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**Effects of unemployment, conviction, and incarceration on employment**  
**A longitudinal study on the employment prospects of disadvantaged youths**

Dr Janna Verbruggen

**Abstract**

This study aims to investigate the effects of a history of unemployment, conviction, and incarceration on the likelihood of being employed in a sample of disadvantaged youths. All youths (N=540) were institutionalized in adolescence. From age 18 to 32 official data were available on employment, convictions and incarceration. To control for unobserved heterogeneity, fixed effects models are used to estimate effects of unemployment, conviction, and incarceration on the likelihood of employment. Results show that for men, a criminal background does not damage employment prospects when a history of unemployment is taken into account. However, for women, a criminal record does lower employment chances in addition to the detrimental effects of unemployment.

**Key words**

Conviction, incarceration, employment, high-risk sample, gender differences, fixed effects models

**Running head**

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## **INTRODUCTION**

For previously institutionalized youths labour market entry is particularly important for a successful transition into adult life (Chung, Little, and Steinberg 2005). Being employed not only provides them with an income, but also structures their daily routines, provides them with a source of social control, increases their self-esteem and feelings of responsibility, and helps them to construct and maintain conventional identities (Farrall 2002). Failure to make a successful transition to the labour market is associated with increased risk of engagement in criminal behaviour, while being employed is often found to be associated with a reduction in offending (e.g. Farrington et al. 1986; Verbruggen, Blokland and Van der Geest 2012). Yet, institutionalized youths' job prospects are often low for several reasons. First, in general these youths come from disadvantaged family environments, with few economic and social resources, few job contacts, and little access to legitimate job networks, rendering their social capital - that these youths have at their disposal to help them find conventional employment - severely compromised (Osgood et al. 2005). Second, institutionalized youths usually attained only lower level education or dropped out of school all together. This means these youths start their employment career with little human capital as well. As a result, work experience quickly becomes their biggest asset. Finally, when applying for a job these youths can experience difficulties due to the stigma associated with their involvement in delinquent behaviour and prior institutionalization (Osgood et al. 2005).

For these reasons, previously institutionalized young adults are at high risk of early unemployment. Early unemployment bereaves them of the opportunity to invest in work-relevant social and human capital, while the little human capital they did have starts to deteriorate, thereby decreasing their chances to be hired even further. Early unemployment can especially be detrimental since these youths usually work secondary labour market jobs and for these low-skilled jobs, work experience is the most important requirement (Wiesner et al. 2010). As such, experiencing unemployment not only is a negative outcome by itself, but also damages future employment chances (e.g. Luijkx and Wolbers 2009).

Given their serious behavioural problems during adolescence, these youths are also at increased risk of engaging in delinquency, and of extending their criminal careers into adulthood (Blokland and Palmen 2012). Official reactions to adult crime, such as conviction and incarceration, can further decrease their future employment chances. Adult convictions may officially bar them from certain job opportunities (Bushway, Nieuwbeerta, and Blokland 2011), while potential employers may be unwilling to hire ex-detainees (Pager 2003).

Yet, given their disadvantaged background, the question can be raised to what extent convictions and incarceration have an additional effect on the – already limited - employment prospects of institutionalized youths. Does being convicted or incarcerated damage their employment prospects? Or is their lack of employment experience a better predictor for future labour market success? Likely, answers to these questions depend in part on certain features of the national socio-legal context, like the social security system and the incarceration rate. Since most research on the effects of conviction and incarceration on employment outcomes was carried out in the US, little is known about the relationship between conviction, incarceration and employment probability in Western-European countries with a different penal climate, such as the Netherlands. Therefore, this study investigates the relationship between unemployment, conviction, incarceration and employment probability in a sample of Dutch disadvantaged youth as they transition into adulthood. Longitudinal data on convictions, incarceration and (un)employment, collected up to age 32, will be used to answer the following research questions for men and women separately:

- (1) What is the effect of a history of unemployment on the probability of employment?
- (2) What is the effect of a conviction on the probability of employment?
- (3) What is the effect of incarceration, over and above the effect of a conviction, on the probability of employment?
- (4) What is the effect of a conviction and incarceration, over and above the effect of prior unemployment on the probability of employment?

## **THEORETICAL FRAMEWORK**

### **Effects of unemployment on employment**

Experiencing a period of unemployment is assumed to have a negative effect on subsequent employment chances. Two theories from labour economics can be used to explain these detrimental effects: signalling theory and human capital theory. Signalling theory argues that when an employer is confronted with a job applicant, he has only limited knowledge of the true capabilities of the potential employee and therefore, he has to rely on observable

characteristics of the individual which give an indication of the worker's productivity (Spence 1973). Based on signals such as education and work experience, an employer decides whether or not to hire an individual. Whereas work experience is a positive signal, a gap in one's employment history signals negative characteristics, such as low productivity, inferior worker quality, and bad job performance. The decision to hire is thus negatively influenced by the stigma attached to unemployment.

Where the signalling explanation for the negative effects of unemployment on one's labour market prospects pertains to how potential employers view an individual with a history of unemployment, the second explanation relates to the detrimental effects that a spell of unemployment can have on a person's own skills and experience. According to human capital theory, investments in human capital (including education, work experience and on-the-job training) increase one's market value and thus the chance of being employed (Becker 1964). Employment offers the opportunity, such as via on-the-job training, to invest in both *specific* human capital, which generates skills that are useful in only one firm or industry, and *general* human capital, such as general work experience, skills and knowledge, which increases one's productivity in many firms. Unemployment leads to human capital depreciation, since it not only undermines the accumulation of human capital, but also because existing skills can deteriorate as they go unused, thereby decreasing an individual's employability.

In sum, a *spell* of unemployment on one's resume is a bad signal for an employer. In addition to this, the longer the *duration* of unemployment, the stronger the negative signal, as well as the more detrimental this is for one's human capital, resulting in lower employment chances.

### **Effects of conviction and incarceration on employment**

In addition to the adverse effects of a history of unemployment on a person's future employment chances, being convicted or having a history of incarceration is assumed to have detrimental effects on one's employment prospects as well. Labelling theories argue that people who engage in crime and have had contact with the criminal justice system are publicly labelled as deviant (Becker 1963; Lemert 1967). These individuals are viewed by others as different and assumed to have undesirable characteristics. A deviant label can therefore block access to legitimate job networks, because employers can associate a job applicant's criminal history with negative characteristics, such as aggressiveness or untrustworthiness. Thus, according to labelling theory, conviction and incarceration are

thought to have negative effects on the employment career due to the stigma that a criminal background constitutes.

In addition, incarceration can also negatively affect employment prospects through the process of human capital deterioration. As with unemployment, human capital accumulation is interrupted when an individual is incarcerated. The opportunity to gain specific work experience on the job is terminated, and the longer the spell of incarceration, the more likely it is that existing general skills erode (Holzer et al. 2003). However, when inmates have the opportunity to participate in education and work programs in prison this can increase rather than decrease their human capital.

### **Effects of unemployment, conviction and incarceration on employment for men and women**

It is unclear whether the effects of unemployment, conviction, and incarceration on employment chances are equal or different for men and women. On the one hand, women tend to have fewer opportunities to invest in work-related human capital than men, because they are more often employed in part-time and lower quality jobs. Also, their human capital accumulation may be jeopardized when their labour market participation is interrupted by taking care of children (Luijkx and Wolbers 2009; Mooi-Reçi 2008). As a result, women in general have weaker labour market attachment than men. On the other hand, as employers are aware of these gender differences, for women, their relative lack of human capital may play a less important role in the hiring decision, especially for low-skilled and low-paid jobs (Barron, Black, and Loewenstein 1993). Combined this would suggest that compared to men, women are more likely to experience periods of unemployment, but that the impact of unemployment on future careers prospects for them is less.

Alternatively, there are indications that women experience more stigma than men. Females are less involved in crime than males, but the women that do engage in criminal behaviour might be judged more harshly, because they do not only break the law, but also violate gender norms, thus engaging in 'double deviance' (Bartusch and Matsueda 1996; Davies and Tanner 2003; Heidensohn and Silvestri 2012; Malloch and McIvor 2011). In addition, low-skilled women usually work in service or retail, and for these jobs, certain personality traits such as being friendly and trustworthy are deemed more important, for example because of contact with customers and handling cash. Since a criminal label is thought to signal negative personal characteristics, criminal women are less likely to be hired for these kinds of jobs. Low-skilled men in general apply for jobs without a service or public function, such as jobs in

construction, where these assumed negative characteristics matter less (Davies and Tanner 2003; Holzer et al. 2003). Although a stereotypical distinction between typical male and female professions is thought to decline over the past decades, this is particularly true for higher qualified employment, while occupational segregation by gender still holds for low-skilled jobs (Blau, Brummund, and Liu 2013). Taken together, this would suggest that, due to stigmatization, conviction and incarceration may be more damaging to women's employment chances than to those of men.

## **EMPIRICAL FINDINGS**

### **The effects of unemployment on future (un)employment**

There is a large body of labour economics literature showing the detrimental effects of unemployment on future employment outcomes. In general, research has shown that unemployment has persistent negative effects on individuals' subsequent employment career, in terms of a decreased likelihood of re-entering the labour market (e.g. Luijkx and Wolbers 2009), and labour market re-entry with lower job quality (e.g. Layte et al. 2000) or lower wages (e.g. Arulampalam 2001; Gregory and Jukes 2001).

To illustrate, various studies have established a longitudinal association between previous and future unemployment. In the US, Ruhm (1991) studied a sample of workers who lost their job due to plant closure and mass layoffs, and found that displaced workers were more likely to re-experience unemployment than their counterparts. Similarly, in the UK, previous unemployment was found to increase the probability of being unemployed (Arulampalam, Booth, and Taylor 2000; Gregg 2001; Narendranathan and Elias 1993). In addition, studies that examined the reemployment chances of unemployed individuals usually found that reemployment probability declines as unemployment duration prolongs (Böheim and Taylor 2000; Jackman and Layard 1991; Van den Berg and Van Ours 1994).

Also studies from other Western-European countries found support for the negative effects of unemployment. For example, past unemployment is found to cause future unemployment in Germany (Mühleisen and Zimmermann 1994). Similarly, in the Netherlands, a study by Layte et al. (2000) demonstrated that past unemployment increases the risk of future unemployment for Dutch men and women. In addition, Luijkx and Wolbers (2009) showed that unemployment duration negatively affects subsequent employment chances of men and women in the Netherlands. They concluded that this negative effect of unemployment could be explained by human capital depreciation. Yet, another Dutch study showed that the number of previous unemployment spells had the largest effect on the probability of re-experiencing

unemployment, in addition to the effect of the occurrence and duration of unemployment, providing evidence for signalling theory (Mooi-Reçi 2008).

Whereas some studies find similar results for men and women (Burgess et al. 2003; Layte et al. 2000), other studies find evidence for gender differences in the detrimental effects of unemployment. For example, Gregg (2001) found only minor persistence in unemployment for women, while for men, a strong effect of early unemployment on future unemployment experience was found. In contrast, the Dutch study by Mooi-Reçi (2008) found that the probability of future unemployment is higher among women than among men.

### **The effects of conviction and incarceration on (un)employment**

While labour economic studies have identified detrimental effects of prior unemployment on future employment outcomes, criminological studies have found that a history of conviction and incarceration can affect labour market success as well. There is a growing body of literature that shows detrimental effects of a criminal history on several employment outcomes. For example, crime and its consequences decrease the chances to find work, experience job stability, and have good earnings (e.g. Bernburg and Krohn 2003; Bushway 1998; Fagan and Freeman 1999; Pager 2003; Sampson and Laub 1993).

Experimental studies carried out in the 1960s and 1970s showed that employers are reluctant to hire convicted offenders (Schwartz and Skolnick 1962; Boshier and Johnson 1974). For example, an experiment in the Netherlands found that application letters in which a conviction was mentioned received significantly less positive responses from companies than applications with no reference of a criminal record (Buikhuisen and Dijksterhuis 1971). More recently, experimental studies demonstrated that applicants who reported a history of incarceration were less likely to be considered by employers, especially if applicants were black (e.g. Pager 2003).

In addition to experimental designs, longitudinal data have been used to examine effects of conviction and incarceration on employment outcomes. Most of these studies examined a relatively short follow-up period and looked at employment outcomes in young adulthood. For example, Bernburg and Krohn (2003) showed that a formal sanction in adolescence was associated with unemployment in young adulthood. In addition, Nagin and Waldfogel (1995) found that a conviction decreases job stability for young offenders. Furthermore, the few longitudinal studies that follow people well into their forties found that those convicted experienced more difficulties entering and remaining in the labour market (Farrington et al. 2006; Nilsson and Estrada 2011).

Studies that examined the effects of incarceration on employment usually find that a spell of confinement has negative effects on employment probability, job stability and earnings after release (e.g. Fagan and Freeman 1999; Freeman 1991; Pettit and Lyons 2009; Sampson and Laub 1993; Western and Beckett 1999). For example, Apel and Sweeten (2010) found incarceration in late adolescence or early adulthood to have a negative effect on the probability of employment over and above the effect of prior convictions, seemingly favouring a human capital over a signalling explanation. In addition, Sampson and Laub (1993) demonstrated that incarceration during adolescence has a negative effect on job stability through age 32. Moreover, studies that looked at both men and women showed that incarceration as a juvenile or young adult was associated with more job instability thereafter, for men as well as for women (Davies and Tanner 2003; Lanctôt, Cernkovich, and Giordano 2007).

However, Kling (2006) found short-term positive effects of incarceration length on subsequent employment in a sample that comprised mostly males, while no long-term significant effects of incarceration were found. In addition, LaLonde and Cho (2008) studied a sample of female ex-prisoners, and demonstrated that incarceration did not harm their employment outcomes, some groups of women even showed higher employment rates after their incarceration spell. These positive effects of incarceration on employment might be explained by participation in work release programs and seem to diminish over time.

In sum, most studies on the effects of convictions and incarceration on employment outcomes show that formal sanctions are associated with difficulties (re)entering the labour market. Several studies argue that the negative effects of convictions or incarceration on employment outcomes indicate that official reactions to crime provoke stigma and negative beliefs on the part of employers (e.g. Bernburg and Krohn 2003; Fagan and Freeman 1999), while others explain their findings in terms of human capital deterioration (e.g. Apel and Sweeten 2010).

## **THE CURRENT STUDY**

The current study examines the effects of conviction, incarceration and past unemployment on the probability of being employed in a sample of previously institutionalized men and women. This study contributes to the existing body of literature in several ways.

First, by using theories from both labour economics (signalling and human capital theory) and criminology (labelling theory), the study investigates how conviction and incarceration damage employment chances in a sample of disadvantaged youths, over and above the effects

of a history of unemployment. In previous studies, the effects of (unobserved) heterogeneity in individual characteristics could not be ruled out completely. In the current study, several measures of past unemployment are taken into account, and a fixed effects model is used to account for unobserved heterogeneity as the relationship between unemployment history, criminal history and employment probability is examined.

Second, previous research on the effects of crime on employment usually has a relatively short follow-up period (but for exceptions see Lopes et al. 2012; Sampson and Laub 1993). The current study follows a sample of disadvantaged youths over a period of 15 years, spanning the emerging adult period during which transitions into adult roles such as employment are most likely to occur (Arnett 2000).

Third, the sample used in this study consists of both men and women. As previous research focused primarily on males, not much is known about the extent to which conviction and incarceration, in addition to unemployment history, affect employment outcomes for females and males in the same way.

Finally, the effects of conviction and incarceration on employment are studied in a Dutch context whereas most previous research relied on data from the US or the UK (but see for recent exceptions Nilsson and Estrada 2011; Van der Geest et al. 2014). The penal climate in Western-European countries such as the Netherlands differs greatly from that in Anglo-Saxon countries, and especially the US, because of which it is still unclear to what extent results from US and UK based studies can be generalized to the Netherlands. For example, whereas in the US, employers can turn to private companies for criminal history information (Bushway et al. 2007; Raphael 2010), in the Netherlands, background screening is regulated by the government. For some type of jobs, such as in the police force, education, and taxi driving, a criminal record check is legally required, and for other jobs, employers can ask a job applicant for a certificate of good conduct through the Ministry of Security and Justice. A person's criminal record is then checked for any offence in the past four years, and for sexual offences for an unlimited period of time, and is assessed on its relevance for the type of job the person has applied for (Boone 2012). A certificate of good conduct is issued when a person is considered to impose no risk with respect to practicing that specific job.

Furthermore, prison rates in the Netherlands are substantially lower than in the US and - to a lesser extent - the UK. To illustrate, in the US the 2011 prison rate was 716 per 100,000 inhabitants, whereas prison rates were considerably lower in England and Wales (148 in 2013) and the Netherlands (82 in 2012) (International Centre for Prison Studies 2013). In addition, prison sentences in the Netherlands are relatively short and the penal system is more

focused on rehabilitation than in the US. As this study examines the effects of a criminal history on employment using Dutch data the results speak on the generalizability of prior findings in a less punitive climate.

The following hypotheses are derived from the theoretical framework outlined above. With regard to unemployment history, it is expected, based on signalling theory, that being unemployed, experiencing multiple unemployment spells and experiencing extended unemployment duration decreases the likelihood of employment. Following human capital theory, it is expected that in particular an extended duration of unemployment further decreases employment probability, since it is assumed that it takes some time for human capital to deteriorate.

In testing the effect of a criminal history on employment outcomes, conviction and incarceration are expected to reduce the chance of employment, due to labelling effects. In addition to this, as prison stays increase in length they are expected to further diminish employment chances, because – similar to a longer spell of unemployment – human capital deteriorates over time.

Given that periods of unemployment are more common and therefore supposedly less detrimental for women compared to men, and that crime - as well as the convictions and incarcerations resulting from that - is more common among men, women's employment careers are expected to be influenced less by previous unemployment, but more so by conviction and incarceration than the employment careers of men.

## **METHODS**

### **Sample**

This study uses data from the 17up study, a longitudinal study following institutionalized youths well into adulthood. The sample of the 17up study comprises 270 boys and 270 girls who were institutionalized in a Dutch juvenile justice institution where they received treatment for problematic and/or delinquent behaviour. The boys had been discharged from the institution between 1989 and 1996, the girls between 1990 and 1999. At the time, treatment in a judicial treatment institution could be imposed as either a criminal-law measure (e.g. when a juvenile had committed an offence) or a civil-law measure (e.g. when the juveniles' problem behaviour made it impossible for them to stay at home). In this sample, the majority of the boys (80.4%) and girls (97.4%) received treatment in the institution based on a civil-law measure.

Information from the treatment files, which contain for example psychological and psychiatric reports, reports from the Dutch Child Protection Board and treatment evaluations, shows that the juveniles in the sample are characterized by a disadvantaged background. For example, these youths often grew up in adverse family situations; 37.8 per cent of the boys and 65.5 per cent of the girls came from families where there were problems with regard to alcohol abuse, substance abuse, criminal family members or unemployment in the family. The level of education in the sample is low. Almost one-third of the boys and one-quarter of the girls were in a low level of education before entering the institution, which means they attended special education or elementary school only. The others usually attained some vocational training or secondary education. In addition, a large part of the juveniles displayed problematic behaviour such as aggression (65% of the juveniles) and problems with authority (over 50% of the juveniles). Moreover, although the majority of the sample was treated in the institution based on a civil-law measure, the larger part of the sample had had contact with the youth justice system during adolescence; 80.7 per cent of the boys and 55.6 per cent of the girls were convicted of a serious offence at least once prior to age 18. Taken together, these youths comprise a fairly seriously troubled group experiencing problems in multiple domains. Therefore, they can be considered to be at high risk for experiencing difficulties in the labour market, and for developing a pattern of criminal behaviour that continues well into their adult years.

After they had been discharged, the boys and girls were observed from ages 18 to 32. Eleven men and nine women died during the follow-up period, and two men and four women emigrated. For these respondents the follow-up period was shorter than 15 years. For more information on the sample, see Verbruggen et al. (2012).

## **Employment**

The dependent variable in this study is a dichotomous variable, indicating whether someone is employed for at least one day in a given age year. This variable thus represents the chance that someone obtains employment. This variable is defined this way, because based on the theoretical framework outlined above, it is assumed that a history of unemployment and/or criminal behaviour influences chances of being hired, not necessarily the duration of a job. Therefore, in the analyses, the focus is on whether a person obtained employment for at least one day per year, rather than looking at the number of days employed per year. Also, the average number of days employed among labour market participants in the sample is relatively high across the observed years (see Table 2), indicating that this minimum measure

can be interpreted as meaningful labour market participation. Other studies looking at employment probability used similar measures, for example by looking at whether respondents were employed or not when interviewed, whether they were employed for at least one week a year, or whether they received any legal income in a given period (e.g. Apel & Sweeten 2010; Lanctôt et al. 2007; Pettit & Lyons 2009).

The employment variable is based on employment data that was collected from the national database of the Ministry of Social Affairs and Employment in the Netherlands. This database contains information about official employment at the individual level from 1992 onwards. In the database, the start date and end date of a job are registered, however, there is no information about the type of job and whether someone was part-time or full-time employed. As the database became fully computerized from 1998 onwards, employment participation rates before that time may underestimate actual employment levels, however this underestimation is non-systematic. Additional to the employment database, the trade register managed by the Netherlands Chamber of Commerce was accessed. This trade register contains historical information about business ownership. The period someone had a business of their own was coded as being employed.

## **Unemployment**

To examine the effects of unemployment on employment probability (at time  $t$ ), lagged variables for unemployment measures were constructed. First, a variable that represents whether a respondent has made the transition to the labour market was constructed. This variable is coded with value 1 if someone was not active on the labour market yet, and 0 if s/he was. This variable will not be interpreted, but is included in the models to account for the possibility that, at the start of the observation period, respondents can be unemployed because they engage in other activities such as schooling before they enter the labour market.<sup>1</sup> Second, a dichotomous variable was created indicating whether someone was unemployed at  $t-1$ . This variable starts at the year of the first job, while the years when someone was not yet active on the labour market are coded as missing. When someone was incarcerated for the entire year, the unemployment variable is coded as missing. Third, a measure for unemployment duration was constructed, indicating how many years someone was unemployed up to  $t-2$ . This variable starts counting when respondents become unemployed after their first job. The unemployment duration variable mounts up with every additional year of unemployment, but

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<sup>1</sup> This has the effect that the analyses pertain only to those that actually entered the labour market (i.e. were employed for at least one day) during the follow up of the study. This pertains to over 80 per cent of the sample.

resets to zero when someone is employed again. Finally, a variable that represents the number of unemployment spells up to t-1 was constructed, a spell of unemployment being one or more years of unemployment between years in which one was employed for at least one day (see Table 1).

\*\*\* Table 1 \*\*\*

### **Conviction**

Information on convictions is retrieved from the judicial documentation abstracts of the Netherlands Ministry of Security and Justice. These abstracts contain information on all offences that are registered at the public prosecutor's office, as well as information on whether the case resulted in a conviction. For this study, the information on the type of offence and the date of the conviction is used. Offences are classified according to the standard classification for offences in the Netherlands (Statistics Netherlands, 2000). The analyses focus on convictions for serious offences, which means that minor offences such as vandalism and road traffic offences are excluded. Serious offending consists of violent offences, property offences, serious public offences, drugs offences and weapon related offences (Loeber, Farrington, and Waschbusch 1998).

The lagged variables for convictions include a variable for the number of convictions at t-1, as well as a variable pertaining to the sum of the number of convictions up to two years ago (t-2).

### **Incarceration**

Information on incarceration was acquired differently for men and women, as a result of different types of permission to access data sources in different phases of the data collection. Although different data sources were used to gather information on incarceration for men and women, both sources provide accurate information about when a person was incarcerated.

For the men, information on incarceration was retrieved from the Judicial Penitentiary files of the Ministry of Security and Justice. These files contain information on a person's incarceration history, including dates of entry and release. When the penitentiary file could not be accessed, incarceration information was complemented with information on imposed unconditional prison sentences as registered on the judicial documentation abstracts. For the women, information on incarceration was obtained via the department of the Ministry of Security and Justice that manages the Dutch prison registration system. This system contains information on dates of entry and release from all penitentiaries in the Netherlands.

Similar as to how the unemployment variables were coded, lagged variables for incarceration were created. The lagged variables pertaining to incarceration include a dichotomous variable whether someone was incarcerated the previous year, a measure for the number of years a person is incarcerated at t-2 that resets to zero when someone is released, and a variable that represent the number of incarceration spells.

### **Analytical strategy**

Unobserved heterogeneity may obscure the effects of unemployment, conviction and incarceration on employment chances. To control for the possible biasing effects of stable unobserved characteristics, fixed effects models are estimated. Fixed effects models are very useful when controlling for heterogeneity, because these models only examine within-individual change and control for all stable individual characteristics, observed or unobserved, so long as those characteristics do not change over time (Allison 2005). Since the dependent variable is a dichotomous measure of whether one is employed or not in a given age year, logit fixed effects models are estimated.

Five fixed effects models are estimated separately for men and women. The first model estimates the effects of the unemployment variables on the likelihood of employment in the subsequent year. Model 2a examines the effects of convictions on the likelihood of being employed the next year, while model 2b estimates the effects of the incarceration variables in addition to the effects of convictions. Finally, model 3a and 3b focus on the effects of convictions and incarceration, over and above the effects of prior unemployment, on the likelihood of employment in the following year.<sup>2</sup>

## **RESULTS**

### **Descriptives**

#### *Employment and unemployment*

From ages 18 to 32, 231 men (85.6%) and 226 women (83.7%) found a job at least on one occasion, meaning that 15 per cent of the sample was chronically unemployed during the entire observation period. Despite that the majority found employment at least once, their employment careers are unstable and interspersed by spells of unemployment. Within the

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<sup>2</sup> Although correlations ranged between .17 and .76, this did not cause multicollinearity. Regressing the likelihood of employment on the lagged predictor variables (temporarily ignoring the nested character of the data), almost all Variance Inflation Factors remained below 2.5 (on average VIF=2.01). The largest VIF value is for unemployment at t-1 (VIF=2.74).

ever-employed group, men on average had 8.6 job contracts (SD 7.1), while women on average had 8.2 jobs (SD 8.1) (Table 2).

\*\*\* Table 2 \*\*\*

In addition, figure 1, showing the percentage of men and women unemployed by age, shows that the number of unemployed men and women declines gradually by age. At age 18, the vast majority of men were unemployed, while at the end of the observation period, around 40 per cent of men were unemployed. Although at age 18 fewer women were unemployed (70 per cent), the decline in the female unemployment rate is less steep compared to that of males, and at the end of the observation period, 55 per cent of the women were unemployed. This means that in any given year of the observation period, the majority of women were unemployed.

\*\*\* Figure 1 \*\*\*

#### *Conviction and incarceration*

Between ages 18 and 32, 80 per cent of all men and almost 50 per cent of all women were convicted for a serious offence at least once (Table 2). Within the group of offenders, men, on average, were convicted almost three times more often than women; the average number of convictions for men being 12.5 (SD 14.7), and for women 4.3 (SD 4.8).

In addition, 216 men (57.0%) and 49 women (18.1%) of the total sample were incarcerated at least once during the observation period. Within the group of convicted respondents, men on average were incarcerated for 14.8 months (SD 22.0), while for women, the average number of months incarcerated was much lower (3.3 months, SD 7.8).

#### **Effects of unemployment, conviction and incarceration on the probability of employment**

To examine the effects of unemployment, conviction and incarceration on employment probability, five fixed effects models are estimated separately for men and women (Table 3 and 4 respectively). In the first model, the effects of a history of unemployment on employment probability are estimated. For men, the first model shows that all unemployment measures are associated with a lower probability of being employed in the subsequent year. Being unemployed in the previous year (t-1), the duration of that unemployment spell and the

accumulated number of prior unemployment spells all have a significant negative effect on the likelihood of being employed.<sup>3</sup>

Models 2a and 2b examine the effects of a criminal history on the likelihood of being employed. Model 2a shows that the number of convictions in the previous year and the total number of prior convictions up to t-2 decrease the probability of being employed. The three incarceration variables, being incarcerated in the previous year, the duration of that incarceration spell, and the number of prior incarceration spells, have no significant effect on employment chances (Model 2b).

When in Model 3a both the effects of unemployment and the effects of convictions are estimated, the results show that the effect of convictions is non-significant, while unemployment is associated with a significantly lower employment probability. Adding the incarceration variables to the model gives similar results; a history of unemployment is associated with a reduced likelihood of being employed, while a criminal history has no significant effect on employment probability (Model 3b).

The results thus indicate that when unemployment measures are taken into account, a criminal history has no additional negative effect on employment probability for men. This suggests that for men, a criminal label does not hurt employment prospects, over and above the detrimental effects of a history of unemployment.

\*\*\* Table 3 \*\*\*

For women, both unemployment in the previous year and the number of prior unemployment spells decrease the likelihood of being employed in the subsequent year, while the number of years unemployed at t-2 has no significant effect (Model 1). In addition, in Model 2a, the number of convictions in the previous year, as well as the number of prior convictions at t-2 have a negative effect on the employment probability in the subsequent year. Similar to the findings for men, a history of incarceration exerts no (additional) significant effect on the likelihood of employment (Model 2b).

In the combined models, both unemployment in the previous year and the number of prior unemployment spells, as well as the number of convictions in the previous year have a significant negative effect on the likelihood of being employed (although the coefficients for convictions are smaller than in models 2a and 2b). The duration of unemployment is not

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<sup>3</sup> For both unemployment and incarceration, separate models for duration and the number of spells were also estimated. These models yielded substantially similar results to the models reported here. Results from these models are available from the author.

significant, nor is the total number of convictions (Models 3a and 3b). Again, incarceration has no significant effect on the likelihood of being employed (Table 4).

Unlike for men, when unemployment history is taken into account, convictions still considerably impact on the likelihood of employment for women. This suggests that, over and above the detrimental effects of a history of unemployment, women's employment chances are also affected by a criminal labelling.

\*\*\* Table 4 \*\*\*

## **DISCUSSION**

This study examined the effects of conviction, incarceration, and a history of unemployment on the probability of being employed, following a sample of disadvantaged youths with limited labour market prospects well into adulthood. Respondents (270 men and 270 women) were observed from ages 18 to 32, using officially registered longitudinal data on convictions, incarceration and (un)employment.

Results showed that 15 per cent of the sample is chronically unemployed between ages 18 and 32, and that the employment careers of respondents who are employed during the observation period are interspersed with spells of unemployment. In addition, the majority of the sample is convicted of a serious offence at least once during the observation period (80% of the men and almost 50% of the women). Moreover, more than half of the men and almost one fifth of the women are incarcerated at some point between ages 18 and 32.

Fixed effects models were used to estimate the effects of unemployment, conviction and incarceration on the likelihood of employment, while controlling for possible selection effects. Results show that for men, when unemployment history is taken into account, a criminal background does not further damage their employment chances. Significant negative effects of unemployment in the previous year and the number of unemployment spells are found, which indicates that the first hypothesis, stating that a history of unemployment is a negative signal and therefore decreases employment chances, is in line with the results. Furthermore, a longer duration of unemployment is associated with lower employment probability, which suggests a stronger negative signal or, alternatively, a process of human capital depreciation during spells of unemployment. However, when unemployment history is taken into account, the findings do not support the hypothesis regarding the detrimental effects of a criminal label due to conviction or incarceration on employment probability. In addition, no evidence for human capital deterioration during incarceration was found, since

the duration of incarceration did not exert a significant effect on the likelihood of employment.

Surprisingly, no significant effect of a criminal background on employment probability was found once an individual's unemployment history is taken into account. This finding is in contrast with - mostly US based - studies that found negative effects of a criminal history on labour market outcomes (e.g. Apel and Sweeten 2010; Nagin and Waldfogel 1995) and studies that demonstrated that employers are more willing to someone who has been unemployed rather than an ex-offender (Holzer, Raphael, and Stoll 2004; Raphael 2010). Several possible explanations for these divergent findings can be offered.

First, the men in the sample are low educated and are likely to only apply for low-skilled jobs in industries such as construction and manufacturing. In these types of industries a criminal record might not necessarily be a bad signal (Holzer et al. 2003). Second, it is possible that criminal history in this study was not found to affect employment chances because background screening in the Netherlands is regulated by the government. As a result Dutch ex-offenders might be better able to conceal their criminal record from employers and prevent stigmatization. Third, due to the less punitive penal climate, prison sentences in the Netherlands are relatively short. A spell of incarceration might therefore have less impact on an offender's human capital and thus have less consequences for employment outcomes in the Netherlands. Finally, the effects of prison time on job re-entry might be differential, as for some, job opportunities may have deteriorated, whereas for others, job training and reintegration may have improved their job opportunities (Kling, 2006). Although in contrast with most US studies, the findings from this study are in line with another Dutch study by Ramakers et al. (2012), that showed, using a quasi-experimental design, that ex-prisoners are more likely to find employment, and also more quickly, than non-imprisoned but unemployed males (who are to experience an incarceration spell in the future).

For women, both being unemployed the previous year and the number of prior unemployment spells decrease the likelihood of being employed the subsequent year, whereas unemployment duration has no significant effect on employment chances. These results suggest that the process of signalling, rather than human capital deterioration, is at play. Besides the detrimental effects of an unemployment history, a criminal record has an additional negative effect on employment chances for women. Convictions in the previous year lower employment chances in the subsequent year. The hypothesis that stated that a criminal label decreases employment chances can therefore be confirmed, at least with regard

to conviction. Similar to the findings for men, no additional effects of incarceration on employment probability were found.

Thus, next to the negative effects of unemployment, criminal labelling also seems to impact women's employment chances. This indicates that women are more affected by a criminal label, possibly because women's criminal behaviour is even less accepted than that of their male counterparts (e.g. Davies and Tanner 2003; Heidensohn and Silvestri, 2012). This finding is also in line with prior research that suggests that women apply for jobs that concern contact with, for example, children or customers, and for these types of jobs, the negative characteristics associated with a criminal label can be a reason not to hire a woman with a criminal record (Holzer et al. 2003).

### **Limitations and directions for future research**

Although this study gains valuable insights in the employment prospects of both men and women characterized by a disadvantaged background, this study - like any - has its limitations. For example, the data contain no information on the reasons why people experience difficulties in finding a job, or their motivation and efforts in finding a job. Following labelling theory, employers may view ex-offenders as less suitable candidates for a job. However, this may subsequently affect the individuals' self-concept or perceived likelihood of re-entering the labour market. When they expect to be rejected by employers, they are more likely to only apply for low-quality jobs or to withdraw themselves from the labour market completely. A similar process is mentioned in the unemployment literature. When applying for jobs repeatedly results in rejection, people become discouraged and as a result their job-seeking behaviour declines. As a way of coping with the stress of being (long-term) unemployed (McKee-Ryan et al. 2005; Paul and Moser 2009), people may over time adapt to the state of unemployment. They adopt an alternative identity - that of an 'unemployed' person - and increasingly withdraw themselves from the formal labour market (McFayden 1995).

This means that, instead of experiencing difficulties with finding a job, the men and women in the sample might not even be looking for formal work anymore. For example, Apel and Sweeten (2010) showed that for ex-inmates non-employment indicated being *out of the labour force* - which means they did not have a job, but also that they were not looking for work. Rather than treating unemployment as an undesirable condition that has the same meaning for all individuals, they found that some have no interest in being employed. Unfortunately, in the data it is impossible to make this distinction empirically. However,

using fixed effects models all individuals who remained in the same condition across the entire observation (employment or unemployment) were excluded. Thus, the results from this study do not pertain to those individuals who were chronically unemployed and never had interest in being employed. Future research using self-report data is necessary to shed light on the extent to which men and women with disadvantaged backgrounds tend to withdraw themselves from the formal labour market completely.

Furthermore, information on the extent to which sample members attained some form of education after their stay in the juvenile justice institution is unavailable for the entire sample under study. This is unfortunate, since education is likely to affect employment probability. However, it is plausible that in a high-risk sample such as the one under study, education may not play such an important role, as a recently conducted follow-up study with part of the current sample showed that the extent to which men and women attained additional education in young adulthood is limited (Van der Geest, Bijleveld and Verbruggen 2013).

Although in this high-risk sample a criminal history was not found to affect the probability of finding work, in particular for men, it may still affect the probability of finding good-quality, well-paying work (Davies and Tanner 2003). As the data used for this study lacked information about the quality of work or occupational status, this possibility awaits future research.

Moreover, future research is also necessary to show whether employment prospects of disadvantaged youths are affected differently in times of high unemployment rates. The current study examined employment between 1990 and 2010. During most of these years, the Dutch economy performed relatively well, and unemployment levels were low (between four and six per cent for most of the years of the observation period). This means that the conditions and prospects in the labour market were relatively positive for people with a disadvantaged background. However, due to the most recent global economic crisis, unemployment levels have risen tremendously, especially among the young. This tightness in the labour market is likely to disproportionately affect vulnerable groups such as previously institutionalized youths (Nilsson, Bäckman and Estrada 2013). After all, it will be difficult for disadvantaged young people to compete with job applicants with better resumes and no criminal record.

Finally, to examine the mechanisms selecting into (formal) employment, future research should also include self-report or qualitative information. A better understanding of the kind of support institutionalized youths need to successfully transition into the labour market is of great importance. If with the right support early unemployment among these disadvantaged

youths can be prevented, this will improve their long-term employment prospects and the chance that they end up living conventional adult lives.

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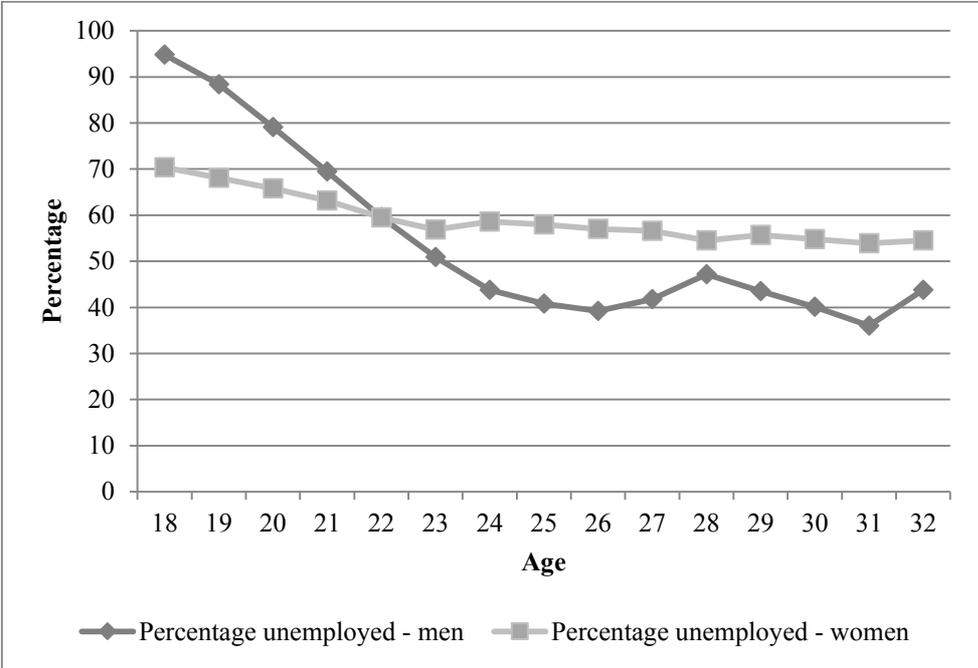
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**TABLES AND FIGURES**

**Figure 1. Percentage unemployed men and women per age year**



**Table 1. Coding of the unemployment variables**

	S	E	U	U	I/U	E	U	U
Not yet on the labour market	1	0	0	0	0	0	0	0
Unemployed	-	0	1	1	-	0	1	1
Number of years unemployed	0	0	1	2	3	0	1	2
Number of unemployment spells	0	0	1	1	1	0	2	2

S = in school; E = employed; U = unemployed; I/U = incarcerated and unemployed

**Table 2. Descriptive statistics**

	Men (N=270)		Women (N=270)	
	N (%)	Mean (SD)	N (%)	Mean (SD)
<b><i>(Un)employment history</i></b>				
Ever employed	231 (85.6)		226 (83.7)	
<i>Within the employed group:</i>				
Average number of days employed per year		221.5 (97.2)		194.9 (102.8)
Average number of jobs		8.6 (7.1)		8.2 (8.1)
Average duration of job (in months)		9.03 (19.73)		5.68 (12.97)
Average number of years unemployed t-2†		0.12 (0.33)		0.25 (0.43)
Average number of unemployment spells t-1†		0.05 (0.22)		0.08 (0.27)
<b><i>Criminal history</i></b>				
Ever convicted	216 (80.0)		129 (47.8)	
Ever incarcerated	154 (57.0)		49 (18.1)	
<i>Within the convicted group:</i>				
Average number of convictions		12.5 (14.7)		4.3 (4.8)
Average time incarcerated (in months)		14.8 (22.0)		3.3 (7.8)
Average number of years incarcerated t-2†		0.23 (0.42)		0.08 (0.27)
Average number of incarceration spells t-1†		0.08 (0.28)		0.04 (0.20)

Note: † Based on the number of person-years (NT). Average number of years unemployed t-2: NTmales = 2691, NTfemales = 2294. Average number of unemployment spells t-1: NTmales = 2922, NTfemales = 2520. Average number of years incarcerated t-2: NTmales = 2598, NTfemales = 1340. Average number of incarceration spells t-1: NTmales = 2814, NTfemales = 1466.

**Table 3. Effects of unemployment history and criminal history on employment probability for men**

	<b>Model 1</b>	<b>Model 2a</b>	<b>Model 2b</b>	<b>Model 3a</b>	<b>Model 3b</b>
	$\beta$ (s.e.)	$\beta$ (s.e.)	$\beta$ (s.e.)	$\beta$ (s.e.)	$\beta$ (s.e.)
Age	2.31 (.33)***	2.37 (.17)***	2.33 (.19)***	2.32 (.34)***	2.31 (.35)***
<b>Unemployment history</b>					
Not yet on the labor market t-1	-1.57 (.19)***			-1.56 (.19)***	-1.56 (.19)***
Unemployed t-1	-1.39 (.23)***			-1.37 (.23)***	-1.36 (.23)***
Number of years unemployed t-2	-.18 (.08)*			-.18 (.08)*	-.18 (.08)*
Number of unemployment spells t-1	-1.12 (.23)***			-1.11 (.23)***	-1.14 (.23)***
<b>Criminal history</b>					
Number of convictions t-1		-.11 (.03)**	-.11 (.04)**	-.05 (.04)	-.07 (.04)
Number of convictions up to t-2		-.04 (.01)***	-.06 (.01)***	-.003 (.01)	-.02 (.02)
Incarcerated t-1			-.22 (.18)		.11 (.20)
Number of years incarcerated t-2			.06 (.06)		.07 (.07)
Number of incarceration spells t-1			.19 (.17)		.21 (.19)

Note: \*p<0.05; \*\*p<0.01; \*\*\*p<0.001. Age/10. N=207. The number of respondents is smaller than the total number of men in the sample (N=270), because respondents that do not experience change over time in time-varying variables are excluded from fixed effects models.

**Table 4. Effects of unemployment history and criminal history on employment probability for women**

	<b>Model 1</b>	<b>Model 2a</b>	<b>Model 2b</b>	<b>Model 3a</b>	<b>Model 3b</b>
	$\beta$ (s.e.)	$\beta$ (s.e.)	$\beta$ (s.e.)	$\beta$ (s.e.)	$\beta$ (s.e.)
Age	1.44 (.35)***	.88 (.18)***	.86 (.18)***	1.46 (.35)***	1.44 (.35)***
<b>Unemployment history</b>					
Not yet on the labor market t-1	-1.15 (.21)***			-1.15 (.21)***	-1.15 (.21)***
Unemployed t-1	-1.39 (.19)***			-1.36 (.19)***	-1.36 (.19)***
Number of years unemployed t-2	-.11 (.06)			-.10 (.07)	-.10 (.07)
Number of unemployment spells t-1	-.56 (.20)**			-.58 (.20)**	-.58 (.20)**
<b>Criminal history</b>					
Number of convictions t-1		-.51 (.16)**	-.51 (.17)**	-.39 (.17)*	-.39 (.17)*
Number of convictions up to t-2		-.18 (.07)*	-.19 (.08)*	-.06 (.08)	-.08 (.09)
Incarcerated t-1			-.64 (.64)		-.24 (.68)
Number of years incarcerated t-2			-.38 (.36)		-.37 (.40)
Number of incarceration spells t-1			.50 (.45)		.50 (.51)

Note: \*p<0.05; \*\*p<0.01; \*\*\*p<0.001. Age/10. N=179. The number of respondents is smaller than the total number of women in the sample (N=270), because respondents that do not experience change over time in time-varying variables are excluded from fixed effects models.