

No criminal for a parent? The effect of a criminal career on parenthood chances

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Demographic transitions are often studied for their potential in influencing criminal careers. However, little attention has been paid to how a criminal lifestyle in return may influence demographic transitions. This inhibits our understanding of how crime resonates through the lifecourse. This study therefore examines the role of a criminal lifestyle on the chance to become a first-time parent and possible variations by age, gender and marital status. We use the longitudinal Criminal Career and Life-Course register dataset on a large sample of offenders (4,061 men and 385 women). For men, criminal involvement is differently associated with parenthood at different stages in the life course. Women heavily involved in crime are at all ages more likely to become a mother. To explain the results, we discuss the possible importance of age-related social expectations for crime involvement, the special situation of criminal women and the possible importance of planned and unplanned parenthood.

1. INTRODUCTION

The life course and its transitions are increasingly studied in disciplines other than demography, such as criminology. In this branch of criminological research, it is constituted that important demographic transitions can constitute turning points in an individual's criminal development, accelerating desistance, or on the contrary, giving rise to prolonged participation or escalation of crime. Especially transitions that bring about changes in the offender's routine activities, increase his stake in conformity, and transitions that are associated with changes in the way the offenders perceives him/herself and is perceived by others, have the potential to redirect the criminal trajectory.

While several studies have shown crime-reducing effects of marriage and work, the findings for parenthood on crime are mixed (Siennick & Osgood 2008). This is surprising, as findings from qualitative studies and theory suggest that becoming a parent brings with it new tasks and responsibilities, and may re-orientate individuals from short term gratification towards more long term goals and therefore parenthood should have the potential to act as a turning point promoting desistance from a criminal lifestyle. One of several reasons why findings for parenthood in the desistance process are ambiguous may lie in selection effects into marriage and parenthood. Just like parenthood may change patterns of routine activities, social control or self-image, criminal behavior may change the individual's attractiveness as a partner and the willingness of potential partners to have a child. Also, a criminal lifestyle may not be compatible with the perceived responsibilities of parenthood.

So far, far less research attention has gone out to studying the effect crime itself may have on life course transitions such as marriage or parenthood. This inhibits our understanding of how crime resonates through the life course. The current effort seeks to help overcome this research bias by focusing on the effect crime has on the occurrence and timing of parenthood. Specifically, we ask whether a criminal career has an impact on an offender's chance to become a first-time parent and whether this impact differs by age, gender, and marital status.

We use the Criminal Career and Life-Course Study (CCLS), a longitudinal dataset of a large sample of offenders convicted in the Netherlands in 1977 consisting of 4,061 men and 385 women. Using yearly data from ages 12 to 50 for convictions, marriage, and children, we run logit models for single events (first parenthood) and competing events (first parenthood within and outside marriage). Our main explanatory variable is a time-varying variable indicating whether an individual belonged to the highest criminal quartile among all individuals still at risk of experiencing first child birth in a given age-year. All analyses are done separately for men and women.

2. PREVIOUS RESEARCH ON CRIMINAL CAREERS AND PARENTHOOD

2.1 Desistance and parenthood

Two lines of research have examined the association between criminal behavior and parenthood. First, both qualitative and quantitative studies have focused on the extent to which becoming a parent promotes desistance from crime. According to arguments derived largely from Sampson and Laub's age-graded theory of informal social control (Sampson & Laub 1993), parenthood – similar to other life course transitions such as marriage, work or military service - has the potential to redirect criminal trajectories. To begin with, parenthood can lead to a change in routine activity patterns by limiting opportunities of crime because child care is largely domestic and limits time spent with deviant peers. Parenthood can increase social control due to an increased stake in conformity by forming feelings of attachment as well as emotional and financial obligations. Negative consequences of criminal behavior increase with parenthood such as the risk of unemployment or child service involvement. Finally, parenthood may change the self-image of new parents. Many interviewees argue that being a parent is not compatible anymore with criminal activities (Edin, Nelson & Paranal 2001; Sampson & Laub 1993).

Despite these arguments and evidence from qualitative studies that support a crime reducing effect of parenthood, particularly due to a new self-image and cognitive changes (Giordano et al. 2002; Laub & Sampson 2003; Moloney et al. 2009; Shannon & Abrams 2007), quantitative results are best described as inconclusive. Whereas some studies found a crime-reducing parenthood effect for men (Kerr et al. 2011; Savolainen 2009; Zoutewelle-Terovan et al. 2012), other studies found no effect (Blokland & Nieuwebeerta 2005; Giordano et al. 2002; Monsbakken et al. 2012; Warr 1998) or even a crime-enhancing parenthood effect (Farrington & West 1995).

The diverging results may be partly dependent on union type characteristics, such as having a child within and outside marriage or in a “high quality” relationship (Sampson & Laub 2003). The results may also depend on the age of the samples. A UK study by Farrington and West (1995) found that cohabitation increased criminal behavior, however, the opposite was found for a more current study from Norway (Monsbakken et al. 2012), where cohabitation is much more common. This may signify that cohabitation represented an unstable relationship in older cohorts. Monsbakken et al. (2012) using register data for Norway for mainly the late 1990s found a decrease in crime leading towards the first birth for married couples but also for those in committed cohabiting unions.

It is often argued that female offenders should be more affected by parenthood. They experience more stress and time restraints when they have a child (Eggebeen & Knoester 2001; Javdani et al. 2011) and are more likely to stay at home with a child and be the main or only custodian. In line with this reasoning, several studies have found at least a temporally crime reducing effect for women (Graham and Bowling 1995; Hope et al. 2003; Kreager et al. 2010; Monsbakken et al. 2012) or found that the majority

of young women quit their gang involvement once they became a mother (Fleisher & Krienert 2004). However, in a US school sample Giordano et al. (2011) found that parenthood alone did not reduce criminal behavior, rather female crime levels reduced only if it was a planned pregnancy. Quantitative studies by Zoutewelle-Terovan et al. (2012), Giordano et al. (2002), and Varriale (2008) found no motherhood effect on crime or gang membership.

2.2 Juvenile delinquency and teenage parenthood share risk factors

A second line of literature finds juvenile delinquency to be associated with teenage fatherhood (Buston 2010; Kessler et al. 1997; Khurana & Gavazzi 2011; Pears et al. 2005; Shannon & Abrams 2007; Thornberry et al. 1997). Unlike the studies linking parenthood and desistance, these studies do not specifically hold a life course perspective but instead argue that juvenile delinquency and becoming a teenage parent are both symptoms of an underlying (set of) risk factor(s). Among these factors are psychological characteristics such as low self-control and impulsivity leading to a higher risk of problem behaviors such as aggression, delinquency, substance abuse, early initiation of sexual intercourse and multi-partnered sexuality without using contraceptives (Newcomb & McGee 1991; Stewart 2007; Wei et al. 2002). These risk factors and behaviors are strengthened by underlying compositional factors such as a low socio-economic background, low educational achievements, and problematic family situations. Furthermore, their fewer prospects for a successful future give juvenile delinquents less incentive to protect against unplanned pregnancies (Pears et al. 2005; Thornberry 1997). These risk factors have strong cumulative effects on the likelihood of juvenile offenders to become teen father (Thornberry et al. 2000; Unruh et al. 2004).

Teenage motherhood is a much more likely outcome than delinquency among girls with a similar set of risk factors of impulsivity, poverty, substance abuse, deviant peers and family issues which may explain the lesser interest in studying the link between girl's delinquency and teenage motherhood. However as for men, these problem behaviors are linked (Huizinga, Loeber, & Thornberry 1993; Jaffe 2002; Lanctot & Smith 2001; Pugh et al. 1990; Woodward et al. 2004; Yamaguchi & Kandel 1987).

2.3 Parenthood among men and women at high risk to offend

2.3.1 Parenthood intentions of high-risk groups

Male offenders who were asked about their fertility intentions often state that they feel not fit to be a parent in terms of finances or lifestyle (Buston et al. 2010; Moloney et al. 2009; Shannon & Abrams 2007; Wilkinson et al. 2009). There is a continued ideal of a stable relationship and a good job providing financial security before having children. They believed that since they are involved in substance abuse or crime they had no business becoming a father. They often felt that their involvement in crime makes them

less suitable marriage partners similar to those with low-skilled jobs. Many of them were in fragile relationships (Augustine et al. 2009).

Research has further shown that particularly men heavily involved into a criminal lifestyle have values incompatible with providing for children in a steady relationship. Work by Anderson (1999), Barr et al. (2012), and Simons et al. (2012) found that individuals with internalized street-values and associated behaviors such as violence and deviant lifestyles were less satisfied in their relationships and less committed and were cynical and distrusting of their partners. This is proposed to be due to the conflict arising from “code of the street” values conflicting with relationship values. In order to compensate for their low social status and prospects and gain status in their surroundings, their values emphasize masculinity, risk-taking behavior and displays of toughness, and (multi-partnered) sexual conquests and not committed relationships or caring for children (Anderson 1999; Oliver 2006). Individuals who have internalized street values emphasizing respect, reputation and retaliation may potentially even treat a normal disagreement in a relationship as a sign of disrespect leading to major conflict (Barr et al. 2012).

By contrast, motherhood is less linked with financial achievements as fatherhood which is strongly linked with the provider role. Motherhood often represents social status achievement for women. Particularly among women who experience many negative experiences in childhood and youth, there is a strong wish to have their own happy family. Research among teenage mothers who often come from deprived backgrounds and are also more likely to commit offenses has shown that having a child may present a means to escape from home, to be loved, to be respected and to find social acceptance by fulfilling traditional roles or to be taken care of (Clemmens 2003; Seamark & Lings 2004). Motherhood is a key transition for meaning and identity among women and possibly a way to gain access to resources. Studies by for example Barr et al. (2013) and Edin et al. (2005) have shown that in disadvantaged neighborhoods in the US, women will forgo marriage but not motherhood as they find no suitable partners.

2.3.2 Selection into parenthood: planned versus unplanned pregnancies

Despite many male offenders stating that they did not want children or were not fit to have any, many have children. However, often the fatherhood was not planned and they seldom lived with the mother and their child (Edin et al. 2001). As suggested in the research on desistance, it may play a role whether parenthood is planned or unplanned. There is hardly any research with exception of Anglo-Saxon countries on whether the growing number of non-marital births is caused by planned or unplanned pregnancies. US research suggests that a large part of pregnancies among partners of disadvantaged men were unintended (Augustine et al. 2009; Finer et al. 2006; Henshaw 1998). Augustine et al. (2009) in their qualitative study of low-income, non-custodial fathers report that the largest part of their interviewees

stated that they “were just not thinking”. They had no plans to have a child but took no precautions combined with other risk taking behavior such as delinquency, drug use, or having multiple sex partners. Planned pregnancies occurred mostly among those with stable jobs and relationships

In focus groups with women visiting primary care clinics, Nettelman and colleagues (2009) discussed reasons for unintended pregnancies. The most common reasons were lack of preparation, being in a long-term relationship, and concerns about the effects of contraceptives. Women did not mind to get pregnant or believed that their partner would be there for them, even if this did not happen in previous relationships and pregnancies (ibid). Another reason was that their judgment was clouded by alcohol or drugs or not wanting to ask their partner to use a condom.

2.4 Limitations of previous studies

The previous studies on parenthood and crime behavior found an association between these two factors. However, the mixed findings of studies on desistance point to the importance of selection effects into parenthood and suggest that committed relationships are important. Sampson, Laub & Wimer (2006) and Van Schellen (2012) point out that most studies with a life-course perspective studying marriage simply assumed that this event occurs at random and therefore ignore the very likely fact that having a criminal career may influence marriage (and consequently parenthood) chances. Particularly offending may influence family formation directly, if we assume that childbirth occurs as a planned transition where both potential parents decide to have a child. Monsbakken et al. (2012) found a general decline of offending before parenthood. This suggests it is worthwhile to study how criminal behavior may affect transition into parenthood.

Furthermore, there is the possibility that criminal behavior is largely age-dependent in its effect. Most research focuses only on very young offenders, as they are judged to be the biggest societal “problem”, thereby largely ignoring what happens at later stages in life.

3. THIS STUDY

3.1 Research questions

This study seeks to shed light on the role of criminal involvement for becoming a parent by taking a longitudinal perspective. The following research questions are addressed:

- How does a criminal career influence the timing of first parenthood?
- How does a criminal career influence the timing of first parenthood inside and outside marriage?
- Are there gender differences?

3.2 Hypotheses

From the previous section we can easily derive hypotheses for why criminal behavior may impact the chance to become a parent. We formulate four hypotheses: indirect and direct crime effects on parenthood chances (H1 & H2), the importance of social time schedules (H3) and the different link between crime and parenthood for men and women (H4).

3.2.1 Indirect effect

There may be indirect mechanisms at play to affect the timing of first parenthood, because criminal behavior shares the same underlying risk factors as for example teenage parenthood. Criminal behavior is associated with other risky behaviors that provide instant gratification such as skipping school, using alcohol or drugs, engaging in unprotected sex and having multiple sexual partners. These behaviors are linked to personal characteristics, such as low self-control and impulsiveness, and increase the chance of young offenders of having a (unplanned) child during their teenage years.

H1: Individuals with many juvenile convictions have a higher chance of early parenthood, particularly outside marriage.

3.2.2 Direct effect

There is a possible direct mechanism of offending on family formation – if we see parenthood as a planned transition. In this case, criminal behavior may limit the attractiveness as a (marriage)partner or a potential parent. Possible reasons for a limited attractiveness are a limited economic perspective, and the perception of individuals with a criminal conviction as being more prone to violent, aggressive, and anti-social behavior (Anderson 1999; Pager 2003; Western 2002). Those embracing a criminal lifestyle, as signaled by their long and frequent criminal careers, and building their identity around it, are less likely to see parenthood as fitting with their way of life. A criminal career may prevent a more conventional parental career due to a feeling of not being ready to live in conformity and take responsibility (Augustine et al. 2009; Buston et al. 2010; Edin et al. 2001; Moloney et al. 2009; Shannon & Abrams 2007; Wilkinson et al. 2009). Thus, we would expect criminals with many convictions to more often remain childless.

H2: We expect individuals involved in a criminal career to be more likely to remain childless. They have particularly a lower chance to have child in a committed relationship, e.g. marriage.

3.2.3 Age-graded effect

From the literature review – summarized into Hypotheses 1 and 2 - we concluded that we expect almost competing outcomes from crime on parenthood: a higher likelihood of (young unplanned) parenthood and a higher chance of no (planned) parenthood at all. A simple way to explain how these two hypotheses may be the result of the same factor, crime, is through the age-graded changes in the evaluation of criminal involvement.

Age-graded changes in the social evaluation (both personal and in the evaluation of others) of offending may cause the effects of offending on parenthood to differ for different phases of the life course. Criminal involvement is largely age-dependent. It is much more common in late adolescence – in this sense, delinquency may be seen as still following norms, and will be subject to a different societal evaluation. Rule breaking can be seen as a development process of becoming independent, of gaining new means, authority, when other options are still limited. During adolescence offending may shortly increase the attractiveness among age peers (Rebellon & Manasse 2004) and due to risk-taking behavior an unplanned childbirth. However, past this age criminal behavior may be disapproved of – the wild oats should have been sown - and previous juvenile offenders are expected to adjust to the new social roles, opportunities and responsibilities that open with adulthood. Like other transitions, the timing of parenthood is guided by social timetables and norms (Hogan & Astone 1986; Neugarten et al. 1965) and role transitions that occur off-time may have negative consequences. If there is a continuation of the criminal career after a certain age, deviant behavior may prevent the start of a conventional parental career and marriage. Uggren and Massoglia (2003) using latent class analysis showed that when criminal behavior persisted into mid-twenties, respondents were less likely to be married or financially independent. Similar findings concerning full-time employment were found by Hagan (1991) and Sampson and Laub (1993).

H3: Criminal involvement is differently associated with parenthood at different stages in the life course - with parenthood being more likely for those convicted of offenses during ages where crime occurs more often.

3.2.4 Gender differences

Finally, we have to take into account gender differences in the frequency and the severity of crime involvement, in personal characteristics of offenders as well as in the status attainment through parenthood.

The limited studies on women cited in the previous sections already demonstrated that women are much less central in the study of a potential crime and parenthood link. This is mainly due to the fact that

they are much less likely to be convicted than men, and even when they commit criminal offenses, they tend to commit fewer and less severe crimes. In the Netherlands, women represented only 18% of those suspected of an offense in 2012 (Statline 2014a). Women are mainly convicted for property offenses or offenses connected to the domestic sphere – neglect of children, not sending children to school, and non-payment of bills.

Women convicted for criminal offenses are a very select sample of the female population. Male offender samples are more diverse. This is not only so for the type of crime they commit but also for the background characteristics of offenders. Female offenders more frequently have histories of abuse, mental health problems and abusive personal relationship than the average male offender (Abram et al. 2003; Fazel et al. 2008; Odgers et al. 2010). Socioeconomic factors (low social class, low family income, poor housing and large family size) and child-rearing practices (low praise by parents, harsh or erratic discipline, poor parental supervision, and parental conflict) are better predictors of delinquency and crime for women than for men (Farrington and Painter 2004). Therefore women's offending is more often linked to poverty, deprivation or substance abuse.

Because so few women are convicted, those that are may be subject to more negative societal judgment and their problematic personal characteristics may make them less suitable partners lowering their chance of motherhood. However, several points speak against this assumption. First, a criminal partner may be the cause of a woman's start into offending or a precarious social and economic situation where she has to take care of her family – most women are convicted for offenses relating to property. Second, previous research studying women offenders found that the largest part of women offenders has had a negative and adverse experience in childhood and later, much more the case than for men. It may therefore be that due to an abusive childhood they wish to be loved and create their own family. Having a child may be a way to escape a difficult home situation or may be a way to bind a new partner to them. These motives to have children may be more specific to women.

Against this background, it is possible that motivations for parenthood differ for men and women. Male offenders interviewed usually stated cognitive changes or accidental pregnancies in non-steady relationships.

H4: We expect that women with a criminal conviction are more likely to have a child than men with a criminal conviction.

4. DATA AND METHOD

4.1 Data

For the current analyses we use data from the Dutch Criminal Career and Life-Course Study (CCLS) a large-scale, longitudinal study of over 5,000 individuals who had a criminal case either ruled upon by a Dutch judge or decided upon by the public prosecutor in 1977. In the 1970s when the sample was drawn, the Dutch judicial system was fairly lenient. Having been convicted, therefore, means that the CCLS sample is mostly a high-risk sample (Blokland 2005). These individuals are followed retrospectively to age 12 and prospectively for the 28 years after the 1977 adjudication or prosecutorial decision. When data collection stopped in 2005, most surviving individuals were over age 50.

The criminal careers of the sampled individuals were reconstructed using information from the General Documentation Files (GDF) of the Criminal Record Office (largely comparable to US “rap sheets”). The GDF’s contain information on every criminal case registered by the police at the Public Prosecutor’s Office. Information on the final decision is sent to the Criminal Record Office by the Public Prosecutor’s Office, the court in first instance and the higher court respectively. The GDF’s contain information on all adjudications that led to any type of outcome (not guilty, guilty, prosecutorial decision to drop due to lack of evidence, prosecutorial decision to drop for policy reasons and prosecutorial fines). For the present analysis we include only those cases which in first instance resulted in a guilty finding by a judge, a prosecutorial waiver due to policy reasons, or a prosecutorial fine, combining these three outcomes as “conviction”.

In addition to the criminal history information, data on life circumstances across time were collected from population registration records (GBA). Population registration records in the Netherlands contain information on the dates of marriage and divorce and on the birth date of an individual’s biological children, either born in or outside of marriage. Population registration data pertains only to official marriages and more recently also to registered cohabitation, but does not have information on unregistered cohabiting. During most the follow up period of the current study children born within a marriage are automatically registered to the husband’s name, while children born out of wedlock first needed to be ‘recognized’ by the alleged father as his own.

From the information of the GDF and GBA, we constructed person-year files from age 15 up to age 50 containing information on yearly convictions and demographic transitions. Minimum age of criminal responsibility in the Netherlands is 12 years old, but family formation occurs later. Individuals who experienced the event of interest or who died were right-censored. In total, the sample consists of 4,059 men and 384 women who contributed 81,736 and 5,650 person-years respectively from age 15 to the year of experiencing first-time parenthood. Individuals who did not experience first-time parenthood were

right-censored at age 50 or death if they died before age 50. With the age range 15 to 50, we basically cover all the respondents' fertility; only 4 men had a first child after the age of 50.

4.2 Measures

The outcome variable is transition to first parenthood. For the analyses, we defined three different transitions to first parenthood:

- A) Transition to first parenthood disregarding the marital status. Parental status changes from 0 (no child) to 1 (first child).
- B) Transition to first parenthood outside marriage. Parental status changes from 0 (no child) to 1 (first child outside marriage).
- C) Transition to first parenthood inside marriage. Parental status changes from 0 (no child) to 2 (first child inside marriage).

The outcome variables B and C are measured as competing risks (see section 4.3).

To explore the role of criminal involvement for the timing of first parenthood, we constructed a variable indicating whether an individual belongs to the 25% individuals with the highest predicted criminal involvement in a given age-year. Criminal careers are not constant, but are rather characterized by periods of activity and inactivity. These short periods of inactivity may represent a break from crime. Particularly in official data, however, these inactive periods may be explained by the necessity of being apprehended by the police to appear in official data. To capture the idea of offenders living a criminal lifestyle and to prevent offenders who merely show a temporary lull in convictions to be categorized as 'non-criminal' we adopted the strategy of Kernel smoothing (Nieuwbeerta, Blokland, Piquero & Sweeten, 2011). An example of this common occurrence in official crime data is given in Figure 1.

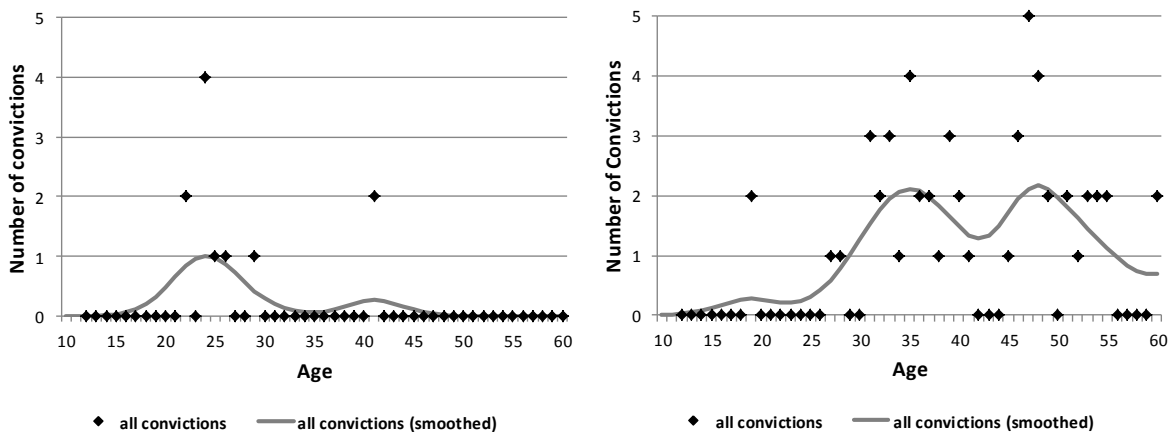


Figure 1: Examples of kernel smoothing for two individuals' convictions in the CCLS data

An individual may have been convicted of 2 crimes aged 22, of 0 crimes aged 23 and of 4 crimes aged 24. By smoothing the data, we account for the likelihood that this individual was likely to be living a criminal lifestyle also at age 23. In this way, we do not measure the actual number of convictions in each age year, but rather model a likely trend of criminal involvement in each age year. We constructed the variable by smoothing for each individual the count variable indicating the number of convictions of a given age-year from age 12 (age of criminal responsibility in the Netherlands) to age 60 or death or censoring age when it occurred before age 60 with a kernel smoother of a Gaussian density distribution with bandwidth 3.

In a final step, we divided the smoothed crime variable into quartiles for every age year. The created variable measures whether an individual belongs to the least criminally active (1st quartile), 25-50% (2nd quartile), 50-75% to most criminally active (4th quartile) in a given age year. Thereby, for each year, we only took those into account who were still under risk to become a parent. Mainly this variable represents a synthetic cohort, as quartile belonging can in theory change with every age-year, but most sample members when they got sampled into a certain category did not change their behavior in the next years much, so they remained mainly in the same quartile. These quartiles were constructed based on all criminal convictions as well as for property, violent and drug crime.

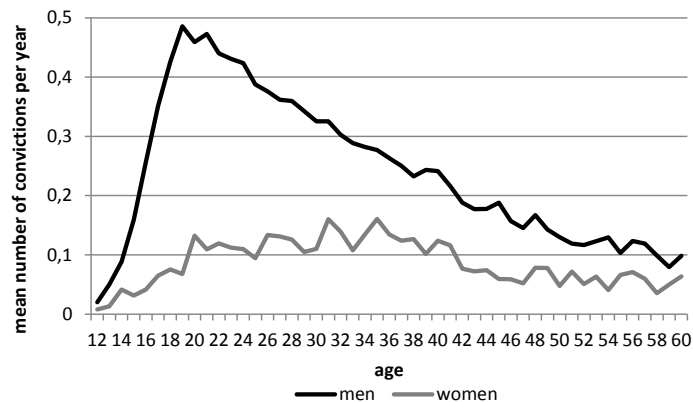


Figure 2: Average age-crime curve for the CCLS sample by gender

In addition to our main variable of interest – criminal involvement -, our models include several additional covariates. A categorical variable measures juvenile delinquency for men. For women, it only measures whether there was any juvenile conviction before age 18. A dummy variable measures whether an individual was born in the Netherlands or not. To account for the fact that the CCLS sample individuals were between the ages 12 to 65 (mean age 27.3 for men and 32.6 for women) in 1977 we include a measure for their age in 1977, as the average age at first-childbirth differed for different birth cohorts. Furthermore, to capture the possible age-graded importance of criminal involvement for becoming a parent, as criminal involvement may be more “common” and acceptable in some age years,

we included an age variable which we include as an interaction term with the time-varying crime variable. Further, a squared age variable accounts for non-linear age effects. Figure 2 shows the age-crime curve of the CCLS sample showing that criminal convictions were highest during teen years and early twenties for men followed by a sharp decline. For women, the age-crime curve rises not as steeply in youth and remains relatively stable in the twenties and thirties before it drops slightly. Convictions among women, even in a criminal sample, are much lower than among men. As criminal involvement is heavily gendered and men become a father later than women, due to the age difference of partners, all models are run separately for men and women. Unfortunately, there is no further information in our register data on the respondents' social or economic circumstances.

4.3 Analytical Strategy

For the current study's aim to explore the criminal career and the timing of becoming a first-time parent among a high-risk sample for criminal behavior, we analyze the data in three steps.

First, we present descriptive results on the age at first birth and the mean number of different types of convictions (all, property, violence, and drug convictions) and criminal career characteristics (age of onset, duration of criminal career, crime mix). In step 2 and 3, we want to answer two questions: How does a high level of criminal involvement influence the transition to first parenthood (step 2) and how does a high level of criminal involvement affect the transition to first parenthood inside marriage in the presence of parenthood outside marriage as a competing risk and the other way around (step 3)? Making use of the longitudinal set-up of the data, we calculate logit models on the person-year file adjusting for clusters by estimating robust standard errors. In the final third step, we estimate competing risk models by separately calculating models for two outcomes, treating the competing event as censored.

In the competing risk model we take into account that the effect of criminal involvement on having a child outside marriage likely differs from the effect of criminal involvement on having a child within a steady relationship, which meant marriage for our sample. Nowadays, first parenthood outside marriage is fairly common in the Netherlands as cohabiting couples often prefer to forego marriage. In 2012, 42.6% of all births occurred outside marriage (Statline 2014b), but the CCLS sample is a bit older, and the link between marriage and childbirth was fairly strong until the 1970s. Until 1975 less than 2% of all children were born outside marriage (Statline 2014b). Therefore, for our study, a child born outside marriage was likely conceived outside a steady relationship and may be an indicator of risk taking behavior and criminal behavior. In the CCLS sample, among all first births 24% of the men and 34% of the women had their first child outside marriage. These numbers were consistent even when we calculated them according to calendar year of birth of the child.

5. RESULTS

5.1 Descriptive statistics on sample subjects' criminal careers and first parenthood by gender

In a first overview, we describe the association between criminal behavior and parenthood in a high-risk sample for criminal behavior (Table 1 and 2). As the goal of this study is to explore the link between the age of parenthood and criminal behavior - with the assumption that criminal behavior is linked with off-time parenthood - and the average age of first parenthood shifted slightly during the 20th century and the CCLS sample was born over a forty year span, we decided to report a relative age of first parenthood. For example, giving birth to a first child at a young age was more common in the 1960s than for example in the 1930s or in the later part of the 20th century. For this reason, we calculated how each sample subject's age at first parenthood compared to the Dutch national average age at first parenthood when the birth occurred in the same calendar year. The left columns of Table 1 and 2 show these relative numbers. The categories are childless, being at least 5 years younger than the Dutch national average men or women who had a first child in the same calendar year, close to average age and at least 5 years older than average Dutch men and women who had a first child in the same calendar year.

The most striking finding is the high percentage of individuals who remain childless. 35% of the men in the high-risk sample and 23% of the women had no children.

Table 1: Criminal career indicators and relative age at birth first child for men

Relative age at birth first child (compared to average age of sample subjects' birth cohort)		Mean number of convictions age 12-50 years				Criminal career, means			
		all offenses	property	violence	drugs	Age of onset	Age of termination	Duration criminal career	Crime mix (26 categories)
childless	35%	18.8	8.6	2.2	1.0	20.7	40.4	19.7	5.3
at least 5 yrs younger than average man	12%	18.2	6.8	2.5	0.4	20.5	44.6	23.0	5.9
average (+/-4 yrs)	42%	11.8	4.3	1.6	0.3	21.9	40.7	18.2	4.3
at least 5 yrs older than average man	11%	12.1	4.5	1.5	0.6	23.3	41.6	17.1	4.2
Total	4,059	15.0	6.1	1.9	0.6	21.5	41.2	19.7	4.8

Table 1 shows that male sample subjects who never had children and those who were at least 5 years younger at the birth of their first child than other first-time fathers in that same calendar year, had on average a higher number of convictions over their life course. This finding also holds for property and violent convictions considered separately and for men with no children for drug convictions. These two groups also had an earlier age of onset, a larger crime mix as well as longer criminal careers, which is particularly pronounced for the young fathers group.

Table 2: Criminal career indicators and relative age at birth first child for women

Relative age at birth first child (compared to average age of sample subjects' birth cohort)	Mean number of convictions age 12-50 years				Criminal career, means				
	all offenses	property	violence	drugs	Age of onset	Age of terminati on	Duration criminal career	Crime mix (26 cat.)	
childless	23%	3.5	2.0	0.2	0.2	30.8	39.3	8.4	1.8
at least 5 yrs younger than average woman	26%	6.6	4.6	0.6	0.5	27.1	40.9	13.8	3.0
average (+/-4 yrs)	43%	4.3	2.8	0.3	0.3	30.2	41.0	10.8	2.1
at least 5 yrs older than average woman	8%	2.9	1.4	0.4	0.4	32.3	38.5	6.2	1.7
Total	384	4.6	3.0	0.4	0.2	29.7	40.4	10.7	2.2

In comparison to the findings for men, childless women did not have more convictions over their life course (Table 2). However, women, who were at least 5 years younger at their first birth than other first-time mothers in the same calendar year, had on average the highest number of convictions for all convictions, property, violent and drug convictions as well as an earlier onset and a longer criminal career duration and a higher mean number of different crimes committed.

5.2 Timing of first parenthood among men in a high-risk sample for criminal behavior

In the following section, we analyze the timing of first parenthood among men. The logit models presented in Table 3 indicate that the transition to first fatherhood is predicted by age and criminal involvement. Table 3 Model 1 shows the effect of belonging to one of the time-varying criminal quartiles. Whereby those belonging to quartile 1 are the least criminally involved in a given age-year and those in quartile 4 belong to the 25% of the individuals in a given age-year with the highest crime involvement. The estimates suggest a negative relationship between criminal involvement and first time fatherhood: the higher the criminal involvement the less likely is the transition to parenthood. This is in line with the first part of our hypotheses 2. By contrast, convictions for juvenile delinquency are related to an earlier transition to fatherhood as it is also discussed in the literature and in line with the first part of our hypotheses 1, although this is only significant for those with more than two convictions before age 18.

In Table 3 Model 2, we concentrated on those men who are the most criminally active for different types of crime: property, violence and drugs. Here again, those belonging to quartile 4, no matter which type of crime they were involved in, were the least likely to experience fatherhood. These somewhat contradictory findings – generally the most criminal men are least likely to become fathers, but are more likely to become teen fathers – is modelled in Table 3 Model 3 as an interaction between criminal involvement and age. In this way, we aim to take account of the potential age-graded influence of criminal involvement on the chance of fatherhood. We display this graphically in Figure 3.

Figure 3 displays the survival function for timing first child by criminal involvement: belonging to the most criminal quartile (quartile 4) versus belonging to the other 75 percent who are less involved in a criminal lifestyle at a given age year (quartiles 1 to 3). We find that those men belonging to the 4th quartile transition faster into fatherhood, but by their mid-twenties this trends slows down. Among those men who belong to the most criminal active quartile around 53 percent did not become a father by age 50. By contrast, those belonging to the less criminal quartiles start slightly less fast into fatherhood, but are more likely to transition into parenthood in their twenties. There is a cross-over between the two groups in the mid-twenties which could signal a change in the subjective and societal perception of criminal involvement which supports our third hypothesis.

Table 3 about here

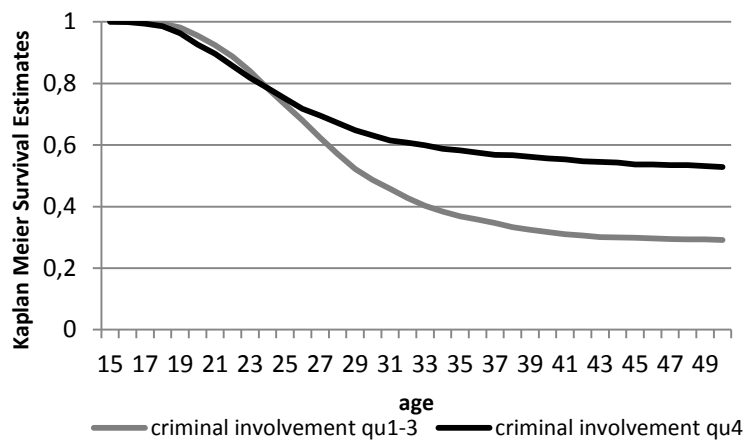


Figure 3: Timing of first fatherhood by criminal involvement

5.3 Timing of first parenthood inside and outside marriage (competing-risk models) among men in a high-risk sample for criminal behavior

The following section studies the timing of having a first child inside and outside of marriage as proxies for unplanned and planned childbirth (second part of Hypotheses 1 and 2).

In Table 4 Model 1 and 2, the findings show that at first glance different levels of criminal involvement do not seem to be related to the experience of fatherhood outside marriage. By contrast, any juvenile conviction before age 18 is related to a higher likelihood of fatherhood outside marriage, which supports hypothesis 1. However, if we include an interaction between high level of criminal involvement and age (Model 3), we find again that there exists again a significant association between these two factors (Hypothesis 3). We display the effect in Figure 4a.

Table 4 about here

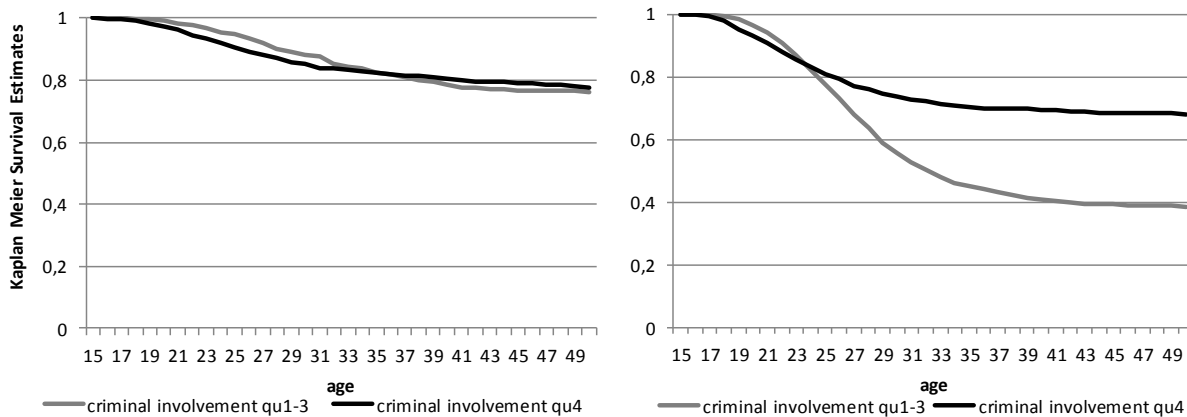


Figure 4a and 4b: Timing of first fatherhood outside and inside marriage by criminal involvement

Generally, few men experience fatherhood outside marriage compared to fatherhood inside marriage. Still we find again that belonging to the most criminally involved quartile first speeds up the transition to fatherhood outside marriage somewhat, before there is again a cross-over with men belonging to the three less criminally involved quartiles at age 35 years. This is 10 years later than for the model where we do not distinguish between birth inside or outside marriage. However, the severity of criminal involvement clearly plays much less a role for parenthood outside marriage.

Table 4 Models 4 to 6 show the estimates for the transition to fatherhood inside marriage. Models 4 and 5 show again, but stronger than in Table 3, the negative relationship between criminal involvement and transition to fatherhood. This supports Hypothesis 2 that individuals involved in a criminal career are more likely to remain childless, particularly in a committed relationship such as marriage. By contrast, juvenile delinquency does not influence the transition to parenthood inside marriage for men. When we look at the final Model 6, we find again the age-graded influence of crime on the transition to fatherhood. Here the contrast between those belonging to the most criminal quartile and those less involved in crime is even more pronounced. The cross-over between the two groups occurs at age 24 years and is thus earlier than among those who experience fatherhood outside marriage.

5.4 Timing of first parenthood among women in a high-risk sample for criminal behavior

The findings of the logit model for the transition to motherhood are presented in Table 5. A very different picture than that for the men emerges. First, it seems that severity of criminal involvement does not predict timing of first motherhood. Also, when we look at the most common crime type for women – property crime – we find no effect of those most heavily involved on parenthood changes. However, those belonging to the most criminal quartile for violent crime have a higher chance of experiencing motherhood. Juvenile convictions have no influence on the transition to motherhood. This weak link between crime and transition to motherhood may mean that there exists no association between these

factors for women. However, it may also be that we have a too low number of high-risk women or the crime career differences between these women are not large enough as we have seen in the descriptive statistics the variation is much smaller among the female sample. Generally, the findings suggest, also visible in Table 5 Model 3 and graphically displayed in Figure 5, that crime involvement is not linked with a lower likelihood of parenthood for women. Rather there is a slight higher chance of motherhood for women with high crime involvement compared to those with less criminal involvement across their whole fertile life course, although this difference is not significant. For women, we find no support of Hypotheses 1 to 3.

Table 5 about here

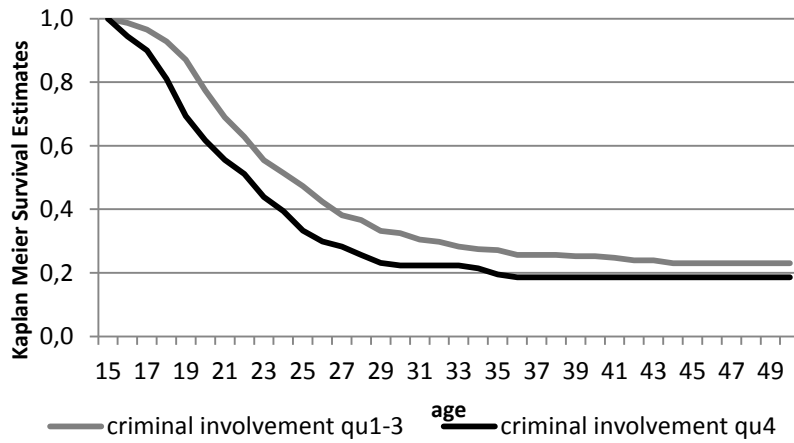


Figure 5: Timing of first motherhood by criminal involvement

5.5 Timing of first parenthood inside and outside marriage (competing-risk models) among women in a high-risk sample for criminal behavior

Even if we account for childbirth inside or outside marriage, criminal involvement does not significantly explain differences in the transition to parenthood among women (Table 6). It is likely that our sample is just too small. However, there is some indication that severity of criminal involvement is related to transition to first parenthood outside marriage (Figure 6a). Women belonging to the most criminally involved quartile have always a higher chance to transition to motherhood outside marriage, whereas there is no significant influence of criminal involvement on transition to first motherhood inside marriage. The findings do not support Hypotheses 1 to 3.

Table 6 about here

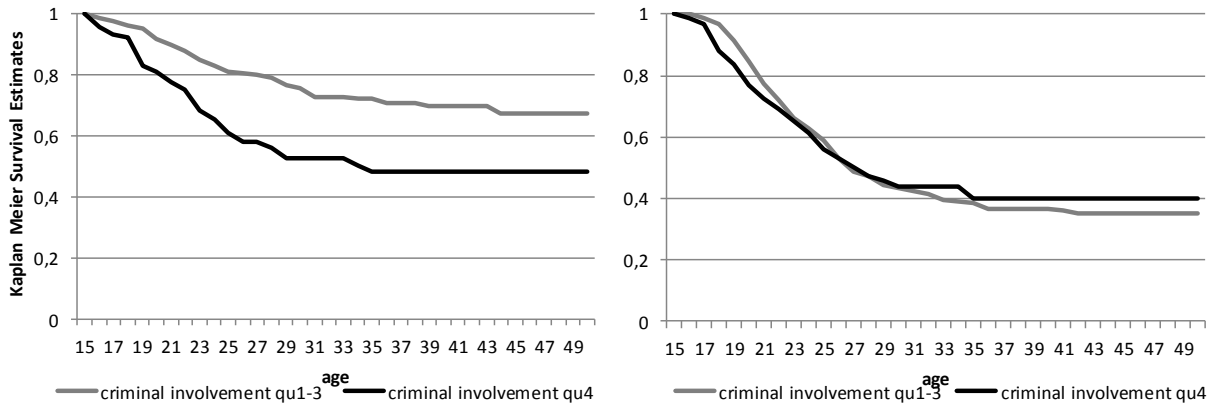


Figure 6a and 6b: Timing of first motherhood outside and inside marriage by criminal involvement

6. DISCUSSION

Previous research concentrated on the importance of parenthood as a potential turning point in the desistance process from crime. However, not every offender will be equally likely to become a parent. One of the reasons why the findings for parenthood are ambiguous may lay in the different criminal trajectories and involvement in criminal behavior before becoming a planned or unplanned parent and the age when the transition to parenthood occurs. The aim of this study was to identify both general and timing factors that influence both the chance of becoming a first time parent.

Our findings show that a large part (a third of the men and over 20% of the women in our elevated-risk sample) never became a parent. A striking finding is that while among men the childless belong to the individuals with the highest number of convictions, this relation is not found for women. However, both among men and women being a young parent is associated with an above average number of convictions across the life course. These findings imply that parenthood as a turning point was unachievable for individuals with the highest number of convictions and when parenthood occurred too early in life, it is likely not a turning point in behavior.

In our multivariate analysis, we showed that taking a longitudinal view on criminal involvement and parenthood highlights the diverse impact of criminal behavior at different ages for men, whereas criminal involvement did not differ in its impact on parenthood chances for women.

For timing of a first birth among men, we find that being heavily involved in a criminal lifestyle before age 24 is associated with a higher chance of young fatherhood. By contrast, being heavily involved in a criminal lifestyle after the mid-twenties is associated with a lower likelihood of fatherhood. We find even stronger effects for the risk of having a child *within* marriage. However, independent of age we find that being heavily involved in crime is linked to a faster transition to fatherhood *outside* marriage. These findings suggest that two possible mechanisms are at work: First, an indirect mechanism between crime and young fatherhood and fatherhood outside marriage. This seems to be an indicator of an underlying

propensity for risky behaviors likely connected with unplanned childbirth. Second, a direct mechanism seems at work. After the mid-twenties, heavy involvement in crime may be judged more negatively: for parenthood within a stable relationship, partners may expect a more conventional career.

For women, we find no “crossover age” of crime influence on parenthood due to different subjective or societal evaluation of criminal involvement as among men. Rather women who are heavily involved in crime – compared to other women of the same age – seem tentatively more likely to become a mother at all ages, but in any case there is no reduced likelihood of motherhood for them due to crime involvement. For the competing risk models, we find that being heavily involved in crime does not influence the timing of first motherhood *within* marriage. Women who are convicted for criminal offenses are a very selective group, prone to have experienced many negative experiences in childhood. Having a child may be a way to create their own family, be loved by someone or a way to bind a new partner to them. It may also be, as with the men, a sign of risk propensity. Their problematic characteristics may also make them unsuited for stable relationships, which may be why we find stronger crime effects for motherhood *outside* marriage. The non-finding of crime effects for motherhood within marriage may be explained by the fact that women often are introduced to a criminal career through partners or many convictions are related to the domestic sphere among them for example child neglect. So women may only receive a conviction after they have already become a mother and we simply did not have enough convictions of women before marriage and birth to study transition to motherhood within marriage. Generally women’s offending is much less severe (so there is less variation in the quartiles) than those of men, which may also account for the non-significant results for women. The differences for women may also show the different importance of parenthood in the lives of men and women which for women is much more an identity giving transition than for men who link more financial responsibilities with it.

To sum up, we found support for our Hypothesis 1 that individuals with many juvenile convictions have a higher chance of early parenthood, particularly outside marriage. However, this was only found for the men in our sample. Juvenile delinquency and early fatherhood are found (like in other studies) to be related and point to other underlying factors such as partaking in risky behaviors and being more impulsive. This early parenthood is likely unplanned and may therefore be not an effective turning point for most teenage parents that engage in criminal behavior.

We also found that only the results for men supported our second hypothesis that individuals involved in a criminal career are more likely to remain childless. They have particularly a lower chance to have child in a committed relationship, e.g. marriage. Likely, planned childbirth (which occurred for our older sample most in marriage) is much more likely to lead to changes in behavior and a change in the self-image, which explains that these men were less involved in a criminal lifestyle.

The men but not the women support our Hypothesis 3 that criminal involvement is differently associated with parenthood at different stages in the life course - with parenthood being more likely for those convicted of offenses during ages where crime occurs more often.

Finally, as already indicated above, hypotheses 1 to 3 only applied to men. Women clearly are differently affected by criminal involvement in their parenthood chances. In that way, we find support for our fourth Hypothesis that women with a criminal conviction are more likely to have a child than men with a criminal conviction.

As a last point, we have to mention some limitations of our study. Our analysis is based on register data and is missing further survey information to control for various other factors that influence the transition to parenthood. It would be particularly interesting for our study questions to further explore the role of planned and unplanned childbirth and certain underlying personality traits to disentangle further the mechanisms between criminal involvement and the transition to parenthood.

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Table 3: Estimates from logit models for the effect of criminal involvement on the likelihood of transition to first parenthood among men

Model		1		2		3	
		coef	se	coef	se	coef	se
Criminal career							
	quartile 1 -least criminally active	ref		-		-	
criminal involvement for all crime (time varying)	quartile 2 - 2nd least criminally active	-0.16**	0.05	-		-	
	quartile 3 - 2nd most criminally active	-0.25***	0.05	-		-	
	quartile 4 - most criminally active	-0.69***	0.07	-		-	
criminal involvement for most criminally active quartile by crime type (time varying)	quartile 4 - all crime	-		-		1.64***	0.29
	interaction: age*quartile 4 all crime	-		-		-0.01***	0.01
	quartile 4 - property crime	-		-0.32***	0.06		
	quartile 4 - violent crime	-		-0.18**	0.05		
	quartile 4 - drug crime	-		-0.48***	0.07		
juvenile delinquency	no conviction					ref	
	1 conviction	0.13	0.08	0.09	0.08	0.10	0.08
	2+ convictions	0.26***	0.07	0.19**	0.07	0.20**	0.07
Personal background							
	age	0.81***	0.04	0.81***	0.03	0.85***	0.03
	age square	-0.01***	0.00	-0.01***	0.00	-0.01***	0.00
	Non-Dutch nationality	-0.16*	0.06	-0.08	0.06	-0.16*	0.06
	age in 1977	0.01***	0.00	0.01***	0.00	0.01***	0.00
	constant	-14.51***	0.39	-14.62***	0.38	-15.38***	0.42
	Number of person-years	81,736		71,678		71,678	
	Number of persons	4,059		4,059		4,059	
	x ² (df)	1125.80(9)		1149.56(9)		1172.42(8)	

*** p < .001, ** p < .01, *p < .05

Table 4: Estimates from logit models for the effect of criminal involvement on the likelihood of transition to first parenthood outside & inside marriage among men

Model		outside marriage				inside marriage							
		1	2	3	4	5	6						
		coef	se	coef	se	coef	se	coef	se	coef	se		
Criminal career													
	quartile 1 -least criminally active	ref		-		-		ref		-		-	
criminal involvement for all crime (time varying)	quartile 2 - 2nd least criminally active	-0.10	0.12	-		-		-0.17**	0.06	-		-	
	quartile 3 - 2nd most criminally active	0.12	0.11	-		-		-0.36***	0.06	-		-	
	quartile 4 - most criminally active	-0.06	0.12	-		-		-0.91***	0.08	-		-	
criminal involvement for most criminally active quartile by crime type (time varying)	quartile 4 - all crime	-		-		1.88***	0.47	-		-		1.83***	0.36
	interaction: age*quartile 4 all crime	-		-		-0.07***	0.02	-		-		-0.10***	0.04
	quartile 4 - property crime	-		0.00	0.11	-		-		-0.46***	0.07	-	
	quartile 4 - violent crime	-		-0.03	0.10	-		-		-0.22***	0.06	-	
	quartile 4 - drug crime	-		-0.04	0.12	-		-		-0.67***	0.08	-	
juvenile delinquency	no conviction	ref		ref		ref		ref		ref		ref	
	1 conviction	0.35*	0.14	0.36*	0.14	0.34*	0.14	0.06	0.09	-0.00	0.09	0.02	0.09
	2+ convictions	0.73***	0.12	0.72***	0.12	0.70***	0.12	0.06	0.09	-0.03	0.09	-0.01	0.09
Personal background													
	age	0.59***	0.04	0.59***	0.04	0.64***	0.05	0.90***	0.04	0.90***	0.04	0.94***	0.04
	age square	-0.01***	0.00	-0.01***	0.00	-0.01***	0.00	-0.02***	0.00	-0.02***	0.00	-0.02***	0.00
	Non-Dutch nationality	0.42***	0.10	0.43***	0.10	0.43***	0.10	-0.39***	0.07	-0.30***	0.07	-0.40***	0.07
	age in 1977	0.02***	0.00	0.02***	0.00	0.02***	0.00	0.01*	0.00	0.01*	0.00	0.01*	0.00
	constant	-14.09***	0.63	-14.09***	0.63	-15.02***	0.73	-15.71***	0.48	-15.83***	0.48	-16.65***	0.51
	Number of person-years	81,736		81,736		81,736		81,736		81,736		81,736	
	Number of persons	4,059		4,059		4,059		4,059		4,059		4,059	
	x ² (df)	309.16(9)		294.81(9)		286.06(8)		966.82(9)		973.86(9)		1034.10(8)	

*** p < .001, ** p < .01, *p < .05

Table 5: Estimates from logit models for the effect of criminal involvement on the likelihood of transition to first parenthood among women

Model		1		2		3	
		coef	se	coef	se	coef	se
Criminal career							
criminal involvement for all crime (time varying)	quartile 1 -least criminally active	ref		-		-	
	quartile 2 - 2nd least criminally active	0.20	0.19	-		-	
	quartile 3 - 2nd most criminally active	0.08	0.20	-		-	
	quartile 4 - most criminally active	0.31	0.21	-		-	
criminal involvement for most criminally active quartile by crime type (time varying)	quartile 4 - all crime	-		-		1.41*	0.63
	interaction: age*quartile 4 all crime	-		-		-0.05 (p=0.056)	0.11
	quartile 4 - property crime	-		0.26	0.14		
	quartile 4 - violent crime	-		0.39*	0.17		
	quartile 4 - drug crime	-		-0.33	0.23		
juvenile delinquency	no conviction	ref		ref		ref	
	any conviction	0.28	0.08	0.20	0.22	0.19	0.22
Personal background							
	age	0.67***	0.04	0.68***	0.03	0.69***	0.03
	age square	-0.01***	0.00	-0.01***	0.00	-0.01***	0.00
	Non-Dutch nationality	-0.33	0.06	-0.34	0.06	-0.31	0.06
	age in 1977	-0.01	0.00	-0.01	0.00	-0.01	0.00
	constant	-10.59***	1.29	-10.57***	1.27	-10.91***	1.27
Number of person-years		5,650		5,650		5,650	
Number of persons		384		384		384	
x ² (df)		54.60(8)		62.63(8)		58.28(7)	

*** p < .001, ** p < .01, *p < .05

Table 6: Estimates from logit models for the effect of criminal involvement on the likelihood of transition to first parenthood outside & inside marriage among women

		outside marriage						inside marriage					
Model		1		2		3		4		5		6	
		coef	se	coef	se	coef	se	coef	se	coef	se	coef	se
Criminal career													
	quartile 1 -least criminally active	ref		-		-		ref		-		-	
criminal involvement for all crime (time varying)	quartile 2 - 2nd least criminally active	0.17	0.37	-		-		0.23	0.22	-		-	
	quartile 3 - 2nd most criminally active	0.07	0.39	-		-		0.11	0.24	-		-	
	quartile 4 - most criminally active	0.69	0.38	-		-		0.08	0.25	-		-	
criminal involvement for most criminally active quartile by crime type (time varying)	quartile 4 - all crime	-		-		1.66*	0.83	-		-		1.08	0.85
	interaction: age*quartile 4 all crime	-		-		-0.05	0.04	-		-		-0.05	0.04
	quartile 4 - property crime	-		0.27	0.22	-		-		0.24	0.18	-	
	quartile 4 - violent crime	-		0.39	0.27	-		-		0.36	0.21	-	
	quartile 4 - drug crime	-		0.15	0.30	-		-		-0.73*	0.35	-	
juvenile delinquency	no conviction	ref		ref		ref		ref		ref		ref	
	any conviction	-0.05	0.32	0.01	0.33	-0.14	0.32	0.43	0.26	0.30	0.26	0.36	0.26
Personal background													
	age	0.35**	0.13	0.36**	0.14	0.38**	0.13	0.86***	0.14	0.87***	0.14	0.88***	0.14
	age square	-0.01**	0.00	-0.01**	0.00	-0.01**	0.00	-0.02***	0.00	-0.02***	0.00	-0.02***	0.00
	Non-Dutch nationality	0.13	0.24	0.10	0.25	0.15	0.24	-0.62*	0.24	-0.63*	0.25	-0.61*	0.25
	age in 1977	-0.02	0.01	-0.03*	0.01	-0.02*	0.01	0.00	0.01	-0.00	0.01	-0.00	0.01
	constant	-7.51***	1.73	-7.40***	1.64	-7.94***	1.62	-13.54***	1.73	-13.57***	1.66	-13.73***	1.67
	Number of person-years	5,650		5,650		5,650		5,650		5,650		5,650	
	Number of persons	384		384		384		384		384		384	
	χ^2 (df)	24.78(8)		20.41(8)		29.94(7)		57.37(8)		64.07(8)		56.76(7)	

*** p < .001, ** p < .01, *p < .05