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Involvement in Crime, Individual Resources and Structural Constraints - Processes of Cumulative (Dis)Advantage in a Stockholm Birth Cohort

Introduction

From a life course perspective, criminal involvement may be viewed both as a triggering factor in relation to disadvantage in adulthood and as a stage in an already unfavourable life career. It is well established that youths who become involved in crime are disproportionately often drawn from homes characterised by low levels of resources. This alone would be reason enough to expect worse outcomes as adults among those with a criminal record. However, even after controls for individual and environmental risk factors, criminal involvement still tends to be associated with negative life outcomes, e.g. in the areas of work and family (e.g. Author1 and Author3 2011; Piquero et al. 2010). In previous studies we have also noted that differences in labour market attachment between those with a criminal record and those with no criminal record seem to increase rather than diminish over time, and that this is particularly true for women (Author1 and Author3 2011). This raises the question of how this polarization should be understood.

In their study of criminal careers and life courses, Laub and Sampson (2003) stress the significance of "cumulative disadvantage". Cumulative disadvantage can be described as a process whereby each instance of resource deficiency or disadvantage produces additional consequences, which leads to an expectation of increasing inequality over time in a cohort or

in and between cohort subgroups (see also Dannefer 2003; DiPrete and Eirich 2006). Poverty during childhood, for example, affects educational achievement, health outcomes and delinquency in adolescence, which in turn increases the risk for low paid jobs, unemployment and social exclusion in adulthood (Author2 and Author1 2011; Laub and Sampson 2003). According to life-course theory, this process is dependent on both the way individuals use their own resources and “the historical times and events they experience over their lifetime” (Elder [1974]1999: 304). Thus both individual resources and structural factors are of importance for life-chances. In the present article we study how one central welfare outcome, labour market attachment, develops for different groups defined on the basis of their level of criminal involvement over the life-course. In doing so, we take both individual resources and structural constraints into consideration.

In a previous study we have shown that criminal involvement in young adulthood constitutes an important dimension of processes of social exclusion and also that it tends to have long-term consequences for individuals’ life chances (Author2 and Author1 2011). Thus, in our previous research we have treated criminal involvement as one dimension among others. In this article we focus special attention on this particular dimension and on how we might understand the increasing disparities in living conditions noted between offenders and non-offenders as they move along the life course. In order to study how structural constraints might affect the life course, we focus on the effect of an exogenous social shock, i.e. the deep employment crisis that Sweden experienced during the 1990s. By analyzing labour market attachment in groups defined by their level of involvement in crime before, during and after the crisis, and by controlling for social background and prior resource attainment, we attempt to reveal whether or not those with a criminal background were harder hit by the economic crisis than others. If so, we also ask whether this was a result of their criminal history or of

their social background in more general terms. Besides addressing an area of criminology in need of further research, the analysis also addresses broader questions of disadvantage and its consequences.

We employ a longitudinal data set, The Stockholm Birth Cohort Study, which provides rich and unique life-course data from birth to age 48 for 14,294 girls and boys. Individual resource deficiencies are measured by a number of indicators of socio-economic status, education and health during childhood and adolescence, which relate to both the family of origin and the cohort members themselves.

Cumulative (dis)advantage: Individual resources and structural constraint

A paradigmatic principle in life-course theory is that individuals' life-chances are embedded in and shaped by the historical times and events that they experience. In the words of Elder et al. (2004: 10): "Individuals construct their own life course through the choices and actions they take within the opportunities and constraints of history and social circumstance." In addition to resources or resource deficiencies at the individual level, structural factors also matter, since they affect both the supply of resources and the individual's ability to make use of available resources. Social forces can alter individual pathways by means of unplanned changes, e.g. economic crises and war (Elder [1974] 1999; see also Mills 1959). But not all individuals are affected in the same way or to the same extent. The members of a birth cohort differ in their experiences and resources and are consequently affected in different ways. By linking biography and history it should be possible to obtain insights into how structural change affects people with different opportunities (Mills 1959). For example, the effects of an economic crisis tend to be harsher for those members of society with the lowest levels of resources (Elder [1974] 1999; Palme et al. 2002).

According to life-course theory, available resources determine the level of opportunity at different stages during the life course. As noted above, “cumulative disadvantage” is a process whereby each case of resource deficiency or disadvantage leads to additional consequences (e.g. Dannefer 2003; DiPrete and Eirich 2006) and produces an expectation of increasing inequality over time in a given cohort or within and between cohort subgroups. DiPrete and Eirich (2006) distinguish between two forms of cumulative (dis)advantage processes that are described in the literature, one of which has its roots in Merton’s (1973) seminal work on academic success while the other can be traced back to Blau and Duncan’s (1967) analyses of the American occupational structure.

The “Mertonian” version is perhaps best described as a process of wealth accumulation through the mechanism of compound interest, whereby a larger initial sum of money will grow faster in absolute terms than a smaller initial sum. Models based on this mechanism can be used to describe processes of e.g. diffusion, contagion and exponential growth (DiPrete and Eirich 2006). But these models may also be used to describe a process of cumulative disadvantage in which resource deficiencies accumulate over time in a process of path dependence (Willson et al. 2007). In the Blau and Duncan model, the concept of cumulative disadvantage also incorporates broader structural processes that generate increasing inequalities between groups over time. The model predicts both direct and indirect effects of a status variable on outcomes across the life course as well as interaction effects which will produce group differences in the level of returns to resources over time (DiPrete and Eirich 2006).

Our use of the concept in the present study lies closer to the Blau and Duncan version than to the Mertonian version. We will be focusing on how structural processes interfere with the pattern of increasing inter-group disparities that are predicted by the theory, and also on how individual level resources and structural elements interact in this process.

Criminal involvement and the stigmatisation that results from crime and official sanctions together constitute one of the factors that limit future opportunities and that result in cumulative disadvantage, interacting along the way with factors such as school performance, and employment (Sampson and Laub 1997). Empirical studies have shown that a criminal record has importance for the chances of finding employment – Pager (2003), for example, adopts an experimental audit approach and shows that potential employers tend to be reluctant to hire individuals with a criminal record. Barriers to labour market attachment for those with a criminal record are also indicated by studies showing that both employment and income are negatively affected by imprisonment (Traenes and Geerdsen 2008). Numerous hypotheses have been proposed with regard to the mechanisms that may produce the observed relationships (Pager 2003: 941), which should not solely be attributable to criminal stigma per se. Apel and Sweeten (2010) suggest that the impact of incarceration on earnings is indirect, and that it is due to a lack of work experience rather than to exclusion based on the stigma that attaches to a criminal record. In line with cumulative disadvantage theory, this suggests that it is resource deficiencies rather than the criminal record itself that constitute the core mechanism for understanding why criminal involvement may lead to weak labour market attachment. This does not mean that criminal stigma is unimportant however. In recent years it has become common for employers to request to see criminal records printouts before hiring. In interviews with Swedish employers, the dominant arguments revolve around risk

management and harm prevention. A quote from a human resources manager in the transportation sector make this point clear:

“If you’ve been repeatedly convicted for assaults and are going to work as a driver – it might not be relevant, but if you have to choose between that and someone else, we might not want a driver out there working with our customers who’s got a number of assaults /.../ Even if, in a way, it’s not related to his driving skills” (Backman 2011: 38)

Cumulative disadvantage theory should not be understood as if there are groups of individuals who are predestined to become socially marginalised. Laub and Sampson (2003) stress that there are “turning points” - events and processes that occur throughout the life cycle and which can lead to a change in the course of an individual’s life. Even given the presence of both positive and negative turning points in the life courses of individuals, however, cumulative disadvantage theory would nonetheless lead us to expect to find a pattern of increasing inter-group disparities over time at the group level.

It is not only the individual’s resources that determine opportunity levels but also the conditions within the surrounding society. Over recent years there has been an increasing interest in attempting to understand the processes that influence individuals’ criminal activity across the entire life course, and not least what it is that leads some individuals to desist from crime earlier than others. This has led to a focus that includes other factors in addition to crime, e.g. work and family, and an increase in research that focuses on the issue of the longer term consequences of involvement in crime for the individual (see e.g. Farrington et al. 2006; Laub and Sampson 2003; Piquero et al. 2010; Tanner et al. 1999). The dominant part of this research emphasizes factors related to the individual. It focuses on conditions such as neuropsychological deficits (e.g. Odgers et al., 2008), the family situation during childhood, and also living conditions later in life such as education, work and relationships (e.g. Author2 and Author1 2011; Farrington et al. 2009, Stattin et al. 2010). In addition, the individual’s

own will to change is often also highlighted (Carlsson 2012; Maruna 2001). Although Elder ([1974] 1999) underscores the fact that human agency constitutes a fundamental element in individuals' life courses, he also emphasizes that individual aspirations and life choices are at the same time intimately associated with structural constraints: "...choices are not made in a social vacuum. All life choices are contingent on the social and cultural opportunities and constraints in history" (Elder [1974] 1999: 309). Thus even though life-course criminology has been successful in demonstrating processes of change with the help of concepts such as cumulative disadvantage and turning points (Laub and Sampson 2003), and while it acknowledges at a theoretical level that life choices are contingent on the opportunities and constraints of social structure, we believe that there is a lack of research on the significance of the macro-level constraints associated with historical and social circumstances, which are central to the life-course perspective.

To conclude this discussion of our points of departure, we agree with Farrall et al. (2010: 547) that we are in a situation where too little research has been devoted to examining the potential impact of social-structural differences on desistance from crime and life-chances as adults. There is currently a lack of research that is able to describe the longer term consequences of involvement in crime for broader welfare outcomes in adult life. And the few studies that are available are more or less exclusively focused on men, therefore less is known about the extent to which the life courses of males and females who have been involved in crime are similar or instead distinctive (Author3 and Author1 2012). Moreover, there are even fewer analyses of how involvement in crime interacts with conditions linked to both individual-level resources and socio-historical constraints in producing negative life outcomes in the longer term.

The Swedish Recession as an Example of a Socio-Historical Constraint

In recent studies of a Stockholm birth cohort born in 1953, we have shown that criminal involvement leads to a substantial excess risk for social exclusion in late mid-life (Author2 and Author1 2011; Author1 and Author3 2011). The individuals who were registered for offences both as youths and as young adults had a significantly worse welfare situation at age 48, with a large proportion located outside the labour market, either lacking any form of attachment to the labour market or having retired early on disability pensions. This was particularly true for the females (Author3 and Author1 2012).

There are both interesting similarities and dissimilarities between the results from studies based on the Stockholm Birth Cohort and studies based on the Cambridge Study in Delinquent Development (CSDD), which prospectively followed 411 South London males born in the mid-1950s until they were 48 years old, and which thus focused on the same age group over same period of time. Using the London data, Piquero et al. (2010) have shown that criminal offending is associated with late middle-age “life failure” across different life domains, including employment and relationships, even after controlling for individual and environmental risk factors. Different offending categories have different outcomes, and chronic offenders evince more life failure than other offenders. In an earlier study based on the same data, Farrington et al. (2006) compared four different groups defined on the basis of their criminal involvement at different ages: those with no convictions and three different groups of offenders, defined as persisters, desisters and late onset offenders. The study reports the situation at both 32 and 48 years of age. The results show that employment and cohabitation *improved* from the early thirties to the late forties for all of the groups. Persisters were the least successful, but over time there was a tendency towards diminishing differences between the groups (ibid: 51-53). This suggests that many of those with registered criminality

had been able to exploit various of the “turning points” that can provide opportunities for positive change (Laub and Sampson 2003).

When comparing our study with the London studies there are interesting similarities between the two data sets that are worth noting: Both cohorts were born in or around 1953, lived in a Northern European capital city at ages 8–10, and were followed to 48 years of age. There are also differences that should be noted in relation to both the operationalisations employed and the populations examined. The Stockholm project covers all members of the birth cohort in Stockholm, whereas the London project is based on a small area sample. One important difference is that the London data only include males whereas the Stockholm data include both sexes. Another difference is that the CSDD includes an automatic control for class differences, since all members of the study population come from the same working class district of London.¹

Why might we expect to find a different pattern in the Stockholm birth cohort? Apart from differences noted, we would argue that the Stockholm cohort’s experiences at around age 40 of a severe economic recession may have contributed to producing increasing disparities in levels of labour market success.² During the first half of the 1990s, Sweden experienced an economic crisis that was relatively major by Swedish standards, with a three-fold rise in unemployment, while at the same time the employment rate fell from 83 percent in 1990 to 71 percent in 1994 (Figure 1). Accompanied by a negative growth rate for three consecutive years, the unemployment crisis caused in turn a severe loss of state and local tax revenues,

¹ For a cross national comparative study on criminal careers up to age 25 in London and Stockholm based on these two datasets see Farrington and Wikström (1994).

² The UK was also affected by this crisis, but without this leading to the same dramatic increase in levels of unemployment. The UK is instead characterised by a longer period of high unemployment rates (www.laborsta.ilo.org).

which led to severe cutbacks in welfare state provision. Studies have shown that the increased levels of unemployment, together with the economic cutbacks, led to an increase in the levels of inequality between different social groups (Palme et al. 2002). The trend towards an equalisation of living conditions over time, which the Farrington et al. studies (2006; 2009) point to, might thus have been disturbed in Sweden as a result of a specific socio-historical event, namely an economic crisis whose effects were most severe for those members of society with the lowest levels of resources.

- Figure 1 about here -

Research questions and outline of the study

We are interested in how a central welfare outcome, labour market attachment, develops for different groups defined on the basis of their level of criminal involvement over the life course. Our analyses will also take childhood conditions, educational achievement and health into consideration. The study focuses on interrelated questions concerning criminal involvement, labour market attachment and earnings: How did labour market attachment develop among different groups defined on the basis of their criminal involvement? Can we see the pattern of increasing inter-group disparities in labour market attachment that would be predicted by cumulative disadvantage theories? And is this a result of the criminal history of individuals or should criminal involvement be seen as one element in a negative life trajectory in a more general sense? If so, is this pattern strengthened, or even produced, by the economic crisis?

The impact of criminal involvement is expected to be mediated primarily through the individual's access to resources in areas central for welfare and life chances, such as

education, health, and work experience; these affect the opportunities for establishment on the labor market as well as the risk of having to leave it during an economic downturn (Bäckman and Nilsson 2011; Palme et. al. 2002). We therefore expect the differences between the groups to diminish with controls for individual resources.

In short, we hypothesize, in line with cumulative disadvantage theory, that criminal involvement and previous resource attainment contribute to a widening gap and increasing differences in labour market attachment between non offenders and different offender categories over time. In order to study the extent to which such a pattern might be influenced by the economic crisis, we analyse how labour market attachment develops in the cohort between ages 29 and 48, as the members pass through the Swedish unemployment crisis of the 1990s. In our analysis we also introduce controls for individual resources.

The issue of gender differences permeates all of the research questions examined. Separate analyses are therefore conducted for males and females throughout. Separating males and females in the analyses also means that we control for sex differences in labour market attachment and earnings.³ The article continues with a presentation of the Stockholm Birth Cohort Study. This is followed by a description of how we have chosen to operationalise the variables employed in the analyses.

Data: The Stockholm Birth Cohort Study

The Stockholm Birth Cohort Study (SBC) is a longitudinal database created by combining two data sets (for a more detailed description, see Stenberg and Vågerö 2006; Stenberg et al.

³ It should be noted that the Swedish female labour market participation rate is high in a comparative perspective; highest of all 27 EU countries (Eurostat 2011).

2007). The first of these is the Metropolitan Study, which comprises all individuals born in 1953 and living in Stockholm ten years later (Janson 1995). The Metropolitan data set includes a large amount of survey and register-based data relating to both the cohort members themselves and their parents. For almost the entire length of the Metropolitan project (1963–1986) data were collected from a range of different registers. The data set includes information on among other things income, social welfare receipt, social group membership, educational achievement, hospital treatment, interventions from Child Welfare Committees and involvement in crime. In the spring of 1966, when the study subjects were in year six of compulsory schooling, a school survey was conducted using two questionnaires, which included questions on e.g. friendship, attitudes to school, and plans for the future.

The second data set, to which the information on the 1953 Stockholm cohort from the Metropolitan data set has been linked, is known as the Health, Illness, Income and Employment database (the HSIA). This database is comprised of register data on all individuals living in Sweden in either 1980 or 1990. The data set includes information on income, occupation and welfare benefit receipt. Since both databases had been anonymised (the Metropolitan project data were anonymised in 1986) a probability matching procedure was employed to link the two. It was possible in this way to match a total of 96 percent of the observations – 14,294 individuals (Stenberg et al. 2007). The combination of the two data sets means that it is possible to follow the cohort of individuals born in 1953 and living in the Greater Stockholm area at age ten until they were 48 years of age.⁴ The lack of research on crime, risk factors and the life course that also describes the situation of women is well documented (Author3 and Author1 2012; Giordano et al. 2002). Obviously, the SBC provides

⁴ See <http://www.stockholmbirthcohort.su.se> for further information, codebooks, ethical considerations, etc.

rich and unique life-course data for both males and females, thus providing an excellent opportunity to fill this research gap.

In the analyses presented below we have excluded those who went to classes for children with impaired development or impaired vision or hearing. We have also excluded those who during childhood only lived in the Metropolitan project area on a temporary basis (see below). When analysing mid-life outcomes, we only include those who were still alive and living in Sweden at age 48. This produces a sample of 12,570 individuals. Note that by excluding those who died during the period examined, the effects of risk factors are probably biased downwards.

Measures

Outcome Measures

To analyse labour market outcomes during the crisis of the 1990s we need an outcome measure that is able to capture aspects of labour market attachment on an annual basis. To accomplish this we use information from public income records, in which it is possible to identify income sources. By relating individual gross annual earnings to median gross annual earnings for the cohort as a whole, we arrive at an indicator that measure the distance from mainstream labour market attachment. The outcome measure – relative labour market attachment - is operationalised as the individual's income expressed as a proportion of median gross earnings, i.e. median gross earnings are set to 100 each year. Besides wages, gross earnings include income from certain social insurance schemes that are closely linked to employment, such as sickness benefits and parental allowance (but not unemployment benefits or disability and old age pensions).

Involvement in Crime

The information on the cohort members' criminality is drawn from the official police register of criminal records (PBR). The PBR data contain information up to the first six months of 1984, i.e. the year when the cohort members were aged 31. For each year between 1966 and 1984, the data set contains information on the number and type of offences committed.⁵ Seven percent of the female cohort members and 33 percent of the males had been registered for crime at some point up to the age of 31. We proceed on the basis of a categorisation that distinguishes four different groups on the basis of their criminal activity at different ages (other longitudinal studies have employed similar classifications; see e.g. Bergman and Andershed 2009; Eggleston and Laub 2002; Farrington et al. 2006, 2009; Lay et al. 2005): *No crime*: those individuals who have never been registered for crime. *Desisters*: those who are only found in the police register prior to the age of 20. *Persisters*: those who persist in crime, i.e. individuals who were registered for crime both during their youth and as adults. *Late onset offenders*: those cohort members who were registered for crime for the first time after the age of nineteen. (Table 1).

Table 1 – About here

The question of typologies and classifications of offenders has been the subject of some considerable debate, a discussion that has focused on both theoretical and methodological issues (Skardhamar 2010). We make no claims that our classification distinguishes homogenous categories with distinctive careers. Our division of the study subjects distinguishes between those who desisted prior to the transition from youth to adult life and

⁵ In principle, PBR records correspond to convictions data. Swedish official statistics relating to persons convicted of offences present data on those individuals who have been found guilty of offences over the course of a given calendar year – by means of either a court finding of guilt or a non-court conviction.

those who were registered for crime as adults. Failures during the transition to adult life, a phase where occupational careers and family formation are initiated, have been shown to have a long term negative impact on future attainment (Author2 and Author1 2007; 2011). On the basis of this division of the study subjects we are able to differentiate between individuals with very different levels of involvement in crime. The factor that differentiates the three groups with a criminal record from one another is first and foremost not the types of crime engaged in but rather the frequency of offending, and this is the case for both males and females. The males who continued to commit offences after their teenage years together account for over 75 percent of the male cohort members' registered offences while at the same time comprising only 10.5 percent of the males in the cohort. Among the females, these individuals comprise 1.2 percent of the female cohort members but account for about 50 percent of the females' registered offending (for a more detailed description see Author1 and Author3 2009).

Covariates

Besides involvement in crime, we have also included factors known to predict labour market achievement across the life course. These are factors measuring socio-economic background, social problems and poverty in the family of origin from birth through 18 years of age, compulsory school results, educational level in 1990, and ill-health in early adulthood. Descriptive statistics for these covariates are reported in the appendix.

Socio-economic group is based on the father's occupation in 1963 (from upper and upper-middle class to unskilled workers). *Poverty* in the family of origin is measured as the receipt of means tested social assistance benefits. Means tested social assistance benefits are intended to provide a final safety net for those experiencing economic difficulties. To be eligible for

benefits, all members of the claimant household must have exhausted virtually all of their financial assets. *Social problems* in the family of origin are measured by means of three dummy variables. The first of these indicates whether the child was ever the subject of a decision of the local Child Welfare Committee due to family circumstances (not because of the child's own behaviour). The second variable indicates whether either of the parents had been registered for showing symptoms of mental illness or psychiatric problems, while the third indicates parental alcohol abuse in the same way. Information on both social assistance receipt and social problems in the family has been collected from the Social Register maintained by each municipality.⁶ *School results* are measured by the mean grade score (which has a range of 0–5) that the cohort members were awarded when they left year nine of compulsory schooling.

Our *health* indicator is a dummy-coded variable based on information from the Hospital Discharge Register (data on inpatient treatment). It indicates whether the cohort member has stayed in hospital overnight at least once in two of the periods 1969–73, 1974–78 and 1979–83. (Hospital stays in connection with pregnancy and child birth are excluded.) *Educational level* in 1990 is based on information from national education registers and is divided into four categories: compulsory school only, two years of further education, 3–4 years of further education, and college or university education.

Methodological considerations

We proceed in two steps. We begin with a descriptive section in which we examine the distribution of labour market income among non-offenders and the three crime groups. In this

⁶ This is the reason for our exclusion of those who during childhood only lived in the Metropolitan area on a temporary basis.

section we also describe the trends in deviations from the median labour market income between 1982 and 2001. Since we lack income data for the period 1983-89, values for these years are interpolated. Furthermore, the 1982 income data are not perfectly comparable to those from 1990 and onwards and should thus be interpreted with caution. The aim of the first step is to present an overview of developments over time within the groups of interest.

In the second step, which offers a more detailed analysis, we run linear regression models (OLS) in order to estimate the effect of the crisis for the four groups. The focus of our interest in these analyses is on change in labour market attachment across periods, i.e. the pre-crisis period (1990–91), the crisis period (1993–98) and the post-crisis period (2000–01).

Consequently, in the regression analyses we have transformed the dependent variable to measure *change* in labour market attachment rather than the level of attachment (which is reported in the descriptive section). The varying effect of the crisis is modelled by including interaction terms between inter-period changes and crime group.

By the stepwise addition of factors known to predict labour market attachment across the life course into the regression model, we examine how these factors contribute to patterns of cumulative disadvantage and also how the group-effects of the crisis are dependent on life-course factors, i.e. we expect these factors to moderate patterns of cumulative disadvantage and also the effect of the crisis.

In all regression models we include an indicator of the level of relative labour market attachment in the pre-crisis period. There are two important reasons for this. Firstly, we should expect the rate of change to be dependent on starting values. For instance, those already permanently outside the labour force are unlikely to change their labour market

income. Secondly, since this factor is a function of all the factors that contribute to the level of labour market attachment in the pre-crisis period, it will capture a fair amount of the unobserved heterogeneity present in the sample. However, since the dependent variable measures change, we cannot be completely confident on this point. There might still be factors that contribute to changes in labour market attachment, but not so much to the level of attachment. If such factors exist, they could still of course influence the effects we find in the regression analyses, but it is unlikely that this is a major problem.

In the first model we only control for the level of relative labour market attachment in the pre-crisis period alongside the interactions between change across periods and crime group. In Model 2 we include factors measuring socio-economic background, social problems and poverty in the family of origin from birth through 18 years of age. In Model 3, compulsory school results, educational level 1990 and the ill-health indicator are also included. Since the focus is on the crisis effect, we do not report the effects of these control variables in the results section. The full models are reported in the Appendix. We report p-values calculated on the basis of robust standard errors since observations for individual cohort members are dependent. All models are estimated separately for men and women.

Findings

We begin the analyses by examining the distribution of labour market income. Table 2 presents average labour market income for the years 1990 and 2001. We see that the between-group differences in income follow the expected pattern: non offenders earn more than the offender groups, and desisters earn more than persisters. Real incomes increase in all of the groups with the exception of the persisters. Among the persisters, real incomes decrease for both men and women. We can also note that women earn less than men throughout the period.

This is due to the fact that women tend to have lower wages in general and also more often work part time (see e.g. Bäckman and Franzén 2007). It is clear that the change in both absolute and relative incomes is most positive among the males with no record of criminal involvement (+36%) and the corresponding group of females (+38%), followed by the desisters. The change over time in incomes among those who have been registered for crime as adults is considerably worse. The decrease in real incomes among persisters is partly due to a substantial increase in the number of zero earners in this group.⁷ There is thus a clear tendency towards increasing inter-group differences. Whether or not this is linked to the economic crisis cannot be seen from Table 2 however.

-Table 2 about here-

Figure 2a-b present how relative labour market attachment – measured as proportional deviation from median labour market income – develops for the different groups. The relative position is clearly worst among the persisters, and particularly so among the female persisters. At age 48 this group has a relative labour market attachment level that is between 40 percent (females) and 60 percent (males) of the cohort median. The income level of the desisters is closer to that of the non-offender group than it is to that of the persisters. The pattern of increasing disparities that is predicted by cumulative advantage and disadvantage theories, i.e. a pattern of growing inequalities between cohort subgroups over time, is present; there are differences between the groups and there is also a clear tendency towards an increase over time in the between-group distances. Much of this polarization takes place between the years 1991 and 1993, i.e. during the initial years of the economic crisis. The trend noted among the

⁷ In 1991, the proportion of zero-earners among the male persisters lies at 17 percent, while this proportion in the corresponding group of females lies at 27 percent. At the end of the period these figures lie at 30 percent (males) and 50 percent (females).

female persisters seems particularly startling. For this group, the steepest decline occurs between 1990 and 1993, but the decline between 1993 and 1999 is also substantial. In 1990, female persisters earned an average of 58 percent of the median labour market income for the cohort as a whole. In 1999 this figure had declined to 35 percent. Thus far, then, we appear to be looking at what might be termed a “crisis effect”, which has affected the offender groups more severely, and in particular the persisters.

Figure 2a-b – About here

In order to evaluate the crisis effect we want to disentangle it from the more or less linear trend that can be expected on the basis of cumulative disadvantage theory. In these analyses we therefore focus on *change* in labour market attachment across periods, i.e. the pre-crisis period, the crisis period, and the post-crisis period. Can we observe a sharper decline during the crisis period, particularly among those with registered criminality? The regression analysis will also display the extent to which indicators of resource availability in childhood and adolescence moderate this effect. The estimates from these analyses are reported in Table 3 (men) and Table 4 (women).

Initially, with no controls except relative labour market attachment in 1990–91 included (Model 1), the change in relative labour market attachment between pre-crisis and crisis (Periods 1 and 2), is present among all crime groups (negative signs) but not in the no-crime group (positive sign on the constant). These results are valid for both men and women. The decline during the crisis is particularly strong in the persister groups, where we see a relative decrease (as compared to the no-crime group) of approximately 16 percent among men and 19 percent among women. It is also true for both sexes that it is only among the persisters that

the negative development continues into the post-crisis period, although the decline subsequent to the crisis is smaller (6 and 8 percent). For men without a criminal record the change between the crisis and the post-crisis period is equal to that between the first two periods (which corresponds to the more or less linear development seen in Figure 3a).

Table 3 and 4 – About here

In Models 2 and 3 we include covariates in two steps. First we control for factors related to resource deficiencies and social problems in the family of origin. In the second step we also include variables measuring ill-health and educational performance among the cohort members (full models are reported in the Appendix). As expected, with these controls the decline witnessed during the crisis period is reduced in all of the offender groups, and most substantially among the desisters. In Model 3, the change among the female offender groups remains significant only among the persisters. The lion's share of the changes in the parameter estimates occur in Model 3, i.e. with the introduction of controls for individual resources in adolescence and adulthood. With the controls, the change between the crisis and the post-crisis period disappears among the persisters. For the women, the change has already become insignificant in Model 2.

The pattern revealed in the regression analyses indicates that there is a crisis effect that tends to strike harder against those with the most extensive involvement in crime. We cannot control this effect away by including indicators of experiences from the family of origin or resource attainment, whereas the continuing negative development subsequent to the crisis disappears once these controls are included. The implications of these findings are discussed below.

Conclusion

Our results show that differences in incomes and labour market attachment among different categories of offenders and non-offenders tend to grow rather than diminish over time among both men and women. We thus find the pattern of increasing inter-group disparities in relation to “life success” that is predicted by cumulative disadvantage theories. This polarization is strengthened by the unemployment crisis. Labour market attachment decreases substantially during the crisis years within the offender categories, and particularly among the persisters. Apparently, the individuals who have a criminal record as adults encounter more difficulties both attaining and maintaining an attachment to the labour market. Those with a criminal record are more sensitive to risk exposure in adulthood, which is partly explained by initial differences in family resources and by resource attainment during the life-course. With the introduction of controls for “vulnerability”, i.e. differences in resources, the differences between the groups diminish and the effect of the crisis becomes less apparent – but there remains an effect of criminal involvement. Besides unobservables, primarily in adulthood, this may be attributable to the effect of criminal stigma per se.

We find the trend towards an increase over time in the between-group distances and a crisis effect among both men and women. In relative terms, the development is therefore similar for men and women. But there are also differences between men and women that are worth noting. Our results show that compared to the corresponding groups of male offenders, a larger proportion of the female offenders, and particularly of the persisters, have a weak labour market attachment. In absolute terms, female offenders fare worse. One possible explanation might be that criminal involvement per se tends to have more negative consequences for female offenders (Author3 and Author1, 2012). It has been hypothesised

that female offenders are more stigmatized than men, since they not only break the law but also the norms and expectations associated with their femininity, and as a consequence experience more negative consequences as a result of involvement in crime than male offenders (Heidensohn 1968; Steffensmeier and Allan 1996: 476). We also know from previous research that the living conditions of female offenders tend to be more problematic than those of male offenders (Author3 and Author1 2012). In short, the small group of persistent female offenders constitutes a more highly selected and vulnerable group than the corresponding group of males, and we might therefore also expect them to be more sensitive to the effects of any additional risks experienced in adulthood (see e.g. Blau and Duncan 1967; Bäckman and Palme 1998; Ferraro and Kelley-Moore 2003).

In summary, our results show that both individual resources and structural constraints contribute to explaining the differences in labour market attachment noted between different groups defined on the basis of their criminal involvement.

In our view, a disproportionate amount of focus has been directed at individual explanations of living conditions during the life-course. This phenomenon is certainly not limited to life-course criminology, but represents part of a broader societal trend (Garland 2001). We are of course aware that seeing the individual as an actor constitutes a paradigmatic principle in life-course theory, and this is not something we object to. Individuals are not passively acted upon by social influences and structural constraints, but rather “make choices and compromises based on the alternatives that they perceive before them” (Elder et al. 2004: 10). Thus, human agency is important and has quite correctly been a focus of attention. At the same time however, the constraints of history and social circumstance are also important. We believe, together with for example Farrall et al. (2010), that criminology is suffering from a shortage

of studies that delve more deeply into this central insight. There are, of course, important exceptions to this individual-oriented myopia in criminology. But in life-course criminology, it remains significantly more likely that empirical studies will refer to the value of structural conditions than that they will empirically analyse their importance.

Using the Swedish economic recession of the 1990s as a background, our examination of how the Stockholm cohort entered, lived through and then exited the crisis has provided us with an opportunity to study how macro-events affect different groups of individuals in a specific socio-historical situation.

Our results lend support to the idea that part of the explanation for why the trend towards an equalisation of living conditions over time, which was identified by the Farrington et al. studies (2006; 2009) in London, fails to materialise in Stockholm is that, in Sweden, this process was disturbed by the unemployment crisis, a crisis whose effects were felt most severely by those members of society with the lowest levels of resources. Borrowing C. Wright Mills' (1959) terminology, the biography of persistent criminals was more disturbed by this historical event than was that of others. Those with a criminal record in adulthood were harder hit than others, i.e. their biography affected their vulnerability.

Patterns of increasing differences over time between different social groups are first and foremost to be expected in studies focused on populations with a broad social base. The differences between our results and those of Farrington and colleagues should therefore also be viewed against the background of the differences in the populations examined. By contrast with the London cohort, our population is not limited to working class males. Another difference is that we have analysed the developmental patterns at a more detailed level –

unlike the CSDD study, we have used a continuous indicator of 'success', i.e. a measure based on registered income from work, whereas Farrington et al. employed a dichotomous outcome indicating employment.

By utilising a longitudinal data set (the Stockholm Birth Cohort, SBC) we have been able, primarily on the basis of various forms of register data, to follow a large number of males and females from childhood into adult life. This has made it possible to analyse questions that have previously been difficult to examine. One limitation of our study is that we only have access to crime data up to the point at which the cohort members were 31 years of age. We know that many of the members of the crime groups, including the persisters, are likely to have desisted from crime as they approached middle age (e.g. Laub and Sampson 2003). It would of course have been more ideal to have information on both incomes and crime covering the whole of the period examined, thereby making it possible to study processes of desistance and continuity in crime in more detail. As regards our interpretation of the existence of a crisis effect, however, this factor is not of any major significance.

The pattern of increasing inter-group disparities in life success that is predicted by cumulative disadvantage theory, and for which we find empirical support, shows that both individual resources and historical events at the structural level are important when it comes to describing individual biographies and events in the life course. With this terminology it could be argued that cumulative disadvantage theory focuses primarily on biography and that it also needs to acknowledge the structural level in order to be complete. We would argue that this has implications for how criminology should understand life-courses and processes of desistance. This is perhaps particularly pertinent given the present financial turbulence in

Europe and elsewhere, and the long-term consequences it may have for the younger generation.

REFERENCES

Apel, R., and Sweeten, G. (2010), 'The Impact of Incarceration on Employment During the Transition to Adulthood', *Social Problems*, 57/3: 448-479.

Backman, C. (2011), 'Vocabularies of Motive among Employers Conducting Criminal Background Checks', *Acta Sociologica* 54/1: 27-44.

Bäckman, O., and Franzén, E. (2007), 'Employment and the Labour Market', *International Journal of Social Welfare*, 16: S35-S65.

Bäckman, O., and Palme, J. (1998). 'Social Background and Sickness Absence. A Study of a Stockholm Cohort', *Acta Sociologica*, 41/4: 349-362.

Bäckman, O., and Nilsson, A. (2007). *Childhood Poverty and Labour Market Exclusion. Findings from a Swedish Birth Cohort*. Working paper, Institute for Futures Studies 2007:13.

Bäckman, O., and Nilsson, A. (2011), 'Pathways to Social Exclusion – a Life Course Study', *European Sociological Review*, 27/1: 107-123.

Bergman, L., and Andershed, A-K. (2009). 'Predictors and Outcomes of Persistent or Age-Limited Registered Criminal Behaviour: A 30-year Longitudinal Study of a Swedish

Urban Population', *Aggressive Behaviour*, 35/2: 164-78.

Blau, P., and Duncan, D. (1967), *The American Occupational Structure*. New York: John Wiley & Sons Inc.

Carlsson, C. (2012), 'Using "turning Points" to Understand Processes of Change in Offending. Notes from a Swedish Study on Life Courses and Crime', *British Journal of Criminology*, 52/1: 1-16.

Daly, K. (1992), 'Women's Pathways to Felony Court: Feminist Theories of Law Breaking and Problems of Representation', *Review of Law and Women's Studies*, 2/11: 11-52.

Dannefer, D. (2003). 'Cumulative Advantage/Disadvantage and the Life Course: Cross Fertilizing Age and Social Science Theory', *Journal of Gerontology: Social Sciences*, 58B: S327-37.

DiPrete, T., and Eirich, G. (2006). 'Cumulative Advantage as a Mechanism for Inequality: A Review of Theoretical and Empirical Developments', *Annual Review of Sociology*, 32: 271-97.

Elder, G. ([1974]1999), *Children of the Great Depression. Social Change in Life Experience*. 25th Anniversary Edition, Colorado: Westview Press.

Elder, G., Kirkpatrick Johnson, M., and Crosnoe, R. (2004), 'The Emergence and Development of Life Course Theory'. In J. Mortimer, and M. Shanahan, eds., *Handbook of the Life Course*, 3-19, New York: Springer.

Eggleston, E., and Laub, J. (2002), 'The Onset of Adult Offending: A Neglected Dimension of the Criminal Career', *Journal of Criminal Justice*, 30/6: 603-22.

Estrada, F., and Nilsson, A. (2012), 'Does It Cost More to Be a Female Offender? A Life-Course Study of Childhood Circumstances, Crime, Drug Abuse, and Living Conditions', *Feminist Criminology*, 7/3: 196-219.

Eurostat (2011), Basic Figures on the EU. Third Quarter 2011. Eurostat Compact guides. Luxembourg: Eurostat.

Farrall, S., Bottoms, A., and Shapland, J. (2010), 'Social Structures and Desistance from Crime', *European Journal of Criminology*, 7/6: 546-70.

Farrington, D., Coid, J., Harnett, L., Jolliffe, D., Soteriou, N., Turner, R., and West, D. (2006), *Criminal Careers up to Age 50 and Life Success up to Age 48: New Findings from the Cambridge Study in Delinquent Development*. 2nd edition. London: Home Office Research Studies.

Farrington, D., and Wikström, P-O. (1994), *Criminal Careers in London and Stockholm – A Cross-National Study*. In Studies of a Stockholm Cohort. Project Metropolitan, Research Report No. 39. Department of sociology, University of Stockholm.

Farrington, D., Ttofi, M., and Coid, J. (2009), 'Development of Adolescence-Limited, Late-Onset, and Persistent Offenders From Age 8 to Age 48', *Aggressive Behaviour*, 35/2: 150-63.

Ferraro, K., and Kelley-Moore, J. (2003), 'Cumulative Disadvantage and Health: Long-Term Consequences of Obesity?' *American Sociological Review*, 68: 707-29.

Garland, D. (2001), *The Culture of Control. Crime and Social Order in Contemporary Society*. Chicago: University of Chicago Press.

Giordano, P., Cernkovich, S., and Rudolph, J. (2002), 'Gender, Crime, and Desistance: Toward a Theory of Cognitive Transformation', *American Journal of Sociology*, 107/4: 990-1064.

Heidensohn, F. (1968), 'The Deviance of Women: A Critique and an Enquiry'. *British Journal of Sociology*, 19/2: 160-175.

Janson, C-G. (1995), *On Project Metropolitan and the Longitudinal Perspective*. Project Metropolitan, Research Report No. 40. Stockholm: Department of Sociology, University of Stockholm.

Laub, J., and Sampson, R. (2003), *Shared Beginnings, Divergent Lives. Delinquent Boys to Age 70*. Cambridge, Massachusetts: Harvard University Press.

Lay, B., Ihle, W., Esser, G., and Schmidt, M. (2005), 'Juvenile-Episodic, Continued or Adult Onset Delinquency? Risk Conditions Analysed in a Cohort of Children Followed up to the Age of 25 Years', *European Journal of Criminology*, 2/1: 36-66.

Maruna, S. (2001), *Making Good: How Ex-Convicts Reform and Rebuild their Lives*.
Washington, DC: American Psychological Association

Merton, R. (1973), 'The Matthew Effect in Science'. In N. Storer, ed., *The Sociology of Science*, 439-59, Chicago: University of Chicago Press.

Mills, C.W. (1959), *The Sociological Imagination*. Oxford: Oxford University Press.

Nilsson, A., and Estrada, F. (2009), *Criminality and Life-Chances*. Report 2009:3.
Department of Criminology, Stockholm University.

Nilsson, A., and Estrada, F. (2011). 'Established or Excluded? A Longitudinal Study of Criminality, Work and Family Formation', *European Journal of Criminology*, 8/3: 229-45.

Odgers, C., Moffitt, T., Broadbent, J., Dickson, N., Hancox, R., Harrington, H., Poulton, R., Sears, M., Thomson, M., and Caspi, A. (2008), 'Female and Male Antisocial Trajectories: From Childhood Origins to Adult outcomes', *Development and Psychopathology*, 20/2: 673-716.

Palme, J., Bergmark, Å., Bäckman, O., Estrada, F., Fritzell, J., Lundberg, O., and Szebehely, M. (2002), 'Welfare Trends in Sweden. Balancing the Books for the 1990's', *Journal of European Social Policy*, 12/4: 329-46.

Pager, D. (2003), 'The Mark of a Criminal Record', *American Journal of Sociology*, 108/5: 937-75

Piquero, A., Farrington, D., Nagin, D., and Moffitt, T. (2010), 'Trajectories of Offending and their Relation to Life Failure in Late Middle Age: Findings from the Cambridge Study in Delinquent Development', *Journal of Research in Crime and Delinquency*, 47/2: 151-73

Skardhamar, T. (2010), *Criminal Careers and Crime at Different Stages of Life. Theoretical and Methodological Perspectives, Childhood Risk Factors, and Desistance*. Department of Sociology and Human Geography, University of Oslo.

Steffensmeier, D., and Allan, E. (1996), 'Gender and Crime: Toward a Gendered Theory of Female Offending', *Annual Review of Sociology*, 22: 459-87.

Stenberg, S-Å., and Vågerö, D. (2006), 'Cohort Profile: The Stockholm Birth Cohort of 1953', *International Journal of Epidemiology*, 35/3: 546-48.

Stenberg, S-Å., Vågerö, D., Österman, R., Arvidsson, E., von Otter, C., and Jansson, C-G. (2007), 'Stockholm Birth Cohort Study 1953-2003: A New Tool for Life Course Studies', *Scandinavian Journal of Public Health*, 35/1: 104-10.

Tanner, J., Davies, S., and O'Grady, B. (1999), *Whatever happened to yesterday's rebels? Longitudinal effects of youth delinquency on education and employment*. NALL Working Paper No. 5. Toronto: Centre for the Study of Education and Work.

Tranæs, T. and Geerdsen, L. (2008), *Forbryderen og samfundet. Livsvilkår og uformel straf*. Rockwool Foundation Research Unit.

Willson, A., Shuey, K., and Elder, G. (2007), 'Cumulative Advantage Processes as Mechanisms of Inequality in Life Course Health', *American Journal of Sociology*, 112/6: 1886-1924.

FIGURES AND TABLES

Figure 1. Employment and unemployment in Sweden 1980-2007. Population 16-64 years of age.

Percent. Source: Statistics Sweden, Labour Force Survey.

Table 1. Distribution of men and women across four crime groups.

	No crime	Desisters	Late onset	Persisters	N
Men	67.3	11.6	10.6	10.5	6,957
Women	93.2	2.6	3.1	1.2	6,758

Table 2. Average labour market income (1990 prices) in 1990 and 2001 by sex and crime grouping.

	<i>Men</i>		<i>Women</i>	
	1990	2001	1990	2001
	<i>Average labour market income (SEK/100)</i>		<i>Average labour market income (SEK/100)</i>	
No crime	2051.25	2796.25	1284.58	1778.00
Desisters	1763.67	2175.52	1145.82	1514.95
Late onset	1576.99	1872.51	1020.45	1253.34
Persisters	1272.98	1268.74	759.15	681.13

Figure 2a-b. Average relative level of labour market attachment by criminal involvement and for male (2a) and female (2b) cohort members 1982-2001. (Interpolated values 1983-1989).

Table 3. Results from regression analyses on change in relative labour market attachment between pre-crisis (Period 1, 1990-91), crisis (Period 2, 1993-98) and post-crisis (Period 3, 2000-01). Stockholm men born in 1953 (n=6,427).

	Model 1†		Model 2††		Model 3†††	
	Coeff.	p	Coeff.	p	Coeff.	p
<i>Offending × ΔPeriod (ref=No crime ΔPeriod1-2)</i>						
Pre-crisis → crisis:						
Desisters ΔPeriod1-2	-8.20	<.001	-7.37	<.001	-4.73	.004
Late onset ΔPeriod1-2	-9.85	<.001	-9.52	<.001	-7.30	.001
Persisters ΔPeriod1-2	-15.73	<.001	-14.45	<.001	-10.79	<.001
Crisis → post-crisis:						
No crime ΔPeriod2-3	-0.10	.955	-0.09	.960	-0.07	.968
Desisters ΔPeriod2-3	-1.55	.441	-0.71	.722	1.94	.330
Late onset ΔPeriod2-3	-2.79	.256	-2.45	.317	-0.19	.938
Persisters ΔPeriod2-3	-5.52	.004	-4.24	.024	-0.61	.738
Constant	2.12	.485	7.28	.047	13.42	.001
R ²	0.01		0.01		0.02	

† Controlled for level of relative labour market attachment in period 1.

†† In addition to controls in Model 1, controlled for resources and social problems in the family of origin.

††† In addition to controls in Model 2, controlled for health and school achievements.

Table 4. Results from regression analyses on change in relative labour market attachment between pre-crisis (Period 1, 1990-91), crisis (Period 2, 1993-98) and post-crisis (Period 3, 2000-01). Stockholm women born in 1953 (n=6,554).

	Model 1†		Model 2††		Model 3†††	
	Coeff.	p	Coeff.	p	Coeff.	p
<i>Offending × ΔPeriod (ref=No crime ΔPeriod1-2)</i>						
Pre-crisis → crisis:						
Desisters ΔPeriod1-2	-7.13	.023	-5.63	.071	-3.60	.242
Late onset ΔPeriod1-2	-7.77	.003	-6.81	.008	-4.37	.083
Persisters ΔPeriod1-2	-18.66	<.001	-15.94	<.001	-12.42	<.001
Crisis → post-crisis:						
No crime ΔPeriod2-3	3.80	<.001	3.81	<.001	3.82	<.001
Desisters ΔPeriod2-3	3.65	.168	5.08	.055	7.14	.006
Late onset ΔPeriod2-3	-3.27	.196	-2.29	.361	0.09	.97
Persisters ΔPeriod2-3	-8.09	.02	-5.46	.122	-1.93	.579
Constant	12.80	<.001	18.90	<.001	22.37	<.001
R ²	0.03		0.04		0.07	

† Controlled for level of relative labour market attachment in period 1.

†† In addition to controls in Model 1, controlled for resources and social problems in the family of origin.

††† In addition to controls in Model 2, controlled for health and school achievements.

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