and Western 2005; Apel et al. 2010), perhaps not surprisingly, as offending in our sample hardly ever entailed physical separation through detention with its ensuing emotional and financial stress. However, in contrast to the findings for males, for females current offending did increase the probability of separation. However, it should be noted that it was not possible to disentangle the temporal order of current offending and union dissolution in our analysis. Thus, we cannot conclude whether offending leads to separation and divorce, or whether conflicts represent the trigger for offending.

The association between violent and property offending on the one hand, and union dissolution on the other hand was analyzed as well. For males only, current violent offending increased the likelihood of separation/divorce. Property offending had no significant influence on union dissolution for neither males nor females. Again, we may speculate that men who offended violently possibly also exhibited violent behavior in the home; against this speaks the fact that we did not find an effect for living-together relationships.

Overall, several results stand out. An accumulation of *past* offenses reduces the likelihood of having an intimate partner for both men and women, and *current* offending increasing the likelihood of separation for females. Furthermore, being in a romantic relationship was negatively associated with violent offending for males, and property offending for females. We interpreted this as a greater social tolerance towards a crime committed for males than for females. A female would be labeled as deviant and suffer the negative consequences of that label already when less severe offenses are committed (such as property offenses) while for males disadvantages would become visible only when more severe offense are committed (namely violent offenses).

Several theoretical perspectives argue that the effect of criminal behavior on romantic relationships might be spurious. Gottfredson and Hirschi (1990) suggest that underlying characteristics that originated in childhood (such as low self-control) account for both the involvement in criminal behavior and the reduced likelihood of forming or maintaining stable unions. To account for selection bias, our analysis included a set of individual, family background and demographic predictors most likely to confound the outcome of interest. Regardless of age, ethnicity, family background (family size and divorced parents), level of education, intelligence, social skills, addiction to drugs and the age of first sexual experience, the effects described within our study remained significant.

This study increased our knowledge about the effects of criminal offending on romantic relationships. We looked at the effects of past and current offending, and at types of offences. We investigated different types of relationships that entail increasing degrees of (emotional and financial) commitment. Nonetheless, our study also has several limitations.

First, the small number of married respondents did not allow for the comparison of marital and non-marital unions. Although in the Netherlands cohabitation has become a normative experience and the most common form of intimate relationship among the age groups our high-risk respondents are in, it could still be that the effects of criminal behavior on union formation/dissolution will be different for married or cohabiting individuals. Second, we were not able to distinguish between violent offending in general and violent offending targeted towards an intimate partner. This limited our interpretation of the mechanisms underlying the observed effects of violent offending on romantic relationships. Future studies should try to include a specific measure for domestic violence. Third, the current study did not include a measure of the quality of intimate relationships. Although in additional analyses (results not presented), the observed effects remained significant even after controlling for the length of the relationship (considered a proxy for the quality of the relationship), future studies should include measures of relationship intentions and quality. Fourth, given that our analysis relied on official registrations for criminal behavior, it might have underestimated the total number of crimes committed. Future studies should try to combine official registration data and self-report data to provide a more reliable estimate of criminal behavior as such. Also, as we relied on prosecution and conviction data, we cannot be sure whether the effects we pick up are effects of the criminal behavior as such, or of the sanctions of the criminal justice system.