



# **Criminality and life-chances**

## **A longitudinal study of crime, childhood circumstances and living conditions up to age 48**

Anders Nilsson & Felipe Estrada

Report 2009:3

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## Abstract

In this report, we direct our focus at the longer term consequences of involvement in crime. What does the future look like for those boys and girls who have been registered for crimes during their teenage years? We look at different groups defined on the basis of their level of involvement in crime during the life-course. We employ a new and rich longitudinal data set, *The Stockholm Birth Cohort Study* (SBC), which allows us to follow a cohort born in Stockholm in 1953 until they reach 48 years of age. One central finding is that the individuals who committed offences both as youths and as adults both came from markedly worse childhood conditions and had a significantly worse welfare situation in middle age. This is particularly true of the group of females who committed offences both as youths and as adults, who constitute a highly selected group, with experience of substantial childhood disadvantage. As adults, the majority of these women can be described as being in a state of social exclusion. A large proportion of them have no employment and have difficulty supporting themselves. Even though these things are also true of many of the men who persisted in offending into adulthood, it is important to note that in middle age, the majority of these men have some level of labour market attachment. For the vast majority of those who have committed offences life has turned out well. When we look at the cohort members' family situation and labour market attachment, the differences between the youths who desisted from crime in their teenage years and those with no registered offending are quite small. The study illustrates both the negative long-term consequences of inequalities in childhood conditions, involvement in crime and the inability of society to resolve these problems. We also show that the youths who were unable to desist from crime when they became adults had themselves as children been looking forward to a very different future. An overwhelming majority of the cohort, irrespective of their degree of involvement in crime, had a similar view of what a good life would involve as an adult. The lives they then led as adults were apparently very different however.

*Keywords:* life course, registered offending, female offenders, social exclusion, Stockholm birth cohort study

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## Introduction

Some level of involvement in crime during the teenage years is not uncommon. In fact, according to self-report studies, this is more usual than unusual among males. This is true not only for different countries but for both the 1960s and the first years of the 21st century (see e.g. Ward 1998; Farrington et al. 2006; Svensson & Ring 2007; Balvig 2007; Salmi 2008). Looking to officially registered crime, the proportion of males convicted of offences at some point in their lives lies at almost 40 percent, whereas the corresponding figure for females is ten percent (Brå 2000). The prevalence of convictions increases quickly during the teenage years, and then declines in connection with the transition to adult life (see e.g. Wikström 1987; Stattin et al. 1989). Thus for the majority of youths, involvement in crime is a transient phenomenon. But does the fact that the majority desist from crime in this way mean that they become established as adults, with jobs and families, or does involvement in crime continue to have a negative effect on the individual's life course and career opportunities even over the longer term? In this report, we direct our focus at the longer term consequences of involvement in crime. What does the future look like for those boys and girls who have been registered for crimes during their teenage years? We look at different groups defined on the basis of their level of involvement in crime: those only convicted of crimes during their teenage years, those who also committed offences as adults, and those whose first offences were committed only after the transition to adulthood. On the basis of longitudinal individual level data, we follow both those convicted of offences, and their peers who have not been registered for crime, from childhood to middle age.

The question of what influences individuals to commit crime during their youth is one of the most central in the field of criminology, and also one of the most studied.

Considerably less research has been focused on the issue of the longer term consequences of involvement in crime for the individual. Over the years there have been several longitudinal studies that have focused on criminality over time, but few of these have broadened their analyses to include other outcomes than involvement in crime. Over recent years, however, there has been an increasing interest in attempting to understand the processes that influence individuals' criminal activity throughout the *entire* life-cycle, 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, and that can thus contribute to a better understanding of the paths adult life may follow for different groups of individuals (see e.g. Laub & Sampson 2003; Farrington et al. 2006).

The current study is the first to be conducted within the framework of a new research project, in which we link into a current and vital criminological debate on the life course and desistance from and continuity in crime.<sup>1</sup> The focus is directed at questions relating to the relative significance of personal characteristics, childhood conditions, resources and life-events for the individual's opportunities, behaviour and welfare outcomes in adult life. We employ a new longitudinal data set, *The Stockholm Birth Cohort Study* (SBC), which allows us to follow a cohort born in Stockholm in 1953 until they reach 48 years of age (in 2001). The SBC contains a large amount of survey and register data on amongst other things criminality and justice system sanctions, up until the time when the study subjects are in their 30s, and thereafter register data on health, education and income. The combination of survey and register data allows us to look at both the expectations that the study subjects had of adult life as young boys and girls, and how life actually turned out for them.

#### *The life course and crime viewed from a resource perspective*

Youth crime may be viewed both as a triggering factor in relation to marginalisation and as a stage in an already unfavourable life career. It is now well established in the existing research literature that youths who become involved in crime come more often than others from homes characterised by low levels of resources. This lack of resources expresses itself in different forms, and it can be described in different ways; it relates for example to family conditions, financial resources, social problems and health.

Involvement in crime, and society's responses to criminality, may also then be assumed to further reduce an individual's opportunities, or life-chances. Looking at those adults who offend, who are convicted, and who are sentenced to prison, we also find that their childhoods are characterised by problematic conditions, and that this is particularly true of those who were already known to the police and the social services as teenagers (Nilsson 2002; 2007).

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<sup>1</sup> "Long-term consequences of youth crime. A life-course study", financed by the Riksbankens Jubileumsfond.



In their influential book “Shared Beginnings, Divergent Lives” Laub and Sampson (2003) study criminal careers and life courses to age 70 among 500 males who as youths had been placed in the Massachusetts reformatory in the USA. In order to understand the range of criminal careers, and the differences in continuity in and desistance from crime presented by these males, Laub and Sampson argue that it is important to look at conditions and life-events throughout the entire life course. Their analysis identifies different groups whose levels of involvement in crime vary over time. Common to all of these groups is the fact that the degree of criminal activity decreases with age. Sampson and Laub argue that this means on the one hand that there is no small group of so-called “persistent offenders” who are more or less pre-destined to commit crime throughout their lives, and on the other that turning points, events and processes occur throughout the life-cycle that can lead to a change in the course of an individual’s life. They therefore advocate a theoretical model that emphasises the significance of social bonds throughout the life course, which they label the *Age graded theory of social control*; childhood conditions are important, but experiences and events that occur during adult life are also significant. They also emphasise the significance of “cumulative disadvantage”; crime and society’s reactions to crime, and in particular imprisonment or other forms of institutionalisation, serve to intensify an unfavourable career – characterised by inadequate schooling, unemployment and weak bonds to conventional society – which in turn increases the risk for continued criminality and marginalisation (see also Hagan 1993; Hobcraft 1998; Tanner et al. 1999; Laub et al. 2006; Bernburg & Krohn 2003; Healey et al. 2004; McAra & McVie 2007; Huizinga & Henry 2008). Laub and Sampson emphasise the choices made by the individual, but also that life-chances – the limitations and opportunities that individuals are faced with – vary and produce different conditions. In this they share the life-course perspective of Elder et al. (2004:11): “individuals construct their own life course through the choices and actions they take within the opportunities and constrains of history and social circumstances.”

We also recommend the use of a perspective that sees people as active agents and where resources, and the conditions affecting the possibility of exploiting these resources, determine individuals’ opportunities and life-chances (see e.g. Nilsson 2002; Estrada & Nilsson 2004). In criminological terms, a life-course perspective may be interpreted within the framework of theories that emphasise the significance of social position for

differences in life-chances and levels of opportunity (Merton 1968) and/or in terms of social bonds (Laub et al. 1998; Weitekamp et al. 2000). Resource deficiencies can be understood both as a risk factor for crime (in terms of creating “strain” or deficient informal social control) and as a result of criminality and society’s reactions to involvement in crime (in terms of reduced opportunities or bonds to a conventional life).

The focus of our interest in the project is processes that create and limit individual opportunities. The different studies included in the project will examine both longer-term patterns, such as may be related to school, work and crime, and specific events that may be assumed to involve turning points in the life course, such as starting a course of education or training, having children or being sentenced to prison. The resource perspective provides us with a broad point of departure at the same time as it can be related to more specific criminological theories on the causes of crime, criminal careers and the life course. As regards the question of the consequences of crime, labelling theories (Bernburg & Krohn 2003), theories of social bonds (Sampson & Laub 1993), of the life course (Laub & Sampson 2003), and of social networks (Hagan 1993) are all relevant, as to some extent are sociological theories on social stratification and careers (see e.g. Erikson & Goldthorpe 1992).

#### *Objectives and research questions*

This first study focuses on the question of how adult life turned out for the boys and girls who were registered for crime during their youth, and how their situation differs from that of their peers in terms of their position on the labour market and their family situation. We also examine the childhood and living conditions that preceded the subjects’ involvement in crime: What resources had they acquired at home and from school? And we will also be looking at how they themselves assessed their future prospects, and what they viewed as a desirable life.

We compare different groups defined on the basis of their involvement in crime: those who have not been registered for crime, those who desisted from crime during their teenage years, those who also committed offences as adults, and those who were first registered for offences as adults. A division of the data is also used throughout which allows for comparisons between males and females.

The lack of research on crime, risk factors and the life course that also describes the situation of females is well documented (Giordano et al. 2002). This gap in the knowledge has proved a difficult one to fill, in part because many of the most well-used longitudinal studies have only included males (see e.g. Farrington et al. 2006 and Laub & Sampson 2003), and in part because those studies that do include females are rarely of a size that permits analyses of the life course and criminal careers of women. The data sets quite simply fail to identify a sufficient number of female offenders (see for example the conclusions presented in Bergman & Andershed 2009:175f.). Thus while it is well established that many more males than females commit various types of crime, there is much less information available on the extent to which the life courses of males and females who have been involved in crime are similar or rather distinctive. Another problem that has often been noted in relation to life course research involves the question of the generalisability of the findings: how can we know, for example, that the experiences of boys from London (Farrington et al. 2006) or Boston (Laub & Sampson 2003) are generalisable to the situation today or in other parts of the world?

We share the conclusion of Bersani, Laub and Nieuwbeertas (2009) that there is currently a lack of research on the significance for the life course of childhood conditions and crime from countries characterised by socio-historical contexts which differ from that of the USA (and possibly other Anglo-Saxon countries). In order to identify general processes that are not tied to a specific time or place, there is thus good reason to base research on data from other societies. The fact that we study both males and females, thus expanding the research field to describe not only the reality of men, but also that of women, is clearly one of the strengths of the current project. Similarly, it is of value that our unusually rich data allow us to describe the longer term consequences of childhood and living conditions, ambitions and expectations, crime and substance abuse for individuals from a society that differs from those which have to date dominated this field of research.

## 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 & Vågerö 2006; Stenberg et al. 2007). The first of these is the Metropolitan Study, which comprises all

individuals born in 1953 and living in Stockholm ten years later (Jansson 1995). The Metropolitan data set includes a large amount of register-based and survey data relating to both the parents and the individuals themselves. For almost the entire length of the Metropolitan project (1963–1985) data were collected from a range of different registers. The data set includes information on amongst other things income, social welfare reciprocity, social group, educational grades, 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 amongst other things friendship, attitudes to school, and plans for the future. In the spring of 1968, a family survey was conducted in which the mothers of a sample of the cohort members were interviewed on amongst other things their occupations, education, their views on child-rearing and their son/daughter's educational plans (SOFI 2005).

The other 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 amongst other things income, occupation and welfare benefit reciprocity. Since both databases had been anonymised (the Metropolitan project data were anonymised in 1985) a probability matching procedure has been employed. It was possible in this way to match a total of 96 percent of the observations – 14,294 individuals.<sup>2</sup> 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.<sup>3</sup>

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<sup>2</sup> The probability matching procedure involved identifying unique combinations of the variables included in both data sets for the individual study subjects (for a more detailed description, see Stenberg et al. 2007). The individuals who initiated, and who are responsible for the creation of the SBC are Denny Vågerö of the Centre for Health Equity Studies (CHESS) and Sten-Åke Stenberg at the Swedish Institute for Social Research (SOFI).

<sup>3</sup> Updates to the information contained in the database have continued, although for the purposes of the current project we only have information for the period up to 2001. Nor have we had access to all of the data contained in the database, e.g. we have no health data including diagnoses for the later period (which is included in the HSIA database). For more information on the SBC and ethical considerations see: <http://www.stockholmbirthcohort.su.se/>.

*Operationalisation – the categorisation of cohort members by their degree of involvement in crime*

Although we have only had access to a selection of variables from the database for the purposes of the current study, the data set is still very rich. With the exception of the crime variables that are presented below, we will be describing the variables employed in the report in connection with the presentation of our findings. The information on the cohort members' criminality is drawn from the official police register of criminal records (person- och belastningsregister – PBR). The register contains information on offences that have either resulted in a conviction or, in cases involving younger offenders, been reported to the Child Welfare Committee.<sup>4</sup> For each year between 1966 and 1984, the data set contains information on the number and type of offences committed. These offences have been divided into seven categories: Violence, Theft, Fraud, Vandalism, Motoring offences, Drug offences and Other offences (Wikström 1987). We proceed on the basis of a categorisation that distinguishes four different groups on the basis of their criminal activity at different ages (see also Table A in the appendix):

1. *No crime*: those individuals who have never been registered for crime.
2. *Crime youth*: those who desist from crime prior to the age of 20.
3. *Crime youth and adult*: those who persist in crime, i.e. individuals who were registered for crime both during their youth and as adults.
4. *Crime adult*; those who are “late starters”, i.e. individuals who first commit offences after the age of nineteen.

As will be seen below, we were able on the basis of this rather unsophisticated division of the study subjects to differentiate between individuals with very different levels of

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<sup>4</sup> The PBR contains information up to the first six months of 1984, i.e. the year when the cohort members were 31 years of age. In principle, PBR records correspond to convictions data, with the exception of some of those subjects who were only registered for offending during their teenage years. (Those registered for offending in the PBR data we have employed also appear in registers containing conviction and sentencing data, with the exception of 34 percent of those who only committed offences during their teenage years). 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 – either by means of a court finding of guilt or through a non-court conviction (either in the form of a prosecutor's fine or a waiver of prosecution issued by the prosecutor – both of which require an admission of guilt from the offender). Information on criminal justice sanctions is not utilised in the current study but will be analysed in subsequent studies to be conducted within the framework of the project.

involvement in crime.<sup>5</sup> Since other longitudinal studies have employed a very similar classification, our categorisation makes it possible to compare our findings with e.g. Farrington and colleagues' (2006; 2009) analyses of the lives of boys from a working class area of London, and Bergman and Andershed's (2009) study of school pupils from the Swedish city of Örebro.<sup>6</sup>

## Results

In the following we compare the four groups defined on the basis of involvement in crime during the teenage years and in adulthood, looking at different phases of the life course: childhood, youth, the transition to adulthood and middle age. To begin with we focus on criminality: What is the nature of the birth cohort's involvement in crime? And how do the three groups that have been convicted of offences differ with regard to the frequency of the various types of crime examined?

The presentation of results then continues by looking at whether there are differences in the childhood conditions experienced by the different groups examined. To what extent did those who were later registered for offending get a worse start in life in terms of family resources and social problems? The analysis then moves on to look at the study subjects' school situation and their own expectations for the future: what did they themselves want from their adult lives? We conclude by focusing on outcomes in adult life – how did things turn out for them? The primary focus is directed at income and the subjects' family situation. Separate analyses have been conducted for males and females throughout. The final section presents multivariate analyses of the risk for social exclusion, defined on the basis of the cohort members ability to support themselves in

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<sup>5</sup> 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 (see e.g. Sampson & Laub 2005; Skardhamar 2009). We make no claims that our classification distinguishes homogenous categories with distinctive careers; the objective has primarily been that of distinguishing between two categories of teenage offenders – those who have desisted from crime, and those who have continued to commit offences. In coming studies we will direct a particular focus at differences between these two groups. Bergman and Andershed (2009:174) tested a variety of alternatives to this relatively unsophisticated categorisation, and noted that their results “support the usefulness of the four groups as indicators of adolescent and adult crime activity”.

<sup>6</sup> The Farrington et al. study (the “Cambridge Study in Delinquent Behaviour”) is a prospective study of 411 males from a working class area of London, of whom the majority were born in 1953. The Örebro study (The IDA Project) is based on 1393 school pupils who were aged ten in 1965, the year in which the study was initiated.

adult life. These analyses allow us to look at the question of the relative significance of involvement in crime for outcomes later on in the life course. In order to avoid repetition, it is worth noting here that the differences described in the study, unless otherwise stated, are statistically significant at the 5% alpha level (or better).<sup>7</sup>

### *Crime*

One-fifth of the individuals in the Stockholm cohort have been registered for crime at some point up to the age of 31 years (Table 1, see also Table A in the appendix). As expected, we find substantial differences in the level of involvement in crime among males and females respectively. Seven percent of the female cohort members appear in the PBR registered for offending as compared with 33 percent of the males. Among the males who have been registered for crime, the different groups examined are of approximately the same size, with the desisters (*Crime youth*) comprising the largest group and the late starters (*Crime adult*) the smallest. In this respect, the distribution found among the females differs from that of the males. The largest group found among the females who have been registered for crime is comprised of those who are first registered for offending as adults. The group registered for offending both as youths and as adults is by far the smallest. There are approximately nine males for each female in this group. These distributions correspond well to those reported in other studies based on crime data over the life course for both males and females (Moffitt et al. 2001; Bergman & Andershed 2009), and also relatively well with Farrington and colleagues' (2006) sample of males from a working class area of London (see also Farrington & Wikström 1994, whose comparison of the Stockholm cohort with the London data shows substantial similarities in the criminal involvement of the young males).

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<sup>7</sup> Comparisons of the outcomes for the four groups (prevalence) have been conducted in part using the chi-square test, and with the F-test (ANOVA) when the focus is directed at differences in mean values.

Table 1. Registered offending by gender and crime grouping.

<b>Males (n=7305)</b>					
	<i>No crime</i>	<i>Crime adult</i>	<i>Crime youth</i>	<i>Crime youth &amp; adult</i>	<i>Total</i>
<b>Proportion (%) of all males</b>	66.6	10.6	11.8	11.0	
<b>Total crime</b>					
No. of youth offences (mean)	-	-	3.4	11.7	
No. of adult offences (mean)	-	3.3	-	12.4	
Proportion of youth offences	-	-	24	76	12336
Proportion of adult offences	-	20	-	80	12534
<b>Females (n=6989)</b>					
<b>Proportion (%) of all females</b>	93.0	3.1	2.6	1.3	
<b>Total crime</b>					
No. of youth offences (mean)	-	-	2.0	3.6	
No. of adult offences (mean)	-	4.7	-	13.0	
Proportion of youth offences	-	-	55	45	720
Proportion of adult offences	-	46	-	54	2173

The three groups defined on the basis of their criminality as youths and as adults respectively differ substantially from one another as regards the frequency of their registered offending. The males who have committed offences as both youths and adults, for example, have been registered for a mean of almost twelve offences during their teenage years. The corresponding figure for the group only convicted of offences as teenagers is 3.4. A comparison of the levels of adult offending produces a similar picture. Altogether the group of males who continue to commit offences after their teenage years account for over 75 percent of the male cohort members registered offences at the same time as they constitute eleven percent of the males in the cohort.

Among the females too, those who have committed offences both as teenagers and as adults constitute the group with the highest level of offending measured in terms of the number of registered offences. These individuals comprise one percent of the female cohort members, but account for approximately 50 percent of the females' registered offending. Looking at those cohort members who committed offences as both teenagers and adults, the level of offending among the males in this group is significantly higher than that of the females during the teenage period. During the adult period, however, the



females in the group have on average been registered for just as many offences as the males (although the number of males in the group is substantially greater). The difference between the females who were only registered for offending as teenagers and those who continued to commit offences into adult life is also much less marked than that found among the males. Among the cohort members who were first registered for offending during their adult years, the level of offending is higher among the females than among the males. But which offences do the different groups commit?

During the teenage years it is theft offences that dominate (accounting for approximately 60 percent of registered offences) among both males and females and in the groups of both desisters and persisters (Table B in the appendix). During the adult period, theft offences compete with motoring and fraud offences to be the most common. Together these three crime types account for around two-thirds of the total number of offences for which the cohort members are registered as adults. Crimes of violence constitute only a small proportion of the offences committed, irrespective of age, crime grouping or life-stage. The proportion convicted of violent offences is greatest among the men who continue to commit offences into adulthood, but even among these, the majority is convicted of non-violent crimes (Table C in the appendix). Drug offences comprise a somewhat larger proportion of the crimes committed by the female cohort members. Otherwise, the clearest difference between the sexes is that the males are registered for motoring offences to a much greater extent as youths, while fraud offences are more common among the females (for similar results see e.g. Stattin et al. 1989).

Altogether, it is clear that males and females, and youths and adults, are to some extent registered for different types of crime, at the same time as the cohort's offending is dominated by theft, motoring and fraud offences. We also note that the individuals who continue to commit offences as adults do *not* distinguish themselves by being specialised in any particular type of offending. Both as teenagers and adults, their offending patterns are similar to those of the other groups. We can however also note that the prevalence rates for some crime types differ. For example, significantly larger shares of those individuals who continue to commit offences as adults have been registered for drug crimes (Table C in the appendix). But what differentiates the groups 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. This pattern corresponds well with results based on both Swedish (Stattin & Magnusson 1991:339) and Dutch cohort data (Blokland et al. 2005:945) and it contradicts assumptions that the offending of the group of “persistent” offenders might be of a different character, and in particular that it might be characterised by involvement in various types of violent crime (Moffitt 1994).

### *Childhood conditions*

Childhood conditions are central to criminological explanations of criminal behaviour. Problems and resource deficiencies during childhood have time and again been shown to constitute risk factors for involvement in crime. Such problems and deficiencies have been interpreted in terms of restricted means and life-chances and/or as indicators of weak social bonds and a lack of informal social control (Hagan & McCarthy 1997; Laub & Sampson 2003; Nilsson 2007). In our comparisons, childhood conditions also differed between the groups examined in the expected direction across a range of areas (see Table D in the appendix). A substantially larger proportion of the cohort members who had been registered for crime came from broken homes, overcrowded homes or had fathers who were unskilled workers, for example. It is also clear from the data that these types of resource deficiency are most common among the male and female cohort members who have been registered for crime both as youths and as adults. The explanatory value of factors such as social class or coming from a broken home in themselves is usually quite limited, and it has been argued that conditions over the longer term and an accumulation of social and financial problems represent more important risk factors (see e.g. Farnworth et al. 1994; Hagan & McCarthy 1997; Nilsson 2002; Laub & Sampson 2003).

The data set includes information from the Social Services Register on welfare benefit recipiency in the cohort members’ families during three different periods: 1953-59 (0-6 years), 1960-65 (7-12 years) and 1966-72 (13-19 years). On the basis of these data we have created a poverty indicator that distinguishes between four groups: the “non-poor” are those who have never received welfare benefit; the “transient poor” comprise those who have received welfare benefit during one of the three periods, the “recurrent poor” are those who have received such benefits during two of three periods and the “chronic poor” those whose families received welfare benefits in all three periods (see also

Bäckman & Nilsson 2009).<sup>8</sup> Among those with no registered involvement in crime, over 80 percent had grown up in a family that had never received welfare benefits. Among those registered for crime both as teenagers and adults, almost half had grown up in a family that had received welfare benefits at some point, and over one-third had grown up in a family categorised as recurrently or chronically poor. The group who persisted in crime are in this regard very different from the group of desisters, where the proportion categorised as recurrently or chronically poor is substantially smaller, particularly among the males. In each of the three groups which had been registered for crime, the females had experienced more poverty during childhood than the males (Table D in the appendix).

In addition to the above described, traditional risk factors relating to the family situation, social class and financial conditions, the SBC database also allows for an examination of the significance of childhood conditions indicating more serious social problems. For the same period as that referred to above, the Social Services Register contains information on alcohol problems among the parents (drinking offences and/or alcohol abuse) and mental health problems (psychological problems and/or mental health care measures). For the fathers, there are also register data relating to involvement in crime (at least one conviction during the period 1953-72). The prevalence of these different problems within the cohort lies at between five and seven percent. As expected, the groups registered for involvement in crime are at substantially increased risk of having grown up in families in which these problems were present. One quarter of the females in the group registered for crime as both teenagers and adults had a parent with mental health problems, for example, and fifteen percent of the males in the same group had parents with alcohol problems. In the other two groups who had been registered for crime, these problems are also more common than they are among those with no record of criminal involvements.

In Figure 1 we combine the prevalence of these three “risk factors”. Approximately one in ten of the cohort members in the “No crime” group have grown up in a family where at least one of these problems was present, as compared with one in three of the males

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<sup>8</sup> Information on the income of parents is only available for the year 1963, but an examination of income levels during this particularly year provides support for our indicator of poverty during childhood. The median income level in 1963 is highest by far within the group of “non-poor” and lowest within the group categorised as “chronic poor”.

who had been registered for crime both as youths and as adults. Among the females in this same category of cohort members, the corresponding figure is as high as one-half. In the same way as in the case of financial difficulties, it is clear that the females who have been registered for crime tend to have experienced more problems in their childhood environments than the corresponding group of males. The differences in childhood conditions between those who have committed offences and those with no involvement in crime are greater for females than for males. It is clear that the small group of females who commit offences repeatedly constitute a more highly selected (poorly resourced) group than the corresponding group of males. This stands in contrast to the conclusion drawn by Moffitt et al. (2001:158) on the basis of their limited data on female “persistent” offenders.<sup>9</sup>

Further, it is also worth noting that by comparison with the socio-demographic risk factors described above, the prevalence of serious problems in the family differentiates between the different groups defined on the basis of their involvement in crime even more clearly. There are clear differences, for example, between those who have only been convicted during their teenage years and those who continued to commit offences. Altogether, the childhood conditions of the Stockholm youths are thus characterised by systematic differences: the males – and particularly the females – who persist in crime into adulthood have experienced resource deficiencies and more serious social problems in childhood to a substantially greater extent than the other cohort members.

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<sup>9</sup> The conclusion drawn by Moffitt et al. (2001), that women who continue to commit offences as adults have *not* been exposed to more and more serious risk factors than males who commit offences both as youths and as adults, is based on the Dunedin Longitudinal Study. In the Dunedin Study, the individuals were followed from the age of three to the age of 21, which means that the data only provide for the possibility of studying outcomes relating to the period of transition to adult life. The comparisons conducted focusing on males and females presenting high levels of involvement in crime are based on a very small number of individuals (47 males and six females are reported as belonging to the group of “Life-course persistent” offenders, and a further 122 males and 78 females are classified as “Adolescence-limited” offenders, see page 216f.).

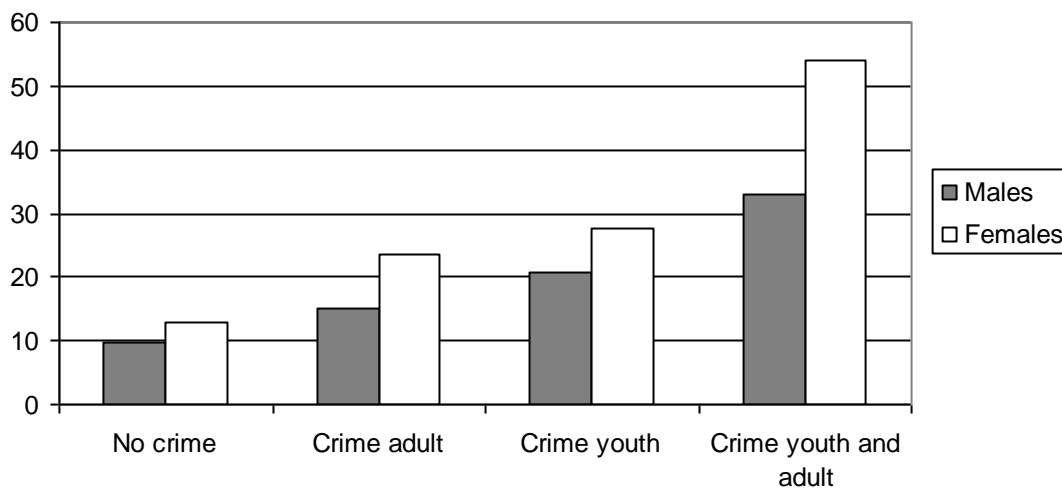


Figure 1. Prevalence of alcohol problems, mental health problems or registered crime (fathers only) among parents, by gender and degree of involvement in crime. Percent. N=14,294.

### *Future expectations*

One of criminology's central theoretical models focuses on the conflict, often labelled strain, between the view shared by members of a given society as to what constitutes a desirable life and the unequal resources people have at their disposal to realise the goals associated with this life-view. This conflict produces an increased risk for crime among those groups with less resources (Merton 1938; 1968). We have shown that there are substantial differences in childhood conditions within the study cohort, where particularly those individuals who continued to be registered for crime as adults have experienced resource deficiencies and social problems during their childhood and youth. Given that it is clearly the case that the childhood conditions experienced by those registered for involvement in crime were significantly more difficult than those of the cohort members with no registered criminality, how is this related to the children's view of what constitutes a good adult life? When the Stockholm cohort were thirteen years of age, they were asked in the school survey<sup>10</sup> to state *what was most important for them in*

<sup>10</sup> The level of external non-response in the school survey amounted to 8.4 percent for the female cohort members and 9.7 percent for the males. Some of the cohort members had also left the Metropolitan project area by 1966, the year in which the survey was conducted, and did not participate for this reason (see further Jansson 1980). In addition, there is some level of internal non-response. The non-response is slightly higher in the groups registered for involvement in crime.

order to do well and be happy when they became adults and what expectations for the future they felt they had compared with most other people of their own age? A very large majority of the youths, irrespective of gender and subsequent involvement in crime, answered that what would lead to them having a good life as adults was a good job, being happily married and that they achieved something (Figure 2). Among the girls, it was somewhat more common that they looked forward to getting married rather than to getting a good job. It was much more unusual for the young cohort members to view “getting to do what they wanted” or “having the things they wanted” as important, this too irrespective of their subsequent degree of involvement in crime.

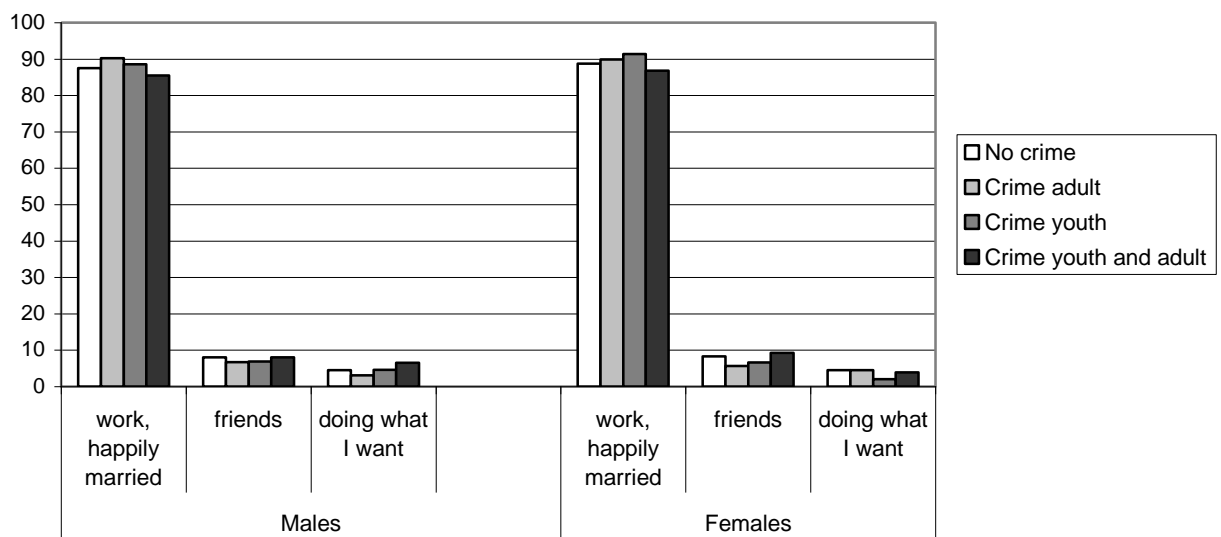


Figure 2. Youths’ hopes of life as adults, by gender and degree of involvement in crime. Percent. N=12,315.

Thus the young cohort members shared a common view of what they hoped adult life would involve at the same time as they had very different points of departure in terms of their childhood conditions. In addition to the objective resources possessed, or not possessed, by the youths, our material provides us with the opportunity to study the youths’ own expectations of the future and how these are in turn linked to future involvement in crime. We can note that even at age thirteen, approximately twice as many of the males and females who went on to be registered for offending as both youths and adults had lower expectations of their future than the males and females who would

not subsequently be registered for crime (Figure 3). Halleröd (2009) shows that this result should primarily be interpreted in terms of the youths having a rational understanding of their own (worse) objective life-chances, but also in part as a self-fulfilling prophecy. At the same time, it is important to note that most of the children's expectations of their future were on a par with those of their peers, irrespective of the substantial differences in their childhood conditions and in their degree of subsequent involvement in crime. In brief, at the age of thirteen, the vast majority of the children in the Stockholm cohort had positive expectations of how their lives would be as adults.

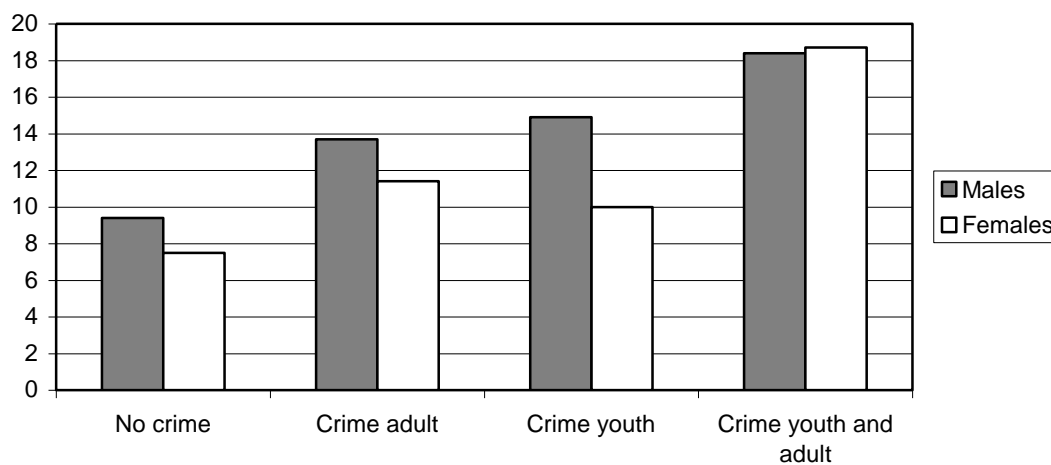


Figure 3. Proportion (percent) of children who at age thirteen had lower expectations of their future than their peers, by gender and degree of subsequent involvement in crime. N=12,553.

### *School*

Three aspects of the cohort members' schooling have been examined. These focus on their attitudes and on problem behaviours in school in year six (when they were 12-13 year old), and on their level of school achievement at ages twelve and fifteen, examined in terms of their grade scores in years six and nine. When the youths were in year six, a much larger proportion of those who would later be registered for offending agreed with the statement that "most of the subjects in school bore you" or had often "been sent out of the classroom for something they had done" (Figure 4). This was the case for both the girls and the boys. As expected, having been sent out of the classroom is more common

among the males whereas the question focused on being bored with school better captures the females' school problems.

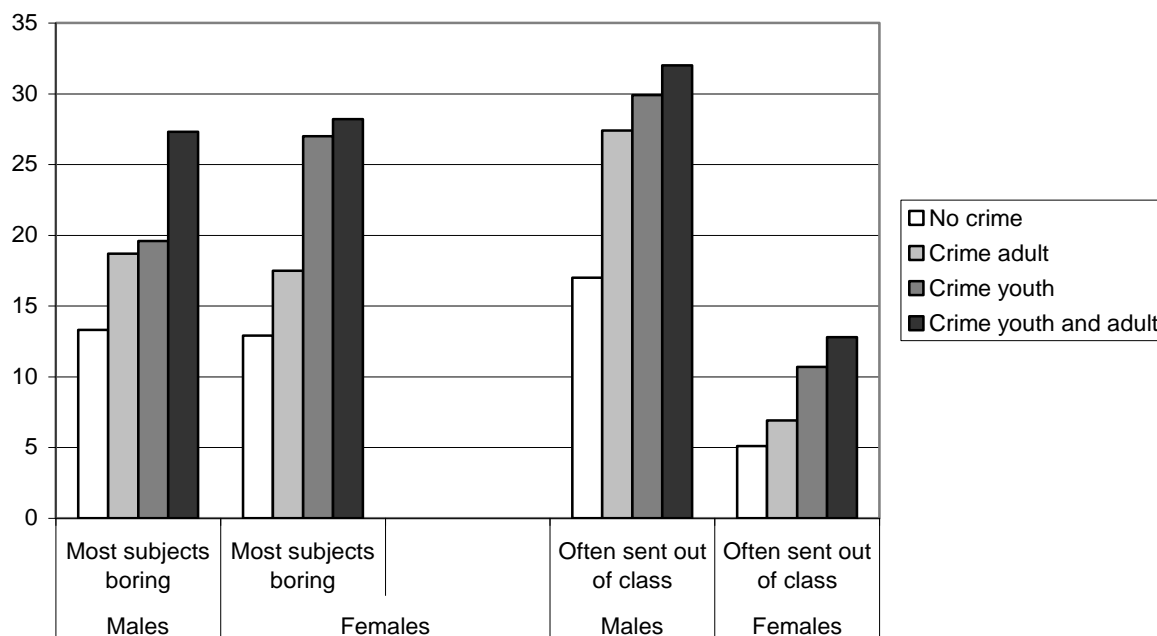


Figure 4. School problems in year six. Proportion (percent) who report that the majority of school subjects bore them and who report being sent out of the classroom, by gender and degree of subsequent involvement in crime. N=12,762.

Three years later, we can see the grades that the young cohort members were awarded when they left year nine of compulsory schooling. The mean grade scores in years six and nine (which have a range of 0-5) are clearly lower for both the boys and girls who have been registered for offending (Table E in the appendix). The differences between the sexes are smaller within the different groups based on the degree of involvement in crime. The males and females registered for offending as both youths and adults had the lowest grades, followed by those registered for crime only as teenagers. The variation in levels of school achievement emerges very clearly when the focus is directed at the groups' relative success or failure in school by comparison with the cohort as a whole. Figure 5 presents the segments of the cohort whose grades place them among the ten percent of cohort members with the highest grade scores, and the ten percent with the



lowest grade scores respectively.<sup>11</sup> It can be seen very clearly that the level of year nine school achievement among both the males and females who persisted in registered offending into adulthood is a great deal worse than that of the other groups, including those youths who were registered for offending as teenagers but not as adults.

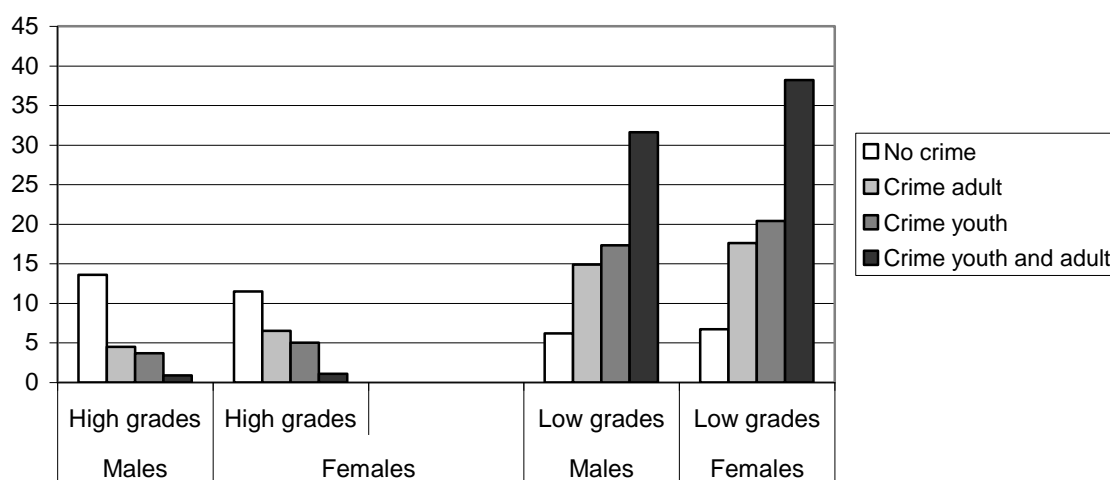


Figure 5. Proportion (percent) who have been awarded grades that are higher or lower than those of 90 percent of the cohort members, by gender and degree of involvement in crime. N=13,938.

In summary we can see that the school situation of the different groups examined differs in relation to problem behaviours, attitudes and school achievement. The youths who would later be registered for crime already had more extensive school problems at ages 12-13, and they also reported being bored by the majority of school subjects to a greater extent than other students. By focusing on this problem in particular, we can see that the females who were registered for offending exhibit school problems to the same extent as the males who were registered in connection with crime. Three years later, when the youths completed year nine, it is clear that the differences that could be discerned in year six also expressed themselves in the cohort members' final grades from the compulsory school system. At this point, then, there were substantial differences in the extent to which the cohort members were equipped to continue into further education and

<sup>11</sup> In order to reduce the level of non-response to some extent, Figure 5 utilises information on grades in year six in those cases where information is missing on cohort members' grades in year nine.

thereafter to take the first steps away from childhood and towards establishing themselves on the labour market as adults.

### *Becoming established as adults*

For the vast majority, the transition from youth to adult life involves a phase in which the individual establishes him- or herself, and where occupational careers and family formation are initiated. In these areas we can see clear differences between our comparison groups. According to register data relating to the cohort members' family situation, by around ten years subsequent to having left compulsory education, a relatively large proportion of the female cohort members, by comparison with their male counterparts, were either married or cohabiting with a partner (Table F). However, being in such a relationship was significantly less prevalent among the females who were registered for offending both as youths and adults by comparison with both those who were only registered for crime as youths and those with no offending record. The pattern is similar among the male cohort members, although the differences between the groups are less pronounced.

By examining register data on income, studies and family conditions, we can study the development of the cohort members as they establish themselves as adults. We have divided the cohort into different groups on the basis of their employment status and degree of labour market attachment at three different points: 1981, 1991 and 2001. As a first step, the cohort members were divided into groups on the basis of work incomes recalculated into what are referred to as price base amounts (PBA). The category *Work* or "Core labour force" is comprised of those earning at least 3.5 PBA. This limit was set to correspond to the lowest amount on which individuals can support themselves for a year.<sup>12</sup> The group *Unstable labour market attachment* includes those earning between 1 and 3.5 PBA. The category *No labour market attachment* is comprised of those with a very low income (below 1 PBA), or no income at all. We also created categories that distinguish those on disability pensions, students and women who are at home with

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<sup>12</sup> The division into different categories on the basis of labour market attachment proceeds from a model developed by among others Bäckman & Franzén 2007. Those with incomes of at least 3.5 PBA are here counted as comprising the "core labour force". The size of the Price Base Amount is tied to the consumer price index. In 2009 the PBA was specified at approximately 4000 Euro.

children. As a means of identifying those who are students, we have combined information on year of graduation, length of education and study grants. The group *At home with children* includes women with children aged 0-3 years, who are not in either of the groups *Work* or *Students*.<sup>13</sup> This category of cohort members is quite distinctive by comparison with the others in that it is not clearly a category based on labour market attachment or income. The reason for defining this group separately was that we wished as far as possible to isolate the groups with only weak ties to the labour market, or none at all. Particularly among the females, these groups contain a relatively large number of individuals with young children who are not in employment for this reason. Irrespective of the extent to which this is voluntary, it is reasonable to assume that the “exclusion” is in this case of a different character from that experienced by those who stand outside the labour market without having young children.<sup>14</sup> For a more detailed description of the operationalisations just described see Bäckman and Nilsson (2007b).

Table 2 shows that a large majority of those who were registered for crime both as youths and as adults had an income from employment at 28 years of age (almost half of the males in this group are counted among the core labour force, and a further 30 percent are categorised as having an unstable labour market attachment). Among the corresponding group of women, the situation is worse, however. Just under one-quarter are counted among the core labour force and approximately one-third have an unstable attachment to the labour market. Even if students and those at home with children are counted among the employed, the proportion in employment is smaller. It is further notable that two-thirds of the males who were only registered for offending during their teenage years are counted among the core labour force at age 28. The proportion with no labour market attachment is six percent (as compared with four percent among those with no registered involvement in crime). Among the women too, those who were only registered for offending during their youth constitute the group that is most similar to those with no record of offending, but the differences here are greater than those found for the corresponding groups of males.

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<sup>13</sup> For older data (from the Metropolitan Study) we have used information on the year of birth of the cohort members' children, whereas newer data include information on the number of children of different ages in a given household.

<sup>14</sup> It should be noted that this categorisation to some extent underestimates the proportion of women with a weak position on the labour market, but if we had not introduced this category we would on the other hand probably have risked producing an even greater overestimation of the size of this group.

Table 2. Employment at 28 years of age, by gender and degree of involvement in crime. Percent.

<b>Males (n=7257)</b>					
	<i>No crime</i>	<i>Crime adult</i>	<i>Crime youth</i>	<i>Crime youth &amp; adult</i>	<i>Total</i>
Work	74.6	60.9	67.6	47.2	69.3
Studies	3.5	3.2	2.3	1.3	3.1
Unstable labour market attachment	17.3	25.5	23.6	31.9	20.5
No labour market attachment	4.0	8.9	6.0	17.0	6.2
Disability pension	0.7	1.4	0.5	2.6	1.0

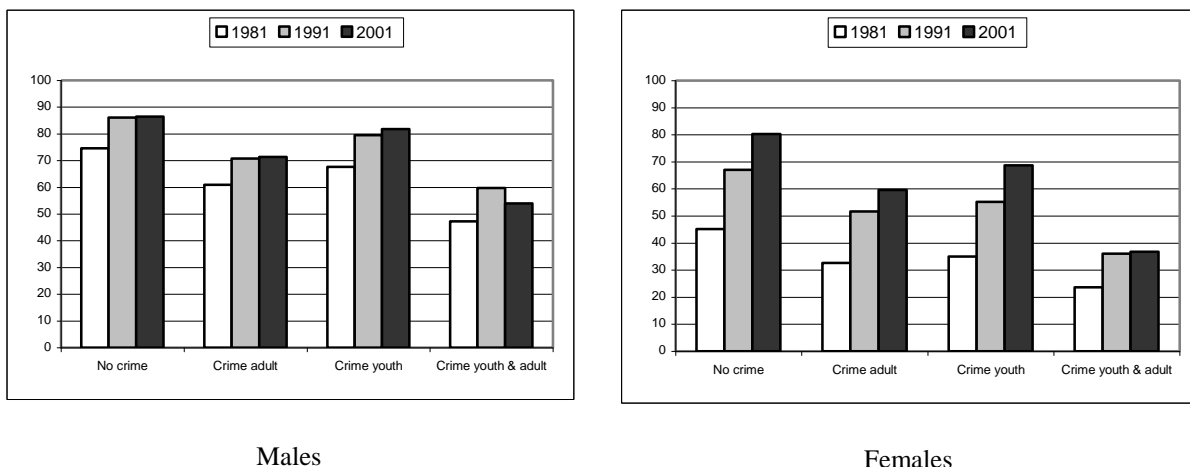
  

<b>Females (n=6944)</b>					
Work	45.2	32.6	35.0	23.6	44.3
Studies	5.1	4.7	7.8	2.2	5.1
At home with children	14.7	17.2	17.2	14.6	14.8
Unstable labour market attachment	28.4	28.4	26.7	34.8	28.4
No labour market attachment	5.9	14.0	12.2	21.3	6.6
Disability pension	0.7	3.3	1.1	3.4	0.8

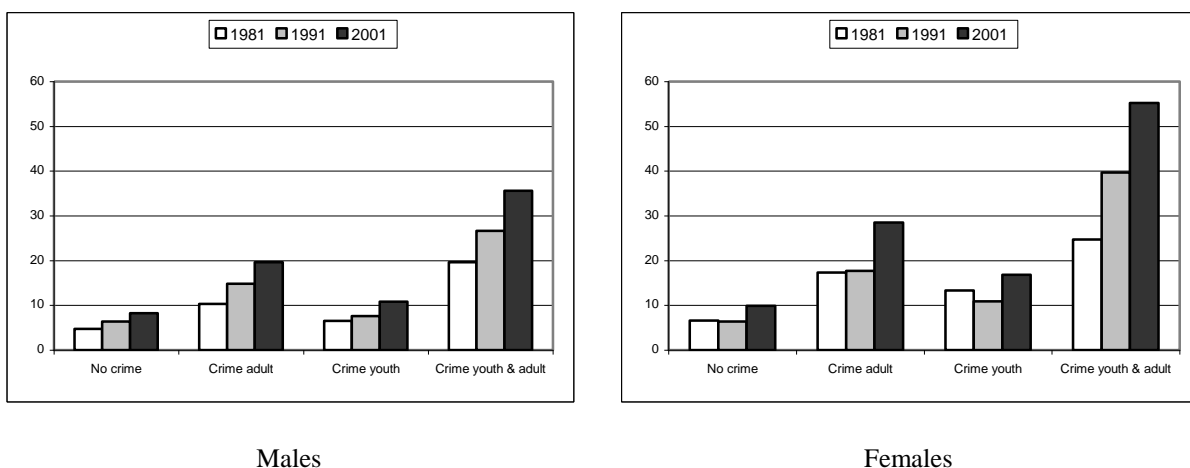
Although things have gone well for the majority of the cohort members in terms of their employment status, there are notable differences in the extent of the more problematic outcomes as regards income and labour market attachment. One-quarter of the female cohort members who were registered for crime both as youths and adults, and one-fifth of the corresponding group of males are located outside the labour market, either lacking any form of attachment to the labour market, or having retired early on disability pensions.

We would like to place a special emphasis on a couple of the results of our analysis in particular. Firstly, it is clear that even in the early stages of adult life, there are differences in how well things have gone between those who were only registered for offending as teenagers and those who continued to commit offences into adulthood. The males in the former group have a level of labour market attachment that is almost the same as that of those who were never convicted of offences, and their situation is thus substantially better than that of the cohort members who were registered for crime both as youths and as adults. Secondly, it is noteworthy that the situation of the females who have been registered for offending is worse than that of the corresponding groups of males. But did the distance between the different groups increase or diminish over time? Figures 6a-7b (see also Tables G-H in the appendix) show the proportion of the different groups who were counted among the core labour force or who stood outside the labour

market in 1981, 1991 and 2001. Over time, the proportion counted among the core labour force increases in all of the groups examined, but the distance between the different groups remains. Among those registered for offences both as youths and as adults, the distance to the other groups actually increases (Figure 6a-6b).



Figures 6a and 6b. Proportions (percent) counted among the core labour force in 1981, 1991 and 2001, by degree of involvement in crime, males and females.



Figures 7a and 7b. Proportions (percent) located outside the labour market (no labour market attachment or on disability pensions) 1981, 1991 and 2001, by degree of involvement in crime, males and females.

This can also be seen when we focus on the opposite outcome, i.e. those located outside of the labour market, either on disability pensions or with no or only very small incomes from employment. Within the group registered for crime both as youths and adults, there is by 2001 a large proportion who can be described as marginalised on the basis of their

labour market situation, and this is particularly true of the females in this group, where over half stand outside the labour market (Figure 7b).

When we study the flow between different labour market positions over time (Tables I-J in the appendix) we can also note that when we compare the groups with some form of criminal record with those cohort members not registered for crime, the proportion of those who were not in employment at age 38 but who were counted among the core labour force ten years later is smaller in the groups registered for crime. The proportion of those registered for offending who succeeded in *maintaining* their attachment to the labour market is also significantly smaller. We move on now to a more detailed examination of the situation of the cohort in 2001, when the cohort members were 48 years of age.

### *Living conditions at age 48*

The final year to which we are able to follow the cohort in this study is 2001, the year in which the cohort members celebrated their 48<sup>th</sup> birthdays. We have chosen here to look in more detail at three central areas of welfare: income (or the lack of it), the family situation, and health. To begin with, we focus on employment and the cohort's financial situation by directing our attention at on the one hand the cohort members' labour market attachment, and on the other the prevalence of financial problems (in terms of welfare benefit reciprocity). We then examine the extent to which the members of the different groups of registered offenders are living by themselves or in families. Finally, we focus on the issue of mortality. This section of the study concludes with a more comprehensive analysis of the risk for finding oneself in a state of social exclusion as an adult on the basis of a consideration of various experiences of childhood conditions, school and involvement in crime.

#### *Family and work*

At age 48, the majority of the Stockholm cohort were living together with another adult, either as a married couple or cohabiting (with a common child) (Table H in the appendix). Among the males it is only among those who were registered for offending as

both youths and adults that we find a clear majority who were living alone, although the proportion living alone is also high among the males who were first registered for crime as adults. This pattern is even more marked among the female cohort members. The female cohort members who were registered for crime as both youths and adults stand out in that only a small proportion (20 percent) of them were living with a spouse or cohabiting partner at this age.

When the focus is directed at changes in the degree of labour market attachment, it is clear that more of the female cohort members become established on the labour market over time. Among the women with no registered involvement in crime, 80 percent have established themselves on the labour market at age 48, which represents more or less the same level as that found among the men. Among the women who had been registered for crime only as youths or only as adults, the level of labour market attachment is also relatively high. For the women found in crime register both as youths and as adults, it is clear that the period between 28 and 48 years of age has involved deterioration. Just as in relation to the family situation, a situation that was comparatively poor to begin with has become even worse. At 48 years of age, it is as common for the women in this group to be on disability pensions as it is for them to be in employment.

Among the males too, the degree of labour market attachment is worse among those who have been registered for crime both as youths and as adults, and at age 48, only half of this group are counted among the core labour force. One factor common to the males who have been registered for crime as adults (both those who first committed offences as adults and those who were also convicted as youths) is that fewer of these males have an income from employment at 48 years of age than was the case at age 28 (compare the proportions in employment or with an unstable labour market attachment in Table 2 and Table H respectively). This distinguishes them both from those who desisted from crime subsequent to their teenage years and those with no record of involvement in crime. With employment problems come income deficiencies. At age 48, only 2-3 percent of the male and female cohort members are welfare benefit recipients. Among the males and females who have been registered for crime both as youths and as adults, this proportion is many times greater: one-third among the females, and one in seven among the males. The same pattern is found in relation to disability pensions (Table H in the appendix).

### *Mortality*

Of the entire cohort, approximately two percent die prior to the age of 48. The differences between the groups are substantial in this respect (Table H in the appendix). The mortality rate is approximately seven times as high (at 13 percent) among the male and female cohort members who were registered for involvement in crime both as youths and adults by comparison with those who were never registered for crime (2 percent).<sup>15</sup> It is worth noting that the mortality rate is not higher among the females in the persistent-crime group than it is among the males. In relation to the other outcomes we have described, the females registered for crime as both youths and adults have otherwise shown themselves to be a more vulnerable group. With regard to the family situation and labour market attachments, we could furthermore see that the situation among those individuals who were only registered for crime during their teenage years was not significantly worse than that of those with no registered criminality, and was considerably better than that of those who also went on to be convicted of crimes as adults. This is also the case in relation to mortality, although in this case we see there are over-risks for all three of the groups that have been registered for involvement in crime at some point.

### *Social exclusion*

Altogether, our presentation of living conditions at age 48 shows there are substantial differences between the groups examined, and also between men and women. The data show that it is the female cohort members who were registered for crime both as youths and adults who find themselves in the worst situation. This can be seen very clearly from Figure 8, in which we present a summary measure of social exclusion. This measure distinguishes the proportion who at age 48 were either outside the labour market (those with either no labour market attachment, or on disability pensions) or in receipt of social welfare benefit.

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<sup>15</sup> The differences in mortality rates are underestimated somewhat since we only study the SBC cohort, i.e. those who could be matched with more recent data (and who were thus alive in 1980).



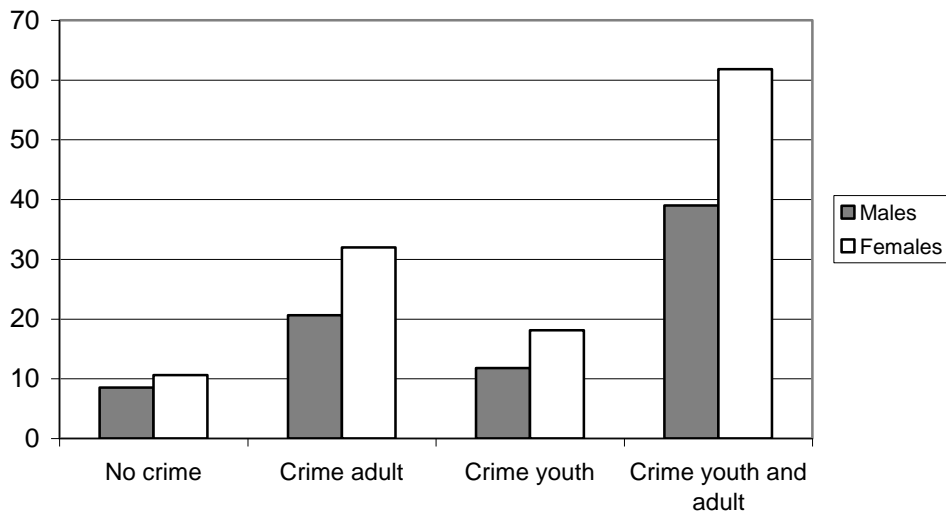


Figure 8. Proportion (percent) who at age 48 were either in receipt of social welfare benefits or who had no attachment to the labour market, by gender and degree of involvement in crime. N=13,518.

Of the women registered for crime both during and subsequent to their teenage years, almost two-thirds meet this definition of social exclusion, together with almost 40 percent of the males in the same group. The corresponding proportions of those who desisted from crime during their teenage years are twelve and eighteen percent respectively. The situation of those who were only registered for crime during their teenage years, and particularly the males, is more reminiscent of those with no registered involvement in crime. Those who were registered for crime only once they had become adults are living in social exclusion to a greater extent at age 48, and the situation of the women is particularly unfavourable. In conclusion, we will now focus on the question of how we might understand these similarities and differences in adult living conditions among men and women with different experiences of involvement in crime.

### *The risk for social exclusion*

There is a clear correlation between the social position of parents and the position that their children will occupy in the future. The existence of an inter-generational inequality that extends across different areas of welfare indicates that early experiences, conditions and resources affect individuals' opportunities and life-chances (see e.g. Bowles et al. 2005; Bäckman & Nilsson 2009).

We have noted that those cohort members who had been registered for crime came from homes characterised by lower levels of resources, with a higher prevalence of both financial and social problems. On the basis of what we know about inter-generational correlations, this alone should be sufficient reason for us to expect to find worse outcomes as adults among those who have been registered for involvement in crime. We have also noted that those who later came to be convicted of offences also had a less successful education than those with no record of involvement in crime, a factor that is also linked to the living conditions experienced in adult life (see e.g. Bäckman & Nilsson 2009). In conclusion, therefore, we will examine how the risk for social exclusion as an adult is linked to involvement in crime, given controls for the differences in the groups' childhood conditions, measured in terms of poverty and social problems in the family and school grades in year nine. We will also be taking a further factor into consideration, namely drug abuse.

### *The significance of drug abuse*

In their analysis of involvement in crime over the life-cycle on the basis of Dutch cohort data, Blokland et al. (2005:945) note that the offending of the most criminal group, just as in our study (see Table B in the appendix), involves a wide range of offence types, of which the majority are less serious property offences. According to Blokland et al., one possible explanation for the crime pattern exhibited by this group is that the group itself is largely comprised of drug abusers who commit offences in order to finance their drug abuse. In their own study, however, Blokland et al. found it difficult to examine this question, since they lacked reliable data on the cohort members' drug abuse. In the current study, however, we have the opportunity to look more closely at the significance of drug abuse.

Drug abuse is a factor that is closely linked to involvement in crime, and that also has obvious consequences for future opportunities and life-careers (Sarnecki & Sollenhag 1985; Krohn et al. 1997; Alm & Nilsson 2008). This is not least the case in societies where the prosecution of the possession and use of illicit drugs is a priority in the work of the police, and where the explicit goal is that of making it “difficult to be a drug abuser” (Lenke & Olsson 2002; Tham 2005). Drug users not only risk being convicted in connection with the handling of drugs (possession or sale) but also for a range of minor offences intended to finance their drug use. Long-term drug abuse may therefore be assumed to make it more difficult to establish oneself on the labour market and to maintain long-term relationships, and it may further be assumed to be associated with a higher mortality rate; these are all conditions that we have shown are first and foremost characteristic of the group registered for offending both as youths and as adults.

The Metropolitan study includes three different pieces of data relating to the prevalence of drug abuse: records in the Social Services Register (Child Welfare Committees), the Hospital Discharge Register (data on inpatient treatment) or appearing in the “Needle-mark study” conducted at the Kronoberg remand centre in Stockholm (Torstensson 1987). Together these provide us with a picture of the cohort members’ drug abuse from age thirteen (1966) to age thirty (1983). In total, 4.6 percent of the males and 2.6 percent of the females have been drug abusers at some point according to this definition. As would be expected, in part since drug abuse is criminalised and one of the indicators relates specifically to a remand population, the proportion of drug abusers is substantially higher among those convicted of offences both as youths and as adults (Figure 9, see also Table C in Appendix). This is particularly true for the female cohort members.

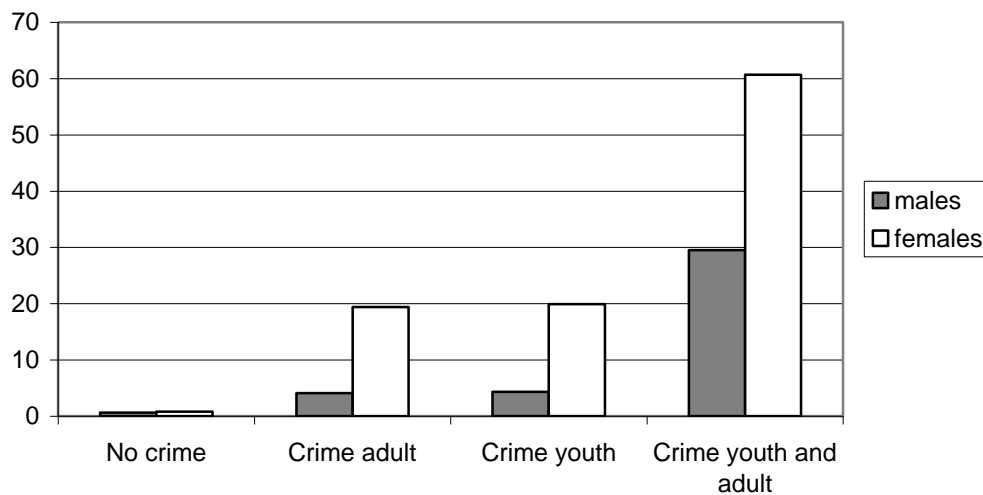


Figure 9. Proportion (percent) registered for drug abuse between ages 13 and 30, by gender and degree of involvement in crime. N=14,294.

*Which conditions are linked to social exclusion at age 48?*

Below, we employ logistic regression analysis to examine how the risk for social exclusion in adulthood is linked to the degree of involvement in crime, given controls for the differences between the different groups' childhood conditions, school grades and drug abuse. The first model only includes the categorisation based on registered involvement in crime (Table 3). The difference in the risk for social exclusion is expressed in terms of odds ratios, with the individuals who have never been registered for offending serving as the reference category. In line with the results we have already presented (e.g. in Figure 8 above) the model shows that the risk for labour market exclusion and/or income problems are greater for those men and women who have been registered for offending. When no consideration is taken to other factors that distinguish between the groups, the cohort members that were registered for crime as both teenagers and adults are at substantially higher risk of experiencing social exclusion as adults. It is also clear that the difference in relation to those who have never been registered for crime is smallest among those who were only registered for offending as teenagers.

In the second model, we include controls for differences in childhood conditions and school achievement. We have included measures of poverty and social problems in the

family of childhood, and school grades in year nine.<sup>16</sup> The measures of both poverty and social problems have been dichotomised (differentiating between the presence or absence of the problem in question).<sup>17</sup> Several results are worth noting here. Firstly, we can see that the size of the differences in risk between those who have and have not been registered for crime diminishes. For both the male and female cohort members who were only registered for crime in their youth, there is no longer any significant excess risk for social exclusion in adulthood. This means that the differences observed in Model 1 are to a significant extent associated with the fact that the groups are comprised of individuals from different childhood conditions and with different life-chances. For those registered for crime as both youths and adults, the difference in the size of the risk for social exclusion also diminishes markedly when controls are included for childhood conditions, at the same time as there remains a clear excess risk by comparison with the other groups examined. Secondly, we see that school achievement is an important factor and that poverty in the family (among the males) exerts a weak but significant independent effect on the individuals' risk for social exclusion, even with controls for the degree of involvement in crime. The major part of the correlation that exists with resource deficiencies during childhood however goes via various problems expressed in the form of weak educational achievement during the school years and involvement in crime as a teenager (Bäckman & Nilsson 2009).

Thirdly, we can see that the differences in levels of risk are greatest among the female cohort members, although here too the size of these differences diminishes when controls are introduced for childhood conditions and grade scores.

What significance, then, can be ascribed to drug abuse? Model 3 shows that there is a clear correlation between drug abuse and both the degree of criminal involvement and the situation of the cohort members later on in life. When consideration is taken to drug abuse, there is a clear reduction in the size of the excess risk for the group of males and females with the highest level of involvement in crime. This is what might be expected if it was the group that persisted in crime that was first and foremost comprised of drug

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<sup>16</sup> The same results emerge when year six grades are used instead.

<sup>17</sup> Our indicators of social problems and poverty overlap to a substantial extent: Almost three-quarters (72%) of those with social problems have also received social welfare benefits, and almost half (49%) of those with income problems have also had social problems.

abusers. We can also see that the presence of drug abuse leads to a substantial excess risk for social exclusion as an adult, even given controls for childhood conditions and involvement in crime. Here the pattern is fairly similar for males and females.

Table 3. Results of logistic regression analysis (odds ratios) with social exclusion in the year 2001 as the dependent variable.

	<b>Males (N=6674)</b>			<b>Females (N=6530)</b>		
	1	2	3	1	2	3
<b>Degree of criminal involvement</b>						
No crime	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>
Crime youth	1.57***	1.27	1.20	1.84*	1.45	1.19
Crime adult	2.97***	2.55***	2.46***	4.02***	3.36***	2.82***
Crime youth & adult	7.43***	5.23***	3.78***	13.47***	9.21***	5.52***
<b>Poverty</b>						
No		<b>1</b>	<b>1</b>		<b>1</b>	<b>1</b>
Yes		1.36**	1.33**		1.19	1.17
<b>Social problems</b>						
No		<b>1</b>	<b>1</b>		<b>1</b>	<b>1</b>
Yes		1.05	1.01		0.99	0.96
<b>School achievement</b>						
Grades in year 9		0.70***	0.72***		0.58***	0.59***
<b>Drug abuse</b>						
No			<b>1</b>			<b>1</b>
Yes			3.95***			2.65***
Constant (B)	-2.47	-1.41	-1.50	-2.18	-0.56	-0.61
-2LL	4623.91	4559.37	4476.62	4490.14	4380.73	4359.46

\*\*\* p<.01, \*\* p<.01, \* p<.05

## Concluding discussion

In this study, we have been able to note substantial differences in offending, childhood conditions and life-course trajectories between individuals categorised on the basis of their degree of involvement in crime during and after their teenage years. Even given the rather unsophisticated categorisation employed, the data show that those cohort members who were registered for crime as both teenagers and adults account for a large proportion of the offences committed by the cohort as a whole. Those who persisted in crime beyond their teenage years had also experienced worse childhood conditions than others. Thus far, our results can largely be said to correspond with those of previous studies. However, since our material allows us both to examine the situation of females, and also look at the long-term consequences of involvement in crime for various areas of welfare, we can also illuminate questions which have to date been less well-researched.

It is clear, for example, that the female cohort members who have been registered for crime have experienced more disadvantaged childhoods than the males registered for offending. The girls who commit offences during their teenage years have parents who are poor, mentally ill or drug abusers more often than their male counterparts. The skewed nature of the distribution of offending is also more marked among the females. Half of the total number of offences for which females have been registered can be ascribed to those women who continued to commit offences into adulthood, even though these account for only one percent of the total number of female cohort members. Among the males, the ten percent of cohort members who continued to commit offences accounted for almost 75 percent of the total number of registered offences committed to age 31. It can further be noted that it is primarily the frequency of offending and not the type of offences committed that distinguishes those with the highest levels of involvement in crime, and this is the case among both the male and female cohort members. The most common offence types are various kinds of property, motoring and fraud crime.

The focus of this study has first and foremost been directed at the question of how later life has turned out for the youths who stopped offending following their teenage years and for those who persisted with their involvement in crime. One central finding is that

the individuals who committed offences both as youths and as adults both came from markedly worse childhood conditions and had a significantly worse welfare situation in middle age. This is particularly true of the group of females who committed offences both as youths and as adults, who constitute a highly selected group, with experience of substantial childhood disadvantage. As adults, the majority of these women can be described as being in a state of social exclusion. A large proportion of them have no employment and have difficulty supporting themselves. Many of them also live alone. Even though these things are also true of many of the men who persisted in offending into adulthood, it is important to note that in middle age, the majority of these men have some level of labour market attachment. Further, a large proportion of these men are involved in a stable family relationship.

One result that we would like to emphasise is that on the basis of the indicators we have been able to examine, life has turned out well for the vast majority of those who have committed offences. When we look at the cohort members' family situation and labour market attachment, the differences between the youths who desisted from crime in their teenage years and those with no registered offending are quite small. Bearing in mind this important and promising finding – i.e. that things turn out well for the majority – we must however also note that our results should in part be viewed as discouraging. The study illustrates both the negative long-term consequences of inequalities in childhood conditions and the inability of society to resolve these problems. We have also shown that the youths who were unable to desist from crime when they became adults had themselves as children been looking forward to a very different future. An overwhelming majority of the cohort, irrespective of their degree of involvement in crime, had a similar view of what a good life would involve as an adult. The lives they then led as adults were apparently very different however.

#### *The significance of resources across the life-course*

In earlier studies, we have been able to show that poverty and social problems in the childhood family have long-term consequences for the risk for exclusion much later in life (Bäckman & Nilsson 2009). These effects were largely mediated through intermediate factors, during the teenage years and in early adulthood. Deviant behaviour – crime and drug abuse – and weak levels of school achievement and a lack of further



education or training appear to be important factors. Different risk factors accumulate to produce increasing inequalities in life-chances over the life course; those from difficult childhood conditions are more vulnerable and at greater risk of experiencing additional risk factors, thus intensifying the likelihood of social exclusion over time (see further Bäckman & Nilsson 2009). One central issue then of course becomes that of on the one hand how this accumulation of disadvantage should be understood, and on the other, what can be done to break this process of “cumulative disadvantage”.

One natural answer would be that the process of resource degradation has to be stopped and that the individuals’ will to live a good life, which we have shown the vast majority to have expressed, at least as children, must be supported. This would reasonably involve measures to improve resource levels by supporting disadvantaged families in various ways, measures focused on school and training, measures that make it easier for youths from the most difficult background conditions to become established on the labour market (see e.g. Hagan & McCarthy 1997). On the other hand, societal measures that further worsen the situation of individuals whose resource levels are already low should where possible be avoided. Longitudinal research has been able in an increasingly convincing way to confirm the principal hypothesis of labelling theory, namely that society’s punitive responses to crime and drug abuse have more negative than positive effects (a recent review of the research can be found in Huizinga & Henry 2008; see also the analyses in e.g. Bernburg & Krohn 2003; McAra & McVie 2007; Nieuwbeerta, Nagin & Blokland 2009). Institutionalisation and measures with a punitive focus tend quite simply to intensify exclusion processes rather than functioning to promote integration. The role of research in this process is therefore to increase the efforts focused on identifying measures and institutions that can help, rather than hinder, individuals who seek to create the opportunity to transform their lives in a positive direction. One promising approach in this respect is the increased focus on the possibilities for change throughout the life-cycle for even those individuals with the greatest accumulations of problems, as represented not least by Laub and Sampson’s (2003) theory on social bonds across the life course.

In this study, we have shown that the group of persistent female offenders appears to be more vulnerable and more highly selected by comparison with the corresponding group

of male offenders. At the same time, we have shown that for the vast majority of girls who grew up in a home characterised by an accumulation of resource deficiencies, this did not lead to involvement in crime. For the males with this kind of childhood, such an outcome was markedly more common, however. Of the males and females who grew up with serious family problems (see Figure 1), approximately one in four of the males and one in twenty of the females went on to be registered for crime both as teenagers and adults. It is clear from our findings that there is a substantial level of within-group variance in relation to the situation experienced by cohort members as adults, including among those who shared a difficult childhood and who were registered for crime both as youths and as adults. One interesting question then, is of course how these marked differences in the consequences of different childhood conditions, and the within-group variation noted in our outcomes, might be explained. What significance do early conditions and those that occur later on in the life-course have respectively? How do males and females differ from one another in this respect? Laub and Sampson's (2003) theory on age-graded social bonds focuses on the significance of events occurring at different stages in life which can serve as turning points, away from a life characterised by deficient resources in general, and by crime in particular. Employment and marriage are two of the turning points viewed as being the most important for criminal men – but what of the women? Here the research remains limited (but see Moffit et al. 2001; Giordano et al. 2002). One explanation for the disadvantaged females having lives free from crime, drug abuse and other problems despite their lack of resources might be that they became attached to partners (often older males) and had children earlier than their male counterparts. Is it possible that for the young males, lacking both a fixed income and a home of their own, the corresponding turning point may not come until somewhat later in life? One question that we are interested in examining in coming studies is focused on the within-group variation found among those registered for involvement in crime: what differentiates the males and females for whom things turned out well from those for whom things went badly? What are the roles played by childhood conditions, events occurring later in life, and society's responses to their criminality?

We have shown that drug abuse is a significant factor for the living conditions experienced by the group of persistent offenders at age 48. Just as Blokland et al. (2005) assumed would be the case, a large proportion of those who continue to commit offences

subsequent to their teenage years are drug abusers, particularly among the women. There are therefore important reasons to study the significance of drug and alcohol abuse for subsequent welfare outcomes in more detail. The SBC database provides us with the possibility of focusing on both drug and alcohol abuse during the teenage years and in adult life on the basis of both data from the Social Services Register, and inpatient data which include diagnoses.

*Concluding remarks – the significance of the historical context*

The individuals we have studied were born in Stockholm in 1953 and thus lived as youths during the 1960s and 1970s. Looking to the question of the significance of childhood conditions, what can we learn today from their experiences? The extent to which the youths become established as adults – with jobs, homes and families – appears central to their desistance from crime. We know that youths today become established as adults later than was the case for the cohort we have examined in this study (Bäckman & Nilsson 2007a; Bersani et al. 2009; Savolainen 2009). However, if the goal is to study the life course, this requires data that are already somewhat dated. We would also argue (in line with Laub and Sampson 2003; see also Savolainen 2009) that individual cohorts can provide knowledge on more general processes and causal relationships, which may be assumed to be more generally applicable than specific with regard to the historical and geographical context. The fact that today's youth find it more difficult to establish themselves on the labour market (Bäckman & Nilsson 2007a) certainly doesn't detract from the importance of our findings. On the contrary, this indicates rather that society must work harder than previously to create inclusive bonds to better integrate those youths who are located outside higher education or the labour market.

When generalising on the basis of our findings, it is also important to be aware of the fact that there are differences over time and between countries as regards the conditions that affect the prevalence of e.g. risk and protective factors, the social measures employed by a given society and also crime policy. For those interested in formulating more general explanations of criminality and desistance from crime, the literature today still contains only a limited amount of research based on data from non-Anglo-American socio-historical contexts. This makes the experiences of the Stockholm cohort valuable. We would argue, therefore, that the specificity of the context of the Stockholm cohort is not a

problem for the most part. Furthermore, this particular socio-historical context can be turned to our advantage.

During the first decade of the new millennium, the economies of the western world find themselves in an economic recession with high unemployment. What are the long-term consequences of a crisis of this kind for different social groups? How are the opportunities of the most disadvantaged groups in society affected? We know little about these questions. In this respect, however, the fact that the Stockholm data set is tied to a specific birth cohort can prove valuable. During the early 1990s, Sweden experienced a severe economic crisis. Over the course of only a couple of years, unemployment rates trebled, and a range of different forms of public sector support were cut back. The consequences of this recession had a major effect on those groups that already had the lowest levels of socio-economic resources before the crisis struck (Palme et al. 2002; Nilsson & Estrada 2003, 2006). Using this Swedish economic recession as a background, examining how the Stockholm cohort entered, lived through and then exited the crisis provides an excellent opportunity to study how macro-events affect different groups on the basis of a specific socio-historical situation.

The findings from the present study mean that we are already able to make a number of interesting observations. We have found that between-group distances in the degree of life-success have not changed in any substantial way over time, at least not for the better, among the groups registered for involvement in crime. This is interesting against the background of results reported by Farrington et al. (2006:49; 2009:157), for example, from the UK, where lives of the males registered for crime have generally improved between the ages of 32 and 48, e.g. through more of them having what is referred to as “satisfactory employment”. Why then has there *not* been any improvement in the situation of the persistent offenders examined in our study? Why have they failed to exploit the various turning points that usually provide opportunities for positive change between the ages of 30 and 48 (Laub & Sampson 2003)? When comparing our findings with those of the Farrington study, it should be noted that there are differences in both the operationalisations employed and the populations examined. One important difference, for example, is that Farrington and colleagues employ a comparison group that is standardised for class (all members of the study population come from the same working

class district of London). We would argue, however, that one possible explanation lies in the fact that at age 40, the Stockholm cohort came to be affected by the severe economic recession that struck Sweden in the years 1992-1994. The trend towards an equalisation of living conditions over time, which the Farrington et al. studies (2006; 2009) point to, for example, might have been disturbed in Sweden as a result of a specific socio-historical event, namely an economic crisis whose effects were harshest for those members of society with the lowest levels of resources.<sup>18</sup>

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<sup>18</sup> 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 (Tham 1998).

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## Appendix of tables

Table A. Degree of involvement in crime by gender. All offence types. Percent (N).

	Males	Females	Ratio m/f	Total
<b>Involvement in crime</b>				
No crime	66.6 (4866)	93.0 (6503)	0.74	79.5 (11369)
Crime 13-19 years	11.8 (859)	2.6 (181)	4.7	7.3 (1040)
Crime 20-31 years	10.6 (777)	3.1 (216)	3.6	6.9 (933)
Crime both 13-19 & 20-31 years	11.0 (803)	1.3 (89)	9.0	6.2 (892)
N	7,305	6,989		14,294

Table B. Proportion of registered crimes within the different groups accounted for by various offence types. By gender and period of life course. Percent.

	Violence	Theft	Fraud	Vandalism	Motoring	Drugs	Other	
<b>Males</b>								
Youth offenders	3	60	2	4	14	2	13	2962
“Persistent offenders” as youths	4	67	3	3	12	3	8	9374
Adult offenders	9	21	15	4	24	7	21	2552
“Persistent offenders” as adults	8	29	12	3	27	9	13	9982
<b>Females</b>								
Youth offenders	8	61	11	1	3	7	8	400
“Persistent offenders” as youths	6	57	19	2	2	8	7	320
Adult offenders	4	24	28	2	23	10	9	1015
“Persistent offenders” as adults	5	28	27	1	20	12	7	1158

Table C. Proportion registered for different crime types by various offence types. By gender and period of life course. Percent.

	Violence	Theft	Fraud	Vandalism	Motoring	Drugs	Other	N
<b>Males</b>								
Youth offenders	8,7	61,8	6,5	11,1	32,0	3,1	23,3	859
“Persistent offenders” as youths	25,5	73,0	15,3	19,3	47,1	14,7	34,4	803
Adult offenders	16,2	27,4	11,8	10,0	38,5	7,1	33,1	777
“Persistent offenders” as adults	34,0	46,7	17,4	19,4	51,3	23,7	43,4	803
<b>Females</b>								
Youth offenders	11,6	73,5	12,7	2,8	5,0	8,3	8,3	181
“Persistent offenders” as youths	18,0	73,0	24,7	5,6	4,5	14,6	19,1	89
Adult offenders	8,8	46,8	27,3	4,6	28,2	13,9	11,6	216
“Persistent offenders” as adults	30,3	62,9	41,2	12,4	24,7	29,2	25,8	89

Table D. Childhood conditions. Proportion (percent) by gender and degree of involvement in crime

<b>Males</b>					
	<i>No crime</i>	<i>Crime adult</i>	<i>Crime youth</i>	<i>Crime youth &amp; adult</i>	<i>Total</i>
<b>Social class (n=7291)</b>					
Upper and upper-middle class	19.9	14.6	11.5	7.5	17.0
Lower middle class	44.8	42.3	40.9	34.8	43.0
Skilled blue-collar	21.1	23.8	24.7	30.8	22.9
Unskilled blue-collar	14.3	19.3	22.9	27.0	17.2
<b>Family type (n=7304)</b>					
Broken home 1963 (10 years)	7.8	13.0	11.8	16.7	9.8
<b>Housing (n=6914)</b>					
Overcrowded home	15.5	21.9	21.3	28.0	18.2
<b>Financial problems (n=7305)</b>					
Non-poor	84.0	69.5	76.1	55.0	78.3
Transient poor	8.9	13.6	11.2	18.1	10.7
Recurrent poor	4.4	10.1	6.3	14.1	6.3
Chronic poor	2.8	6.8	6.4	12.8	4.7
<b>Serious social problems</b>					
Alcohol abuse in parents	4.0	7.2	9.2	18.7	6.5
Mental health problems in parents	4.8	7.3	10.2	14.8	6.8
Father registered for crime	3.6	6.3	7.5	10.3	5.1
<b>Females</b>					
<b>Social class (n=6976)</b>					
Upper and upper-middle class	17.5	17.6	13.9	9.1	17.3
Lower middle class	44.4	32.4	36.1	34.1	43.7
Skilled blue-collar	22.5	26.4	25.6	25.0	22.7
Unskilled blue-collar	15.5	23.6	24.4	31.8	16.2
<b>Family type (n=6987)</b>					
Broken home 1963 (10 years)	9.7	15.7	14.9	19.1	10.2
<b>Housing (n=6602)</b>					
Overcrowded home	17.5	24.1	25.9	23.5	18.0
<b>Financial problems (n=6989)</b>					
Non-poor	81.6	64.1	67.1	42.7	80.2
Transient poor	8.9	13.3	11.1	19.1	9.2
Recurrent poor	5.4	11.6	12.5	21.3	6.0
Chronic poor	4.1	11.0	9.3	16.9	4.6
<b>Serious social problems</b>					
Alcohol abuse in parents	5.4	13.9	14.9	24.7	6.2
Mental health problems in parents	5.6	11.1	12.7	25.8	6.2
Father registered for crime	5.2	8.8	11.0	23.6	5.7

Table E. Mean grade score in Year 6 and Year 9, by gender and degree of involvement in crime.

	<i>No crime</i>	<i>Crime adult</i>	<i>Crime youth</i>	<i>Crime youth &amp; adult</i>	N
Males' mean grade score Year 6	3.26	2.99	2.91	2.66	6855
Males' mean grade score Year 9	3.31	2.90	2.83	2.49	6417
Females' mean grade score Year 6	3.36	3.04	3.01	2.71	6648
Females' mean grade score Year 9	3.24	2.89	2.82	2.33	6397

Table F. Family type and employment status at 22-28 years of age, by gender and degree of involvement in crime. Percent.

	<b>Males</b>			
	<i>No crime</i>	<i>Crime adult</i>	<i>Crime youth</i>	<i>Crime youth &amp; adult</i>
<b>Family type 22-27 years</b>				
22 years, Single	95.0	94.5	93.6	94.3
22 years, Married or cohabiting	4.7	5.4	6.2	5.6
27 years, Single	75.3	81.2	76.3	84.8
27 years, Married or cohabiting	24.2	18.4	22.9	14.8
<b>Employment 28 years</b>				
In employment <sup>19</sup>	74.6	60.9	67.6	47.2
	<b>Females</b>			
<b>Family type 22-27 years</b>				
22 years, Single	84.6	84.3	83.4	93.3
22 years, Married or cohabiting	14.9	14.4	16.6	6.7
27 years, Single	60.5	73.1	67.4	76.4
27 years, Married or cohabiting	38.7	25.5	32.6	23.6
<b>Employment 28 years</b>				
In employment	45.2	32.6	35.0	23.6

<sup>19</sup> A complete description of labour market attachment at age 28 is presented in the main text, Table 2.

Table G. Family type and labour market attachment at 37-38 years of age, by gender and degree of involvement in crime.

<b>Males</b>					
	<i>No crime</i>	<i>Crime adult</i>	<i>Crime youth</i>	<i>Crime youth &amp; adult</i>	<i>Total</i>
<b>Family type 37 years (n=7107)</b>					
Single parent	3.9	5.2	5.0	7.2	4.5
Single without children	29.5	37.7	32.5	49.6	32.9
Married or cohabiting with children	62.0	52.2	57.2	40.0	58.1
Married or cohabiting without children	4.5	4.9	5.2	3.2	4.5
<b>Employment 38 years (n=7088)</b>					
In employment	86.1	70.8	79.5	59.7	80.9
Studying	0.6	1.2	0.7	0.4	0.7
Unstable labour market attachment	6.9	13.1	12.3	13.4	8.8
No labour market attachment	4.6	10.8	5.9	19.4	7.0
Disability pension	1.8	4.0	1.7	7.2	2.6
<b>Females</b>					
<b>Family type 37 years (n=6805)</b>					
Single parent	16.9	32.5	26.3	34.9	17.8
Single without children	14.5	23.4	15.4	32.5	15.0
Married or cohabiting with children	64.8	38.8	55.4	26.5	63.3
Married or cohabiting without children	3.8	5.3	2.9	6.0	3.9
<b>Employment 38 years (n=6780)</b>					
In employment	67.0	51.7	55.2	36.1	65.9
Studying	1.9	4.3	5.2	1.2	2.0
At home with children	9.5	7.7	12.1	13.3	9.5
Unstable labour market attachment	15.3	18.7	16.7	9.6	15.3
No labour market attachment	5.2	11.5	9.2	30.1	5.8
Disability pension	1.2	6.2	1.7	9.6	1.5

Table H. Family type, employment status, income and mortality at 48 years of age (2001) by gender and degree of involvement in crime.

<b>Males</b>					
	<i>No crime</i>	<i>Crime adult</i>	<i>Crime youth</i>	<i>Crime youth &amp; adult</i>	<i>Total</i>
<b>Family type (n=6869)</b>					
Single parent	7.0	7.1	9.1	10.3	7.6
Single without children	28.2	42.8	34.8	52.5	32.9
Married or cohabiting with children	56.9	42.6	46.7	30.9	51.6
Married or cohabiting without children	8.0	7.5	9.3	6.3	7.9
<b>Employment (n=6869)</b>					
In employment (core labour force)	86.4	71.3	81.8	53.9	81.1
Studying	0.5	0.6	0.4	1.2	0.5
Unstable labour market attachment	4.9	8.5	7.0	9.2	6.0
No labour market attachment	4.5	11.0	6.0	18.1	6.7
Disability pension	3.7	8.6	4.8	17.5	5.7
<b>Income and welfare benefit</b>					
Welfare benefit recipient (n=6869)	0.9	3.9	2.3	13.6	2.6
<b>Income (n=6869)</b>					
Low income (<20%)	13.6	28.7	18.2	46.2	18.9
Middle income	50.5	55.1	61.0	46.4	51.8
High income (>20%)	36.0	16.3	20.9	7.4	29.3
<b>Mortality</b>					
Deceased by age 48	2.1	4.9	3.3	13.0	3.7
<b>Females</b>					
<b>Family type (n=6655)</b>					
Single parent	19.0	28.1	24.1	30.3	19.5
Single without children	21.0	35.0	27.1	48.7	21.9
Married or cohabiting with children	48.3	32.5	33.7	17.1	47.1
Married or cohabiting without children	11.7	4.4	15.1	3.9	11.5
<b>Employment (n=6653)</b>					
In employment (core labour force)	80.3	59.6	68.7	36.8	78.9
Studying	1.5	1.5	1.8	2.6	1.5
Unstable labour market attachment	8.3	10.3	12.7	5.3	8.4
No labour market attachment	5.2	11.3	5.4	19.7	5.5
Disability pension	4.7	17.2	11.4	35.5	5.6
<b>Income and welfare benefit</b>					
Welfare benefit recipient (n=6655)	1.4	10.3	6.6	34.2	2.2
<b>Income (n=6655)</b>					
Low income (<20%)	19.7	40.4	31.3	63.2	21.1
Middle income	69.5	53.7	60.8	35.5	68.4
High income (>20%)	10.8	5.9	7.8	1.3	10.5
<b>Mortality</b>					
Deceased by age 48	1.7	4.7	5.1	13.6	2.1

Table I. Proportion counted among core labour force in 2001 by labour market status in 1991 and degree of involvement in crime. Males. Percent. (N).

<b>Status 1991</b>	<i>No crime</i>	<i>Crime adult</i>	<i>Crime youth</i>	<i>Crime youth &amp; adult</i>	<i>Total</i>
In employment (core labour force)	91.0	83.1	89.3	70.9	88.5 (5673)
No labour market attachment	48.3	28.6	30.4	15.5	33.3 (468)

Table J. Proportion counted among core labour force in 2001 by labour market status in 1991 and degree of involvement in crime. Females. Percent.

<b>Status 1991</b>	<i>No crime</i>	<i>Crime adult</i>	<i>Crime youth</i>	<i>Crime youth &amp; adult</i>	<i>Total</i>
In employment (core labour force)	88.1	81.5	80.0	56.7	87.5 (4438)
No labour market attachment	42.6	16.7	25.0	12.0	38.0 (368)





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