

How does informal and formal  
social control affect law violations?



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Alva Albæk Nielsen

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# Chapter 1.

## Introduction

This report is part of a PhD dissertation entitled ‘How does informal and formal social control affect law violations?’ The dissertation investigates this question in three separate research articles, all submitted to international academic journals. The first is published in *Deviant Behavior*, the second is published in *European Journal of Criminology* and the third has been invited for resubmission by *Crime and Delinquency* in an earlier version. The three articles are entitled:

- Parental social bonds and adolescents’ convictions
- How are social bonds to a romantic partner related to criminal offending?
- The effect of incarceration length on recidivism – evidence from a natural experiment

The first article investigates how social bonds to parents, measured as attachment and indirect supervision, impact on juvenile delinquency. Importantly, the study focuses on whether parental convictions moderate the impact of social bonds. The second article focuses on whether strong social bonds to a romantic partner, measured as attachment, are associated with convictions. The study also investigates whether this association is affected by the gender and age of the individual in question and their partner’s history of convictions. Finally, the third article estimates the causal effect of increased incarceration length on individual recidivism (convictions and return to prison) within the first four years of release. While the first two articles focus on informal social control at different points during the life course (adolescence and adulthood), the last focuses on what we – in the words of Sampson and Laub (1993) – would refer to as ‘formal social control’.

The current report motivates the research questions in this dissertation. It summarises the findings and elaborates on how the three articles in combination advance our knowledge of informal and formal social control, and how they affect law-breaking. Detailed descriptions of the samples as well as all estimation results and robustness checks are presented in the individual articles, which elaborate on each research question.

Chapter 2 presents the research questions of this dissertation and highlights how it contributes to the international literature. Chapter 3 outlines the theories that offer a helpful starting point for answering the research questions. While social control theory and the age-graded theory of informal social

control are emphasized, the chapter also introduces other theories. Chapter 4 reviews the empirical research relevant for this dissertation while the fifth chapter provides insights into the Danish context. The chapter presents statistics on law-breaking in Denmark, and how the Danish penal system responds to it. The Danish penal system is introduced both currently and historically, including the logics and rationales that have marked its development over time. Finally, the chapter discusses the second demographic transition and the social and political context of the contemporary Danish family. Chapter 6 presents the data used in the current dissertation, discusses attrition and introduces the choice of variables. Chapters 7-9 cover the three research questions of this dissertation and present the motivation behind the research questions, the choice of research method and the results. Chapter 10 concludes, discussing the implications for future research and policy.

## Chaper 2. Research questions

This dissertation investigates how informal and formal social control affects individual law violation. This is done by answering the three research questions:

- How do parental social bonds affect law-breaking in adolescence?
- How are social bonds to a romantic partner related to law-breaking in adulthood?
- What is the effect of longer incarceration on recidivism in adulthood?

The dissertation thus investigates the impact of informal social control at different points in the life course while also elaborating on how one of the most intrusive formal social control mechanisms – imprisonment – affects the individual.

Theories by Hirschi (1969) and Sampson and Laub (1993) provide the point of departure for this work. While Hirschi is the pioneer of social control theory, Sampson and Laub (1993) draw the distinction between informal and formal social control (Hirschi thus engages with the type of social control that they coin to be ‘informal’) and further develop social control theory in such a manner that it has become a widely cited life course theory.

Sampson and Laub emphasise informal social control throughout their work. Nevertheless, they conduct a brief investigation of the impact of incarceration length on later crime (Sampson & Laub, 1993). In an article from 2016, they furthermore suggest that criminology ought to recognise and examine how life course trajectories are altered by government policy (Sampson & Laub, 2016). They highlight the example of zero-tolerance policing strategies and the current ‘mass-incarceration era’ in the United States (Sampson & Laub, 2016).

Imprisonment is one of the most severe formal control practices that modern democratic societies can impose on an individual. Internationally, incarceration lengths have increased during the past decades (Wacquant, 2009; Walmsley, 2003). On that background, it might seem rather surprising how very little we know about the way society and its individual members are affected by longer periods of incarceration. It is therefore relevant to obtain deeper knowledge of the consequences of this penal approach.

This is the motivation for investigating both the importance of informal social control on convictions across the life course, and whether longer incarceration – an example of formal social control that has been strengthened internationally in recent years – indeed does affect an individual’s criminality.

## 2.1. Contributions

This dissertation makes several contributions. First, it investigates whether the impact of parental social bonds on juvenile delinquency depends on parental convictions. Previous literature has focused on how and if parental social bonds affect juvenile delinquency, assuming that strong social bonds to parents protect adolescents from law-breaking. However, there is almost no empirical evidence on whether strong social bonds to unconventional parents are also a protective factor or if such bonds will in fact increase the risk of delinquency. As the theory is unclear about what we should expect, the dissertation aims to shed light on this puzzle.

Second, the dissertation examines the theoretical argument of informal social control theory that only romantic couples with strong social bonds will deter each other from delinquency, whereas weak social bonds to a partner should have no crime reducing impact. The vast majority of quantitative research on the topic does not explicitly investigate this argument, and the quantitative research that does so is almost exclusively on younger couples based in the US. This dissertation uses data from a Danish sample of the general population aged 18-64, thus examining the universality of the theory regarding both geography and age. Age is of particular interest since Sampson and Laub refer to their theory as an ‘age-graded theory of informal social control’, including, among other things, the notion that different informal and formal institutions shift in importance during the life course. Moreover, the declining age-crime curve is one of the most commonly agreed facts in the criminological literature (Blokland & Nieuwbeerta, 2005). It is therefore not given that social bonds to a romantic partner in late adulthood will have the same importance for desistance as in early adulthood. Whereas prior research has focused on individuals below the age of 30, this dissertation compares younger and older individuals while including a wide range of individual controls. In this way, the dissertation adds new knowledge to the importance of age in regard to social bonds and law-breaking.

Third, the dissertation advances our knowledge of the causal effects of increased incarceration length on recidivism. While much research on the topic employs either linear regressions or matching, the method best suited to making causal claims is a natural experiment; nevertheless, this is very rarely used in the literature. This dissertation uses a reform of the Danish Penal Code in

2002 that increased incarceration lengths for simple violence by 11% within the first year and investigates whether longer imprisonment has a causal effect on new convictions and return to prison within the first four years of release.

The dissertation generally uses state-of-the-art quantitative methods for estimating unbiased results. One of the articles employs standard linear regression with a wide range of control variables. The two other articles use advanced quantitative methods, such as fixed effects and a natural experiment, which – each compared to the existing empirical literature on the research question in focus – are big steps towards estimating causal effects.

Fourth, the dissertation investigates the theory of social control (both informal and formal) in the contemporary Scandinavian context. As this report will show, the practises and ideals of the contemporary Danish family are remarkably different from Sampson and Laub's (1993) description of American family life for the birth cohorts born in the 1920s and 1930s. Furthermore, the Scandinavian penal system stands out and has been coined 'Scandinavian exceptionalism' by some scholars. The current dissertation thus tests the universality of informal (and formal) social control theory across time, geography and cultural contexts.



# Chapter 3.

## Theory

The main questions many criminological theories attempt to answer are: ‘Why do people break the law?’ and ‘Can people change this behaviour?’. Both of these questions are relevant to the dissertation in hand. In the following, the report thus provides an overview of some of the most important classical theories that dominate the criminological literature regarding these two questions with emphasis on social control theory and the age-graded theory of informal social control. The chapter is an elaboration of the theoretical discussions presented in the articles in the dissertation.

### 3.1. Social control theory and the age-graded theory of informal social control

According to Hirschi (1969) in *Causes of Delinquency*, the old question ‘Why do men not obey the rules of society?’ is actually the wrong question. Instead, we should be asking why people do NOT deviate; or in Hirschi’s words: ‘Why *do* men obey the rules of society?’ (Hirschi, 1969, p. 10). We cannot assume that a person is morally responsible – rather, social control theory assumes that most of us would deviate ‘if we dared’ (Hirschi, 1969, p. 34).

But most people do not dare. They are concerned with how their loved ones, their workplace, school or friends would consider such deviance from society’s norms. Social bonds keep the individual from following our natural impulses to deviate, or – in other words – people deviate when their bonds to society are weak or broken. In Hirschi’s (1969) work, social bonds consist of *attachment* (a person’s affection or emotional connection to other people, such as parents, spouse and friends), *commitment* (past investments in conventional behaviour – the greater the past investment, the greater the loss if a person deviates and faces negative consequences), *involvement* (it is hard to commit crimes while at the same time spending time and energy on conventional behaviour) and *beliefs* in a common societal value system.

Attachment is of primary importance. Due to our attachment to significant others, we care about their opinions and maintaining good relationships with them. Accordingly, we behave in a conventional manner. In the case of parents and children, for instance, Hirschi (1969) acknowledges how most parents are unable to be physically present at all times and directly control their children. If the parents are ‘psychologically present’ when temptation occurs, however, the child is far less likely to commit a deviant act.

While Hirschi's social control theory is not necessarily static, Sampson and Laub, in their book *Crime in the Making* (1993), develop the theory in such a manner that it becomes a widely cited and recognised life course theory. They emphasise the dynamic nature of social bonds and underline that social bonds can change over the course of life, thus promoting or attenuating delinquent behaviour accordingly. Changes in social bonds thus explain why some people begin offending and either persist or desist – and why some delinquents are 'late starters'.

Sampson and Laub (1993) also draw a distinction between informal and formal social control. In their terminology, Hirschi's social control theory focuses narrowly on informal social control. The institutions that are of importance in our lives change over the course of life: Parents, siblings, school, peer groups and the juvenile justice system (this is a theory from the US) are the important informal and formal institutions in childhood and adolescence. Other educational institutions, work, marriage (or cohabitation), parenthood and the adult criminal system become more important in adulthood. Regarding adults, Sampson and Laub (1993) argue that the larger the 'investment' in social bonds to significant others, the more is at stake, and the less likely an individual is to deviate. While changes in social bonds thus explain changes in deviant behaviour, the strength of the individual's social bonds informs us of who is more likely to be currently engaged in deviant behaviour. Sampson and Laub primarily emphasise informal social control and label their theory an 'age-graded theory of informal social control' (Sampson & Laub, 1993).

Hirschi presents his social control theory in *Causes of Delinquency* (Hirschi, 1969). Delinquency, in Hirschi's study, is consistent with 'deviant acts' and is defined as 'acts, the detection of which is thought to result in punishment of the person committing them by agents of the larger society' (Hirschi, 1969, p. 47). In his work on adolescents, these acts range from stealing something worth a few dollars to physical fights with others than siblings. Hirschi is thus not only engaged with serious crimes, but also with misdemeanours as long as these can be expected to illicit some negative reactions from the adolescents' social environment – primarily their parents. Sampson and Laub continue this reasoning. Their measure of juvenile delinquency includes acts such as truancy and smoking/drinking while their work on adults includes not only arrests, but also gambling and excessive drinking (Sampson & Laub, 1993).

Informal social control theory is thus engaged in a wide range of acts as long as these acts violate the norms of the larger society. For this reason, the theory is not only used when analysing crime, but also when analysing drug use, for instance (Watkins, 2016).

## 3.2. A deviant significant other and social bonds

Sampson and Laub (1993) argue that structural factors, such as family disruption, household crowding, mother's employment, being foreign-born, the family's socio-economic status as well as parental crime and drinking, affect juvenile delinquency. The structural factors are mediated through family process variables, however, including parental discipline, supervision, parents being hostile and the parent-child attachment. In other words, parental delinquency matters only to the extent that it affects the social bonds between parents and child.

Hirschi (1969) offers an alternative view on how parental delinquency possibly affects juvenile delinquency. While arguing that delinquent youth are less likely to be attached to their parents than their non-delinquent peers, he nevertheless discusses what happens if a child is strongly attached to what he coins 'unconventional' parents. Could this in fact lead to delinquent behaviour? While a lack of attachment to unconventional parents would not lead to conventional child behaviour since the child would nevertheless be free to follow their deviant impulses without worrying about the consequences, the former puzzle finds no straightforward answer in the theory. Hirschi investigates the puzzle empirically by identifying 'lower-class' fathers based on a history of welfare benefits, unemployment, occupational status and race. His findings do not suggest that attachment to unconventional parents creates delinquent child behaviour. One might argue, however, that the operationalisation of 'unconventional parents' could be improved. The idea that unemployed fathers on welfare benefits are more likely to have criminal values is based on the theory of a 'lower-class culture' where the lower-class community has its own cultural system and attitudes, practices, behaviours and values distinct from society in general (Miller, 1958). Instead of employing this rather strong assumption, the current dissertation measures parental delinquency explicitly and investigates whether parental law-breaking moderates the impact of attachment on child law-breaking.

Hirschi (1969) bases his work in *Causes of Delinquency* on a sample of high school students and therefore does not engage with social bonds in adult, romantic relationships. Sampson and Laub (1993), on the other hand, focus on criminal activity over the life course. They argue that romantic partners invest in each other and their relationship, accumulating social capital. The greater the investment, or the more 'interdependent (the) system of obligations and restraint', the more is at stake, and the less likely the individual is to deviate (Sampson & Laub, 1993, p. 141). Their later work develops the argument as to why a romantic relationship affects crime (Laub & Sampson, 2003;

Sampson et al., 2006) so that it now includes the notion that entering a romantic relationship with strong social bonds might change an individual's self-identity as being more 'serious' or 'adult'. A romantic partner might also monitor an individual's behaviour. Last but not least, a relationship with strong social bonds might change an individual's daily routines and residential area, reducing time spent with (deviant) friends.

The latter argument is in direct line with Warr's (1998) earlier critique of informal social control theory. However, Warr's work also illustrates why a romantic relationship might not necessarily increase an individual's social capital. Warr finds that marriage reduces time spent with friends irrespective of whether or not these friends are delinquent. If an individual's friends are not delinquent and in fact assist the desistance process, however, a romantic relationship reducing the time spent with them might actually increase the risk of deviance. This is especially the case if the romantic partner is deviant as deviant partners might promote anti-social values and opportunities (Rhule-Louie & McMahon, 2007; Simons et al., 2002).

The age-graded theory of informal social control only discusses the issue of a deviant partner briefly. Much like the argument put forward regarding parental social bonds, Sampson and Laub (1993) note that weak social bonds between partners might be associated with having a criminal partner. Finally, they state that the theory predicts that attachment to a significant other will reduce crime irrespective of that person's deviance (Sampson & Laub, 1993, p. 190); however, the argument is not clear. We might hypothesise that a criminal romantic partner is less opposed to a deviant and criminal behaviour. If an adult individual abstains from crime out of concern for their partner's reaction, this would lead to the conclusion that strong social bonds to a deviant romantic partner might not inhibit – and might actually even increase – deviance.

In short, the theory on social bonds is unclear about the expected consequences of having strong social bonds to a deviant significant other; be they parents or a romantic partner. Sampson and Laub (1993) argue that the consequences of a deviant parent or partner work through the social bonds, which are likely to be weaker if the parent or partner is deviant. Conversely, Hirschi's (1969) theoretical work suggests that a deviant significant other might in fact moderate the social bonds. This dissertation follows the lines of Hirschi's work and investigates how the law-breaking behaviour of both parents and a romantic partner influences the impact of attachment on individual law violations.

### 3.3. A general theory of crime: self-control

Like Sampson and Laub, others have taken social control theory and developed it further. Hirschi's own book written together with Gottfredson, *A General Theory of Crime* (1990), is noteworthy in this respect. In this work, the scholars note that most crimes are the 'ordinary' types of crimes that do not hit the headlines. These are crimes that require little skill or planning, provide few long-term benefits and often fail in terms of meeting their goals – but nevertheless provide immediate, easy and simple desire gratification as well as being more exciting, risky or thrilling ways of achieving one's desires than the conventional options. Moreover, crime often leads to pain or discomfort for the victim (physically, psychologically or economically). The offender is thus characterised as being impulsive and short-sighted, risk-taking and self-centred. The crime problem is therefore a low self-control problem. Low self-control does not necessarily lead to crime as the situational condition also matters. However, high self-control reduces the likelihood of crime effectively. While crime is the main focal point in their work, the scholars argue that the same logic lies behind other kinds of deviant behaviour, such as smoking, drinking, using drugs, gambling and promiscuity (Hirschi & Gottfredson, 1990). Low self-control stems from lack of nurturance, discipline and training in childhood. At the same time, the offender's personal traits are very stable and do not change even if the individual changes social location (Hirschi & Gottfredson, 1990).

Whereas Sampson and Laub's age-graded theory of informal social control is a life course theory suggesting that change is possible and does occur, Hirschi and Gottfredson's general theory of crime leaves little room for change; neither for better nor for worse.

It is important to note that Hirschi did not leave his social control theory when developing the general theory of crime. In fact, in his introduction to the translated edition of *Causes of Delinquency*, he argues that it is irrelevant that he is the author of two somewhat opposing theories. The scholar needs not be consistent; the important aspect is that his theories are (Hirschi, 2002).

### 3.4. Labelling

While Sampson and Laub stress that formal social control also matters for the individual's propensity for crime and deviance, their theoretical explanation thereof is not particularly detailed. They do investigate imprisonment for their sample empirically, however, showing that incarceration length has no association with later arrest. On the other hand, incarceration length does have an impact on opportunities and prospects for stable employment later in life –

which in turn affects crime (Sampson & Laub, 1993). The results thus point to what they call ‘stigmatization’, or what one could also call labelling.

Labelling theory engages with society’s reaction to an initial act considered deviant – and how this reaction affects the individual’s later deviance. If and when an act considered ‘deviant’ is discovered, the individual obtains a new public identity as ‘deviant’. This label has severe consequences; the individual is excluded from conventional activities and social groups, in turn begins to engage with deviant subgroups, and their self-identity eventually changes accordingly. The initial labelling thus serves as a self-fulfilling prophecy (Becker, 1963). ‘Labelling theory’ covers two approaches: One focuses on the changed self-identity of the labelled individual, and the other focuses on the social consequences of the label (Bernburg & Krohn, 2003). Official crime interventions are powerful labelling tools. Police contact, arrest and contact with the juvenile justice system in youth reduce educational achievement and employment and increase crime in early adulthood (Bernburg & Krohn, 2003). Research also shows that incarceration has negative consequences for employment, income and health (Massoglia, 2008; Pager, 2003; Schnittker & John, 2007; Waldfogel, 1994; Western & Becket, 1999). A recent Danish study emphasises the adverse effects of incarceration, showing how being able to serve a sentence at home with electronic monitoring instead of having to go to prison reduces the dependency of young people on social welfare (Andersen & Andersen, 2014).

To sum up, once the individual is officially labelled, and their self-identity changes, it is hard to undo. Furthermore, longer incarceration might be harder to hide from family, friends or one’s workplace as is otherwise the case with shorter periods of incarceration. On that background, there is reason to expect that longer incarceration might increase the risk of labelling.

### 3.5. Social learning theory

Another theory capable of explaining the consequences of increased incarceration length is social learning theory. This theory argues that all acts, social and anti-social, are learned in interaction with others (Akers, 1998; Burgess & Akers, 1966). Social learning theory emphasises four concepts: differential association, definitions, differential reinforcement and imitation. ‘Differential association’ is about with whom, when and how a person engages. The impact of social interaction is stronger on the individual the earlier in life it takes place, the longer, the more often and the more intense it is (this is also referred to as modalities of association). ‘Definitions’ covers the individual’s view on law violations as either favourable or unfavourable – in other words, the motives and rationales behind criminal activity. ‘Differential reinforcement’ is a

term covering rewards, such as money, a nice feeling, praise, respect, etc., and punishments, such as sanctions, rejection, negative feelings, etc. Finally, 'imitation' is committing an act after seeing others doing it.

A typical sequence of offending begins with the balance of learned definitions, the expected balance of reinforcement and the imitation of deviant models leading the individual to commit a crime. After this, the actual reinforcers take place, in turn affecting the learned definitions and expected future reinforcement from committing the same act again.

Incarceration, and indeed increased incarceration length, will add to the negative reinforcement, thereby reducing the likelihood of the individual committing crimes. At the same time, though, an offender's main social group while incarcerated is other inmates. The contact is 'intense' as the offender cannot leave, and there are no non-offenders with whom to socialise. As the length of the social interaction also matters (modalities of association), increased incarceration length will likely increase the risk of inmates imitating each other and teaching each other know-how and definitions favourable of crime. Indeed, both international and Danish studies find that incarcerated individuals reinforce each other's later offense types (Bayer et al., 2009; Damm & Gorinas, 2016).

To sum up, social learning theory suggests that longer incarceration might deter the individual from crime through negative reinforcement. However, social learning primarily takes place in intimate social groups with an intense and prolonged contact, which is a very exact description of a group of inmates. There is therefore reason to believe that longer incarceration will contribute to further criminal activity later in life. At the same time, it should be noted that social learning offers opportunity for change. While personal contact in early life is more influential than later contact in teaching us ways of behaving, the theory is nevertheless open for the possibility that new definitions can be learned and new acts imitated after the offender is released.

### 3.6. Deterrence and rehabilitation

While the previous two sociological theories suggest that longer incarceration might increase recidivism (i.e. have a criminogenic impact), others suggest that longer incarceration might reduce the risk.

One aspect is whether prison time is deterring – what social learning theory calls negative reinforcement. This argument is most clearly voiced by Becker (1968), who argues that individuals face a cost-benefit analysis when considering whether or not to commit crimes. If the expected gain exceeds the expected cost, criminal offending is likely. Increasing incarceration length is thus a way of increasing the expected costs for the individual.

Another argument is that prison time can help rehabilitate the inmate, who may have drug, alcohol or behavioural problems, thereby increasing the likelihood of a crime-free existence for the offender after release (Kuziemko, 2013). Research from Denmark shows that the likelihood of receiving treatment increases with time in prison. A survey conducted in 2007-2009 thus shows that 20% of the inmates received treatment if incarcerated less than a month. This increased to 50% if they were incarcerated 3-6 months (Minke, 2010 in Landersø, 2015).

Increased incarceration length might therefore increase the likelihood of desistance from crime; either by making the offender update their expectation of the costs of committing crimes or by increasing the likelihood for the offender to participate in rehabilitative programmes. The current dissertation does not explicitly test the previous reviewed theories regarding the length of incarceration. However, this chapter underlines the two different directions in which we can expect longer incarceration to have an effect; either longer incarceration will reduce recidivism (e.g. through deterrence and rehabilitation) or increase recidivism (e.g. through social learning and labelling).

To summarise, the current chapter outlines Hirschi's social control theory and shows how Sampson and Laub's informal social control theory builds on – and further develops – social control theory. According to both theories, individuals deviate when their bonds to society are 'weak or broken'. The chapter also highlights how the two theories differ in their predictions regarding the impact of social bonds to a deviant significant other. As an example of formal social control, the current dissertation investigates the impact of incarceration. The chapter thus illustrates how some of the most influential criminological theories differ when predicting the consequences of increased incarceration length.

The next chapter reviews the existing empirical evidence regarding incarceration length. First, however, the chapter reviews the literature on social bonds, criminal significant others and the impact of the individual's age and gender.

# Chapter 4.

## Literature review

This chapter is a summary of the literature reviews from the articles comprising this dissertation.

### 4.1. Empirical evidence on social bonds

Hirschi (1969) investigates attachment empirically regarding adolescent delinquency by including measures of indirect supervision (in this case, children's perception of their parents' knowledge of their whereabouts and company), intimate communication and parental identification ('would you like to be the person, your mother/father is?'). The results suggest that stronger attachment is associated with fewer delinquent acts (Hirschi, 1969).

In their empirical analyses, Sampson and Laub (1993) make use of Glueck's longitudinal data on 1,000 boys initially aged 10-17, born in the 1920s and 1930s. In their analysis of adolescents, Sampson and Laub (1993) include a wide range of 'family process' variables, inspired by Hirschi as well as other scholars. Hirschi is their main inspiration, however, and this dissertation therefore focuses mainly on this aspect of informal social control theory. The family process variables include three measures: the young person's attachment to their parents, the parents' attachment to their child and supervision of the young person's activities. The information is based on interview material from when the young person was around age 10-17. Supervision is only considered adequate if the mother was directly monitoring her child or had arranged for another responsible adult to do so. The results suggest that weak parental attachment and low levels of supervision are associated with delinquency. When the adolescents had become adults, strong attachment to a spouse furthermore significantly predicted desistance from crime (Sampson & Laub, 1993).

Most of the research investigating the association between adolescents' attachment to their parents find that attachment indeed reduces the risk of delinquency (Cernkovich & Giordano, 1987; Childs et al., 2011; Costello & Vowell, 1999; Gault-Sherman, 2012; Higgins et al., 2010; Jang, 1999; Krohn & Massey, 1980; Mack et al., 2007; Miller et al., 2009; Ranking & Kern, 1994; Savage, 2014; Schroeder et al., 2014; Wright & Cullen, 2001). A recent meta-analysis on the subject arrives at the same conclusion (Hoeve et al., 2012). A few studies find that the reduced risk of delinquency only applies to attachment to mothers (Aseltine, 1995; Miller et al., 2009), while others indeed only

use data on maternal attachment (Mack et al., 2007; Schroeder et al., 2014). Conversely, a few studies find that parental attachment does not predict juvenile delinquency, regardless of the child's gender (Chappel et al., 2005) and the seriousness of the delinquency (Agnew, 1985).

Hirschi (1969) and Sampson and Laub (1993) all include measures of supervision in their empirical analyses of juvenile delinquency. While Hirschi uses his indirect supervision measure as a way to tap into attachment, however, Sampson and Laub measure attachment and direct supervision separately. The literature has since shown a considerable variation in how to construct a measure of attachment; some use a wide range of items tapping into, for instance, the emotional component of the relationship, communication, time spent together and parental knowledge of the child's everyday life, including their friends (see e.g. Cernkovich & Giordano, 1987; Childs et al., 2011; Ranking & Kern, 1994). Others are simpler, using only a single item covering affection (Schroeder et al. 2014). The same can be said about the measurement of adult attachment to a romantic partner. Some are very elaborate (Capaldi et al., 2008; Forrest, 2014; Giordano et al., 2002) while others use a single item (Cobbina et al., 2012). That which all the measures of attachment share in common, however, is emphasis on the emotional affection underlined in Hirschi's (1969) theoretical work. Since the supervision of the young person is not emphasised there and since Sampson and Laub (1993) choose to include supervision separately, the current dissertation follows that line and includes measures of emotional attachment and indirect supervision separately.

The impact of the supervision of adolescents is still debated. Some find that supervision reduces delinquency, regardless of whether or not there is talk of direct, physical presence (McCord, 1991), or indirect, where there is knowledge of the child's whereabouts and company (Cernkovich & Giordano, 1987; Costello & Vowell, 1999; Wright & Cullen, 2001). Others, however, find no significant impact of supervision (Aseltine, 1995; Childs et al., 2011; Gault-Sherman, 2012).

Informal social control theory is a life course theory. The importance of with whom we share social bonds thus shifts from childhood and adolescence to adulthood. One question is whether this is due to changes in the strength of social bonds or the importance of these bonds. While some find that attachment to parents continues to be significant in terms of reducing delinquency and offending in adolescence and indeed into young adulthood (Jang, 1999; Johnson et al., 2011), others argue that the importance diminishes over the years (Schroeder et al., 2014; Thornberry et al., 1991). Others again emphasise that while many adolescents experience stable attachment to their parents, many have attachments that are subject to change; either for better or worse (Higgins et al., 2010; Schroeder et al., 2014).

As previously noted, the quantitative literature on the strength of social bonds between adult romantic partners and the impact thereof on crime and delinquency is not large. Most research in the field thus investigates the presence of marriage instead of measuring the strength of the social bonds (Andersen et al., 2015; Bersani et al., 2009; Blokland & Nieuwbeerta, 2005; Capaldi et al., 2008; Craig & Foster, 2013; Forrest, 2014; Horney et al., 1995; King et al., 2007; Lyngstad & Skardhamar, 2013; Schellen et al., 2012; Sienick et al., 2014; Theobald & Farrington, 2009; Zoutewelle-Terovan et al., 2014a, 2014b). The research that does investigate this finds mixed results. As with the research on adolescents, attachment is the usual construct used to measure social bonds. Some find that partner attachment or ‘relationship quality’ does not predict criminal involvement (Capaldi, 2008; Giordano, 2002) or that it predicts in the expected direction, but only for married couples (Forrest, 2014). Others find that strong attachment is protective, but only for women (Simons et al., 2002) or – in the case of offenders – only for women and men with a ‘below-average level’ history of arrests (Cobbina et al., 2012).

While the empirical literature thus suggests that attachment to parents reduces the risk of delinquency and supervision might have the same impact, the evidence is more mixed and less optimistic regarding attachment to a romantic partner. One should note, however, that while the delinquency measures used on young people in general involve both crime and less serious deviance (in some cases truancy), the outcomes used in research on adults are generally more serious (e.g. arrest or other measures of criminal involvement).

## 4.2. Empirical evidence on criminally significant others

A large body of literature describes a connection between parental criminality and children’s risk of offending (e.g. Farrington et al., 2017; van de Rakt et al., 2008; Rowe & Farrington, 1997), although some find that only incarceration – but not arrest and conviction – has this association (Murray et al., 2012). Paternal (Andersen L. H., 2016; Roettger & Swisher, 2011) and maternal (Huebner & Gustafson, 2007) incarceration has been shown to increase the risk of children’s involvement in the criminal justice system as adults. While the literature thus engages with how crime is transmitted from one generation to the next, somewhat curiously, this dissertation found no examples other than Hirschi’s (1969) study investigating whether the impact of attachment to parents on crime and delinquency is affected by parental crime and delinquency.

Just as individuals seem to be affected by their parents' criminal activity, some scholars find that a delinquent romantic partner makes desistance less likely (Andersen et al., 2015; Capaldi, 2008; Simons et al., 2002; Woodward et al., 2002; Zoutewelle-Terovan et al., 2014b). Others find that this result only applies to men (Schellen et al., 2012); others again, that women are most affected by their partner's criminal tendencies (Monsbakken et al., 2012). Finally, Sampson et al. (2006) investigate their sample of men, finding that marriage has a protective impact on crime regardless of whether the spouse was criminally involved.

In short, it seems most likely that the impact of attachment will differ depending on whether the individual is attached to a 'law-breaking significant other' or a 'conventional' other, although a couple of results on romantic partners suggest otherwise.

### 4.3. Gender and age

In addition to the deviance of parents or partners, the individual's own gender and age might also matter for the possible impact of attachment. The current dissertation investigates this aspect for adult romantic relationships. While some thus show that marriage reduces crime for men and women alike (Craig & Foster, 2013; Siennick et al., 2014), others find that both men and women benefit, but men the most (Bersani et al., 2009; King et al., 2007). Others again show that men alone experience the 'positive marriage effect' (Zoutewelle-Terovan et al., 2014a). Interestingly, one study finds that the positive marriage effect starts years before the marriage, with crime rates increasing slightly again afterwards (Monsbakken et al., 2012). Regarding relationship quality, one study finds that this is predictive only for women's criminal behaviour (Simon et al., 2002), while another shows that both released men and women benefit from a high-quality relationship – if they have a low level of arrests behind them (Cobbina et al., 2012).

One of the most widely recognised facts in criminology is that criminal propensity declines with age (Blokland & Nieuwbeerta, 2005). The reason is still debated (Blokland & Nieuwbeerta, 2005), one possible explanation being that young people are generally more risk-taking and susceptible to peer pressure (Gardner & Steinberg, 2005). With this in mind, it seems likely that age would also influence the extent to which social bonds matter to the individual's desistance.

To sum up, the previous research finds mixed results regarding how gender affects the influence of social bonds to a romantic partner – but most research on romantic relationships and law-breaking points in the direction of men benefitting more than do women. Finally, the research showing that

young people are more susceptible to be influenced by peers suggests that younger people might also be more influenced by their social bonds to a romantic partner. Both hypotheses are tested in chapter 8.

## 4.4. Empirical evidence on length of imprisonment

A large body of research has investigated if and how incarceration length affects recidivism. A thorough review (Nagin et al., 2009) shows that of the reviewed studies with significant findings, half find positive estimates, the other half negative. However, half of all studies have insignificant findings (Nagin et al., 2009). Newer research, such as Meade et al. (2013), finds that longer incarceration reduces the risk of re-arrest for offenders serving at least 5 years. With the impact only present for serious offenders serving long sentences, the authors suggest that incarceration lengths for short-term sentences could be reduced without a change in later crimes (Meade et al., 2013). Other recent studies find very little or no effect of longer incarceration on recidivism (Loughran et al., 2009; Snodgrass et al., 2011). Such results have led some scholars to suggest that there may in fact not be any effect of longer incarceration on recidivism; that is, that longer (or shorter) prison sentences do not affect the individual's later offending behaviour (Doob & Webster, 2003). Another reason for the insignificant or mixed results could be that different aspects of incarceration – such as social learning, labelling, deterrence and rehabilitation – even each other out, making it difficult to find significant associations.

However, one thing worth noting is that almost all the studies included in the Nagin et al. (2009) review are simple regression studies. A few use matching, as do Loughran et al. (2009), Meade et al. (2013) and Snodgrass et al. (2011). The risk of bias due to endogeneity will be discussed in chapter 7 and 9. For now, the dissertation notes that the strongest way to estimate an unbiased causal effect is to use a quasi-experimental approach or a natural experiment. To this author's knowledge, however, only one study employs this method. Kuziemko (2013) uses the parole board's individual score of each inmate based on characteristics such as age and previous record that lands the individual in one of three categories: low, medium and high risk. Based on the category of the individual, the parole board decides incarceration lengths. Kuziemko (2013) uses the cut-off points of the risk-categories in her quasi-experimental approach and finds that longer sentences reduce the risk of recidivism.

To summarise, the results regarding longer incarceration lengths are mixed. Most find that longer incarceration is insignificant in terms of predicting recidivism. Some find it increases the risk, others that it decreases it. The study with the strongest identification strategy finds that an increase in incarceration length reduces the risk of recidivism.

While a relatively large share of the empirical literature thus supports the claim that informal social control will reduce an individual's criminal activity – especially for young people – the literature is less convincing regarding the crime-reducing effect of longer incarceration. Obviously, the state is able to employ other types of formal social control mechanisms, and this dissertation has already mentioned electronic monitoring. It should also be recognised that while informal social control has relevance for both the general population and offenders, incarceration is aimed only at offenders who have committed serious crimes. The previous review nevertheless offers more support for the crime-reducing potential of informal social control than for longer incarceration (as an example of formal control). This dissertation investigates the impact of both informal and formal social control with some of the same outcome measures from the same registers, thus enabling a better comparison between the two control mechanisms than previously possible.

# Chapter 5. The Danish context

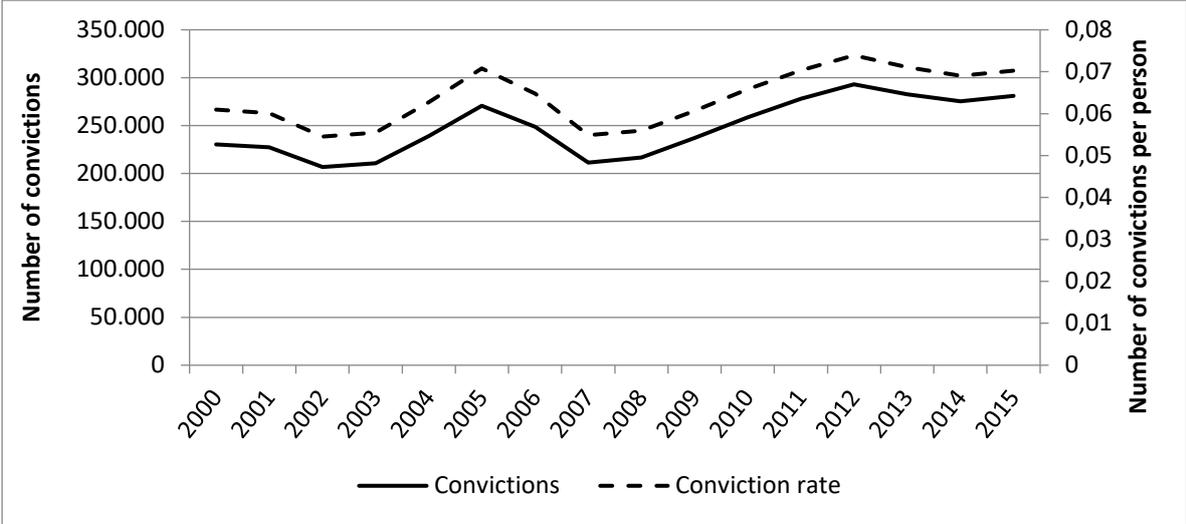
## 5.1. Law-breaking and penal approaches

When this dissertation was written, Denmark had no separate juvenile justice system, unlike many other countries. The legal age for criminal responsibility in Denmark was 15, and younger persons could not be prosecuted. Cases involving youths under the age of 15 were handled by the social authorities who could recommend, for instance, personal support, supervision or – in more serious cases – a temporary placement in a foster home or residential institution. Young people aged 15-17 have traditionally been subject to a more lenient penal policy than persons over the age of 18 (Kyvsgaard, 2003). From 1 January 2019, a new youth crime board will handle the most serious cases where children and young people aged 10-17 are suspects. The crime board will be headed by judges. Children aged 10-14 will be referred to the board by the police, whereas young people aged 15-17 will be referred from the courts. The interventions imposed by the boards are meant to be of pedagogical character and might be of the duration of a couple of years, and they might involve placements in secure residential institutions. The legal age for criminal responsibility remains 15 (The Danish Parliament, 2018).

Figure 1 shows the number of convictions in Denmark committed by the population, age 15-69. In 2015, the number was 281,005. The figure reflects an increase in the registered offenses over the years. Rather than an increasing population, this is due to an increase in the conviction rate. In 2015, each Dane age 15-69 thus received 0.07 convictions, on average, as compared to 0.06 in 2000.

This does not mean that the population's behaviour has changed but rather that more acts are being registered, penalised or have become a political priority to solve (see section 5.2). Nevertheless, self-reported data shows that falling victim to theft, vandalism or violence has actually decreased during this period, while the fear of crime has been stable (Pedersen et al., 2016).

Figure 1: Convictions and conviction rate for the Danish population, age 15-69



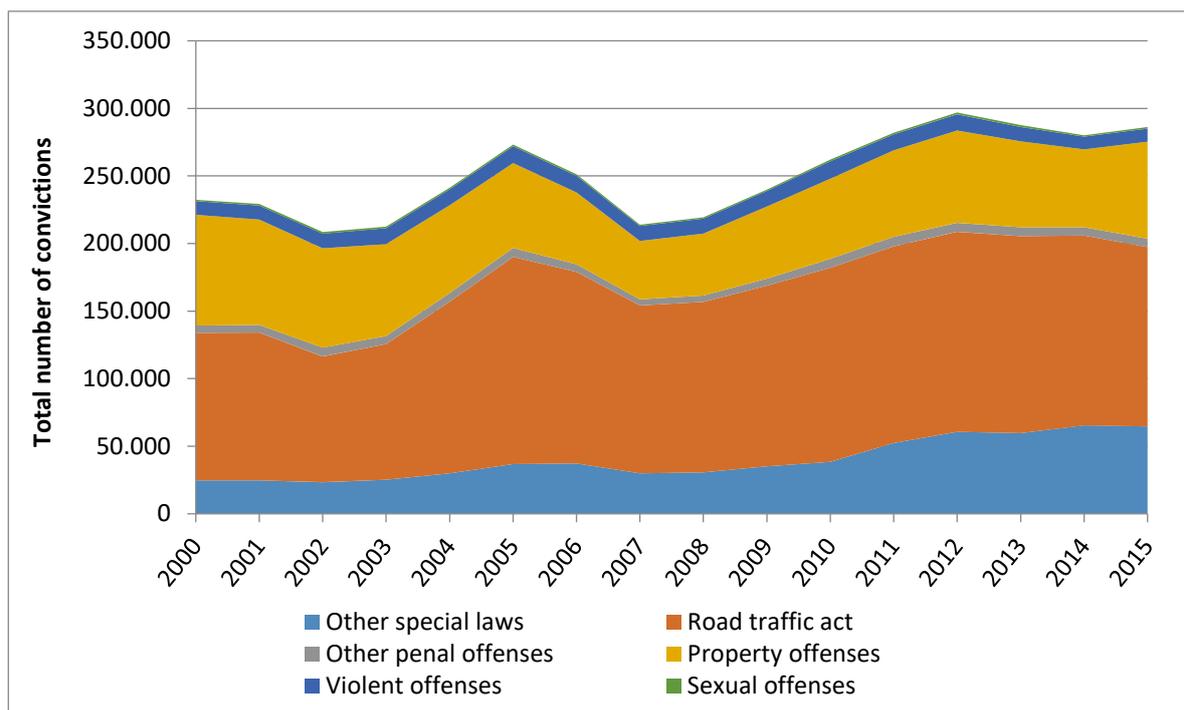
Note: Data from Statistics Denmark, the Statistics Bank, and own calculations. ‘The Danish population’ is people living in Denmark, irrespective of nationality. Corporate crime is not included.

The penal code is divided into numerous subcategories, including sexual, violent and property crimes. An ‘other’ category also exists, which includes drug trafficking. Furthermore, a range of special laws exists covering offenses, such as traffic violations (e.g. speeding and drunk driving), minor drug offenses (e.g. possession of small quantities of cannabis and very small amounts of hard drugs) and other legislation on weapons, taxes, pollution etc. While violations of the penal code have traditionally entailed imprisonment whereas violations of the special laws have resulted in fines, this distinction has blurred over the years (Kyvsgaard, 2003).

Figure 2 shows the total number of convictions broken down by offense type. The most common violations in Denmark are of the Road Traffic Act, the special laws and property offenses.

In milder cases, the police or prosecution service can fine an individual. Traffic violations are by far the most common reason for such cases (Danish National Audit Office, 2013). The case is considered closed if the individual accepts the fine, whereas the court makes the decision if the fine is not accepted. In more serious criminal cases, the courts pass verdicts and decide sentences, which can include fines as well as various forms of detention.

Figure 2: Convictions in Denmark by offense type



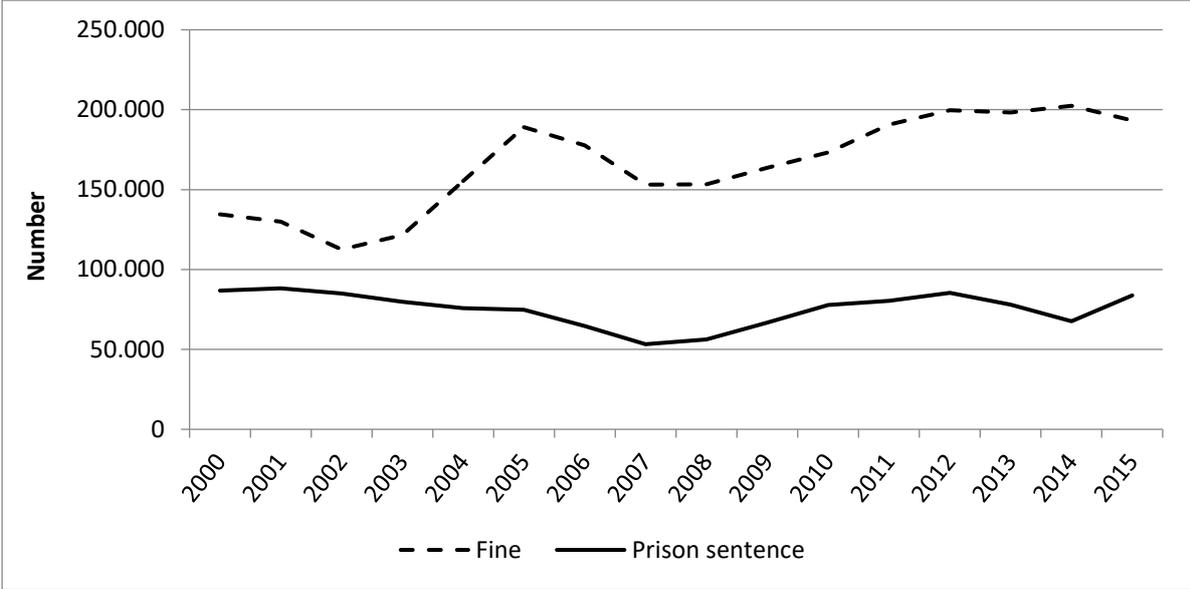
Note: Data from Statistics Denmark, the Statistics bank. Corporate crime not included.

Figure 3 displays the development in the total number of fines and prison sentences from 2000-2015. Fines are given more often than prison sentences, and the development in the figure suggests that the increase in convictions during this period primarily resulted in more fines, as there has been no increase in the number of incarcerations.

While the lengths of incarceration has increased over the years (see section 5.2), prison sentences remain relatively short compared to other countries. In 2015, 59% of the unconditional prison sentences were thus less than four months, 76% were less than eight months, while 8% were more than 2 years (The Danish Prison and Probation Service, 2016).

The Danish Prison and Probation Service implements sanctions other than fines. This includes imprisonment in state prison (open or secured) and local prison (mainly used for remand custody), the supervision of individuals under parole, suspended sentences, community service and sentences with electronic monitoring. The Prison and Probation service describes its work as ‘contributing to reduce criminality’, with a value of ‘the art to balancing a strict and a soft approach’. Behind this notion are the goals to carry out the ‘control necessary to enforce punishments’ AND to ‘motivate offenders to become law-abiding citizens’ (The Danish Prison and Probation Service, 2017a).

Figure 3: Danish prison sentences and fines, total



Note: Data from Statistics Denmark, the Statistics Bank. ‘Prison sentences’ comprises all sentences consisting of prison time (including electronic monitoring) and suspended sentences, in possible combination with fines and/or community service. Corporate crime not included.

In 2015, the Danish Prison and Probation Service had 931 beds in secured prisons, 1,204 in open prisons and 1,642 in local prisons (The Danish Prison and Probation Service, 2016). However, most of the open prisons have units that are similar to a closed prison (Minke, 2012). The vast majority of inmates in local prisons are in remand custody, although shorter sentences can also be served there. However, a person with a prison sentence will usually serve in an open or secured prison. Furthermore, there are seven ‘pensions’ (half-way houses) with room for approximately 20-30 inmates each. These are primarily places where inmates with long sentences serve the final part of their sentence while being gradually reintegrated into society.

According to the Danish Prison and Probation Service (2016), prisoners usually serve in an open prison unless the seriousness of the crime, the length of the sentence, the risk of escape or the offender immediately committing new criminal offenses, highly worrisome behaviour or participation in organised crime would suggest otherwise. A secure prison is surrounded by a perimeter wall. It has alarms and cameras, and the outer door and the doors between the units are locked. In contrast, open prisons have no walls or barbwire and in some cases not even a locked gate; leaving without permission remains illegal, however, and will be punished (Smith, 2012).

There is a vast difference between serving sentences in open and secured prisons. In a secured prison, telephone conversations are only allowed to a fixed list of persons and are taped, whereas the phone policy is much more lenient in open prisons. It is also easier and quicker to receive permission to

leave an open prison for shorter periods, either to attend educational activities, work or to visit family. Of the times inmates were allowed to leave prison, 86% were from an open prison (The Danish Prison and Probation Service, 2016).

Inmates who are serving a prison sentence are generally allowed weekly visits (The Danish Prison and Probation Service, 2017c). Visits are generally unmonitored and take place in private rooms without any barrier between the visitor and the inmate (Smith, 2012).

Inmates in both secure and open prisons are normally required to shop (in secure prisons at the 'prison shop') and cook for themselves as part of the ideal of prison time simulating as 'normal' a life as possible. Many inmates focus a great deal of time and energy on this (Smith, 2012). The 'normality' perspective also means that inmates wear their own clothes and do their own laundry while incarcerated.

Prisoners are required to work (typically manual labour), study or receive treatment for a normal 37-hour workweek. Treatment for drug and alcohol abuse is available in most prisons, while some prisons offer different types of cognitive behavioural programmes designed to help the inmate modify problematic behaviour (The Danish Prison and Probation Service, 2017c).

While emphasis is on making prison life (especially in open prisons) as much like life on the 'outside' as possible, there are obviously still rules, regulations and sanctions in place (recall the 'control necessary to enforce punishments' statement by the Danish Prison and Probation Service). One example is the implementation of urine tests in all prisons with new inmates, in cases of suspected drug abuse and, since 2005, random sampling. This is all part of the 'zero tolerance' drug policy introduced in Danish prisons in 2004 (Smith, 2012; The Danish Prison and Probation Service, 2016; The Danish Prison and Probation Service, 2006).

## 5.2. A Scandinavian exceptionalism? The Danish approach to punishment in a historical perspective

According to Pratt (2008), the prison systems in Denmark and the other Scandinavian countries can be understood in terms of 'Scandinavian exceptionalism'; 'exceptionalism' referring both to the low incarceration rates and the good prison conditions. Pratt (2008) argues that this stems from the historically flat class structures in the Scandinavian countries, characterised by solidarity, cohesion and homogeneity. The Scandinavian welfare state institutionalised these values, introducing a host of generous welfare services, including

a range of family-friendly policies. Since the dramatic and symbolic spectacle of public punishment is a way for the ruling class to reaffirm their power and the Scandinavian countries were of a more flat class structure, the spectacle was less relevant and the countries were thus quick to abolish or scale down corporal punishment (Pratt, 2008).

In the 1930s-1960s, crime was typically understood as being similar to an illness – something one could be cured from, originating from, among other things, social problems (Balvig, 2005; Pratt, 2008). The notion of rehabilitation was therefore the dominant reason for incarceration, leading to the use of indeterminate prison sentences in 5-15% of prison sentences in Denmark, as the purpose of incarceration was to ‘cure’ the criminal (Balvig, 2005). Balvig (2005) argues that this penal approach stems from ideals of modernity, such as rationalism and the prestigious role of experts.

In the 1960s, this development changed. Evaluations revealed that the indeterminate sentences did not reduce recidivism, and long, ineffective sentences came to be seen as unjust (Balvig, 2005). A ‘normalization’ of the prison system began, replacing the ideal of ‘rehabilitation’. In short, the argument behind normalization is that the incarceration and deprivation of freedom is the punishment itself – meaning the conditions in prisons need not be worse or different from outside the prison (Balvig, 2005; Pratt, 2008). A number of sanction reforms in the Scandinavian countries from the 1960s-1980s were thus intended to reduce the use of incarceration and/or the negative impact of the incarceration on the incarcerated (Lappi-Seppälä, 2012). In the 1990s, however, the international shift towards a tougher penal approach that started a decade earlier in the US also began having an impact in Scandinavian politics. Since then, the Scandinavian countries have seen a range of reforms, resulting from a stronger reaction against crime, for instance longer periods of incarceration (Lappi-Seppälä, 2012; Pratt, 2008).

How did this happen? Balvig (2005) argues that from a Danish (or Scandinavian) perspective, this can partly be understood as a crisis of the welfare state. The welfare state had not succeeded in eliminating crime, especially property crimes. At the same time, the welfare state had grown so all-encompassing in daily life that ‘it *had* to provoke the question of its own legitimacy’ (Balvig, 2005 p. 183). The punitive turn is hardly a Scandinavian trend, however, as it can be seen around the world; in fact, the trend arrived a bit late in the Scandinavian countries (Lappi-Seppälä, 2012). Balvig suggests that we should find the main reason for the shift in what he coins ‘the second existential revolution’. Where the focus had been on community in modernity and the freedom *from* something (poverty, hunger and illiteracy), the focus in late/post modernity has shifted to a focus on the individual and freedom *to*

something (one's own self-realisation, happiness etc.) (Balvig, 2005). Interestingly, he also highlights how the view on 'man's nature' has changed: from the idea of the altruistic man who might end up in crime due to a lack of other opportunities to a selfish individual whose nature is to strive for wealth and power and who must be kept under control (including self-control). In the latter view, crime is normal and natural to man. Balvig does not mention this explicitly, but it seems obvious to draw a link between this 'late modernity man' and Hirschi's theories (1969; Hirschi & Gottfredson, 1990). With this view of human nature in mind, crime is no longer seen as society's responsibility; criminals are responsible for their actions. This individualisation of responsibility for poverty and crime is also noted in countries outside Scandinavia, most notably in the US and UK by Wacquant (2009).

The focus in the criminal justice system simultaneously shifted from the offenders and why they commit crimes to the victims, the consequences of crime and the fears of potential victims. When understanding 'why' people commit crime loses relevance, experts lose their importance (Balvig, 2005). This might very well be the explanation for the distinct shift in rhetoric about the penal policy seen in Denmark. This is reflected in the traditional New Year's speech given by the newly elected Prime Minister Fogh Rasmussen after the 2002 elections, where he stated that: 'We believe people know how to choose for themselves. We do not need experts or arbiters of taste to rule for us...' (Balvig, 2005). This was echoed by the new Minister of Justice after the same elections, Lene Espersen, who declared that she governed by her 'inner sense of justice', which she shared with 'ordinary citizens' (Smith, 2012). Recall that this was the same year that the penal reform investigated in this dissertation came into effect. The sentiment was crystalised in 2003 by Pia Kjærsgaard, then leader of the Danish People's Party and the current Speaker of the Danish Parliament, who called for harsher punishment, arguing that society was breaking down due to outlaw bikers and immigrant gangs. In that context, she stated:

I am sure the usual group of criminological experts will soon be badgering us with their statistics – in an attempt to downplay the problem and lull the Minister of Justice to sleep. But many of us began to disregard the statistics long time ago, we only need to look out of the window, walk the streets or read the papers and watch television in order to realise that things are getting out of hand. (Smith, 2012)

In short, the rhetoric sharpened in favour of harsher sentences based more on the 'public's sentiment of justice' and less on experts in the field (Balvig, 2005; Smith, 2012).

Is Scandinavian exceptionalism finished in Denmark, then? Some would argue it is – and even that it may never have existed, at least not in any pure form. Incarceration lengths have increased during the last decades. According to law professor Vagn Greve (2010 in Smith, 2012), new legislation and amendments have furthermore violated fundamental principles of criminal law and human rights. An example of this is the introduction of so-called ‘visitation zones’ in areas that were classified as being dangerous, where the police were authorised to search anyone without any grounds (at some point the whole of Copenhagen was such a zone). Another example is found in legislation from 2009, which allows for mass arrests and detaining demonstrators for up to 12 hours before the police have to bring charges (Greve, 2010 in Smith, 2012). At the same time, the Scandinavian countries have had practices in their respective penal systems long before the 1990s that could be called anything but lenient or humanitarian. This is especially the case for pre-trial solitary confinement, which was the norm in Denmark as late as the 1960s. While legal scholars have called it ‘a peculiarly Scandinavian phenomenon’, the practice has received criticism from both the UN and the Council of Europe’s torture prevention committees (Smith, 2012). Since the 1960s, the use of pre-trial solitary confinement has declined – yet the ‘confessional detention’, as it has also been coined by some scholars, was still used in 0.7% of all pre-trial detention in 2014 (Danish Ministry of Justice Research Unit, 2015; Smith, 2012).

In defence of Scandinavian exceptionalism, Lappi-Seppälä (2012) notes that many newer reforms have also been influenced by attempts at reducing the use of imprisonment and have been informed by the international human rights movement. Examples from Denmark include the introduction of community service in 1982, the opportunity to serve prison time at home with electronic monitoring for certain offenses and age groups in 2005 (and extended later on), and the introduction of the children’s officers in 2013. The latter are ordinary prison guards appointed to have a special focus on making visiting a parent in prison a more comfortable experience for children and to strengthen the bonds between inmates and their children in a situation where this can be difficult to maintain. Several prisons have introduced special visiting rooms with toys for prisoners with children. Other examples are photo albums that inmates can use to show their everyday lives in pictures to their children and providing inmates with the opportunity to record goodnight stories that their children can listen to at bedtime (The Danish Prison and Probation Service, 2017b).

The Nordic countries furthermore continue to have the lowest incarceration levels in Europe, the shortest sentencing structures and a prison condition index (based on human rights reports) with a mean higher than the rest of Europe (Lappi-Seppälä, 2012).

In conclusion, in line with the international trend, Denmark has experienced a push for harsher sentences that has continued to this day. At the same time, the Scandinavian countries continue to stand out as a region relying less on incarceration and harsh sentences than the rest of Europe.

### 5.3. The family and the second demographic transition

‘The second demographic transition’ is a concept describing the decline in marriage; increase in cohabitation, single households and divorces; the postponement of first marriage and child-bearing; and the reduction in fertility, which has been observed throughout the Western world and beyond since the 1960s (Lesthaeghe, 2010; Sobotka, 2008). There is disagreement regarding the background for this development, although the prolongation of education for both men and women, the development of reliable contraception and increasing equality between the sexes are factors that have all contributed to this development (Lesthaeghe, 2010).

The Nordic countries are generally seen as forerunners of this trend (Frejka et al., 2008), and some scholars therefore argue that research findings from this region regarding demographic matters are of relevance for the future of other countries (Andersen et al., 2015).<sup>1</sup> In the following, the report thus provides a brief overview of the demographic, social and political context of the Danish family.

Why are these numbers important? Because they show the context in which the current dissertation tests and investigates the theory of social bonds. Hirschi (1969) emphasises attachment and indirect supervision. However, Sampson et al. argue that marriage led to desistance for their sample, one of the reasons being that wives in the 1950s-1960s exercised direct social control over their husbands, actively limiting men’s nights out of the house, planning and managing household activities and acting ‘as informal guardians of their husbands’ social lives’ (2006, p. 468). At the same time, remember that Sampson and Laub (1993) only consider the supervision of the young people in their sample born in the 1920s and 1930s adequate if the mother was

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<sup>1</sup> While Andersen et al.’s (2015) argument concerns marriage, there is no reason to believe this should not be true for other demographic variables distinct to the second demographic transition.

directly monitoring her child or had made arrangements with another responsible adult to do so.

As the next sections illustrates, both the notion of a romantic partner as an ‘informal guardian’ regarding one’s social life and the constant direct monitoring of youth seem very distant from contemporary Danish views on romantic relationships and childrearing.

The fertility rate in Denmark in 2014 was 1.69 (data from OECD.stat).<sup>2</sup> While this is less than the replacement rate, it is – together with the rest of the Nordic countries – among the highest in Europe (Sobotka, 2008). Cohabitation in these countries has become indistinguishable from marriage (Savolainen, 2009), which helps explain why 52.5% of births in Denmark were out of wedlock in 2014 (data from OECD.stat). Similarly, of the women and men aged 20-44 living together with children, the Nordic countries are those in which the fewest are married and most are cohabitating. In Denmark, 67.6% of women and 77.8% of men living with children were married in 2000-2001, while 15.4% of women and 19.4% of men were cohabitating (Sobotka & Toulemon, 2008). While married and cohabitating couples are granted almost all the same rights and duties in Denmark, marriage therefore still seems to remain the preferred long-term solution for romantic couples with children.

Young people furthermore leave their parental home early; in fact, Denmark is the OECD country where children leave their parental home earliest. Only one-third of those aged 18-24 live with their parent(s) (DST, 2010). While this is partly due to historical and cultural reasons, where young people in northern and western Europe historically left home to become servants or apprentices or to work in agriculture, industry, shipping etc., this culture of moving out of the parental home at a relatively early age is now supported by welfare provisions, such as student housing, subsidised transport, cheap student loans, and youth unemployment benefits and programmes (Lesthaeghe, 2010).

Like the other Nordic countries, Denmark has relatively extensive gender equality (Sobotka, 2008). This shows in the labour force participation rate for those aged 15-64, which was 75.3% for women and 81.6% for men in 2015 (data from OECD.stat). While there is indeed a difference between the male and female participation rates, it is nevertheless smaller than in most other OECD countries. One reason for the high female employment rate is the high-quality universal childcare system (Huerta et al., 2011). Childcare percentages in 2013 were thus 91.2% for Danish children aged 1-2 and 97.2% for ages 3-5 (DST, 2014a).

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<sup>2</sup> The following numbers from OECD.stat were accessed 22 March, 2017.

The European Value Study from 2008 reflects these figures and shows that Scandinavian countries have some of the highest percentages of people believing that ‘fathers are as able to look after children as mothers’ (EVS, 2008). Furthermore, Denmark stands out with the lowest percentages believing that a ‘preschool-child suffers when mother works’ (9%) and ‘what women want most is home and children’ (11%). Several countries have a large percentage of their population believing that having time for own friends and hobbies is very or rather important for a successful marriage. In Denmark, this is 96%, while 79% consider it especially important that children learn independence at home.

As mentioned above, society and family practices in contemporary Denmark seem to be dramatically different from the American birth cohorts from the 1920s and 1930s upon which Sampson and Laub (1993) base their work. The previous numbers and discussions thus highlight exactly why we must re-investigate theory with contemporary data and in different cultural contexts every now and then. It is needed in order to capture the changing nature of society and thereby different theories continued relevance, or lack thereof.



# Chapter 6.

## Data

In the following, the current chapter will introduce the data sources used in the dissertation.

### 6.1. Danish register data

Each Dane has a civil registration number (Det Centrale Personregister – CPR), which is used when in contact with most state and municipality bodies. Statistics Denmark, a state institution under the Ministry for Economic Affairs and the Interior, collects this information and provides researcher access after the identifying (CPR) numbers are anonymised. The information from the individual administrative register data used in this dissertation is sex, age, marital status, income, occupational status, enrolment in officially recognised educations, country of origin, amount of contact with hospitals and ERs and the reason for the contact as well as contact with the penal system, including convictions and incarcerations.

Using administrative registers has several benefits. First, the whole population is included as there is no opt-out option. This means that, aside from deaths and emigration, attrition and non-response are not problems. It also means that it is possible to study even rare events for the general population (e.g. incarceration) with a relatively large sample size. Second, most registers include at least one yearly observation on the individuals and have done so since the 1980s. There are therefore no gaps in the data between each wave as is often the case with survey data. Third, the anonymised CPR number means that researchers can follow each individual over time and merge this information with survey data. This renders it possible to create a fine-grained panel based on both administrative register data for each year and survey data. The latter can tap into the type of information not registered by official bodies (e.g. individual opinions, beliefs, lived experiences). Fourth, the quality of the data is very high; the crime registers, for instance, are subject to multiple checks before becoming made available to the public.

The dissertation uses three different panels to answer the three research questions:

1. ‘How do parental social bonds affect law-breaking in adolescence?’ This question is answered using the DALSC survey in combination with administrative register data.

2. ‘How are social bonds to a romantic partner related to law-breaking in adulthood?’ This question is answered using the SHILD survey in combination with administrative register data.

3. ‘What is the effect of longer incarceration on recidivism in adulthood?’ To answer this question, the dissertation solely uses administrative register data.

## 6.2. The crime statistics

The source of the information on law-breaking used in this dissertation is the Central Criminal Register – administered by the National Commissioner of the Danish Police. The information used here cover convictions and incarcerations.

As regards convictions, this dissertation uses information on the (anonymised) CPR number, case number, offence type, date of the disposition and the sentence, including sentenced incarceration length. Most convictions only concern a single criminal offence. If an individual faces multiple charges, however, they are combined into a case complex. Statistics Denmark thus divides the statistics into the main case (the most serious offense) and the additional cases or ‘subcases’ (the less serious offenses). If a person is charged with a robbery and speeding, the main offense would thus be the robbery and the additional offense the speeding. If a person is charged with three counts of burglary, however, one burglary would be the main case while the other two would be classified additional cases. For this reason, unless otherwise stated, ‘convictions’ in this dissertation counts all registered law violations; both the major and the additional ones.

The information on incarcerations used in this dissertation includes the anonymised CPR number, case number and each entry and exit date from prison. Each case might include multiple entry and exit dates as an individual can be imprisoned in different facilities, such as a local prison, while remanded in custody and a state prison after being convicted.

## 6.3. The surveys

Neither of the surveys used to answer the research questions 1 and 2 were conducted with the purpose of answering the specific research questions in focus in this dissertation. Rather, the Danish Longitudinal Survey of Children (DALSC)’s purpose is, broadly described, to follow a sample of Danish children from childhood to youth, thus shedding light on Danish children’s upbringing, living conditions and the factors that influence children’s opportu-

nities in life (Thomsen, 2016). The purpose of the Survey of Health, Impairment and Living Conditions in Denmark (SHILD), on the other hand, is to provide knowledge on health and physical and social factors related to health for Danish adults.

Although the surveys were not conducted with the purpose of answering the specific research questions in focus here, and both surveys suffer from attrition, they nevertheless contain highly relevant information on large samples with the unique possibility to merge the survey data with fine-grained panels of high quality register data. This means that the surveys, despite room for improvement, enable the current dissertation to enhance and improve our current knowledge of social bonds and law-breaking.

## 6.4. DALSC

The Danish Longitudinal Survey of Children (DALSC) consists of three separate surveys. The current dissertation uses ‘the Danish survey’, consisting of 6,000 randomly sampled children born in September-October 1995 to mothers with Danish citizenship. The survey is prospective, using either face-to-face interviews or web surveys. The mothers were surveyed in 1996, 1999, 2003, 2007, 2011 and 2014, whereas the children were surveyed in 2007, 2011 and 2014 at ages 11, 15 and 18. Questions cover the everyday lives and well-being of the individual children, including their relationships with parents and parental practices. The current dissertation uses all children answering the survey at ages 15 and 18 whose mothers also participated in the survey. The final sample consists of  $N = 2,677$  after deleting those not living with at least one birth or adoptive parent and those with missing values in key items.

How does this attrition affect the representativeness of the sample? Table 1 shows the distributions of the variables from the administrative registers which are used in the study measured as a snapshot in 2012. Narrowing down the initial sample (column 1) to respondents who participated in the survey at ages 15 and 18 and whose mothers also participated (column 2), clearly has a statistically significant impact on the number of individuals in the sample convicted or being in contact with either an emergency department, a hospital or receiving out-patient care due to a psychiatric diagnosis.

Reducing the sample size even further by keeping only those adolescents who live at home (in order for the ‘indirect supervision’ measure to make sense) as well as deleting those with non-responses in key items (column 3) furthermore reduces the amount of mothers who receive a conviction. The final sample thus ends up being statistically significantly different from the in-

itial sample in almost all variables. Whether this poses a problem for the theory testing done by this dissertation is discussed in section 6.6 *Attrition and external validity*.

Table 1: Means of variables from register data measured in 2012

	Initial sample (1)	Adolescent and mother respond in both waves (2)	Final sample (3)
Adolescents			
Any conviction	0.039 (0.194)	0.026 (0.158)***	0.023 (0.149)***
Psychiatric care	0.021 (0.145)	0.015 (0.122)*	0.010 (0.098)***
Mothers			
Any conviction	0.021 (0.144)	0.017 (0.130)	0.015 (0.122)*
Psychiatric care	0.013 (0.113)	0.008 (0.090)*	0.008 (0.089)*
Fathers			
Any conviction	0.060 (0.237)	0.049 (0.216)*	0.044 (0.205)**
Psychiatric care	0.010 (0.097)	0.009 (0.093)	0.007 (0.084)
N main respondents (adolescents)	5,936 <sup>a)</sup>	3,360	2,677

a. The initial sample of 6,000 is reduced due to migrations and deaths since 1995.

\*\*\* p < 0.001, \*\* p < 0.01, \* p < 0.05. Significance corresponds to a significant difference between the current sample and the initial sample calculated using t-tests. Data: From own calculations of register data from Statistics Denmark.

## 6.5. SHILD

The Survey of Health, Impairment and Living Conditions in Denmark (SHILD) was collected for the first time in 2012 by the SFI – the Danish National Centre for Social Research and Statistics Denmark. The aim of the survey is to enhance knowledge of the living conditions and participation in society for Danish adults with impairments. The survey sheds light on, among other things, work, leisure and social relations. The survey began with a sample of 34,000 individuals, including 1,190 individuals aged 65+ from an earlier survey. According to Statistics Denmark, the remaining 32,810 individuals are a representative sample of the individuals aged 18-64 living in Denmark and holding a CPR-number (see column 1, Table 2). Of the 32,810 sampled individuals, 18,957 responded to the survey (column 2). The data was collected using a web-based survey supplemented with telephone interviews. The data material has been merged with individual administrative register data from

1980-2012. Including only 1) individuals living with a partner, and 2) individuals who do not have a partner and have not been living with one the past five years, the sample used to answer the second research question ends up consisting of N = 11,114 (column 3).

Table 2: Means of main variables from register data measured in 2012

	Initial sample (1)	Survey respondents (2)	Final sample (3)
Sampled individuals			
Any conviction	0.039 (0.194)	0.027 (0.161)***	0.022 (0.147)***
Female	0.502 (0.500)	0.530 (0.499)***	0.537 (0.499)***
Married	0.492 (0.500)	0.555 (0.497)***	0.819 (0.385)***
Age	41.65 (14.17)	43.39 (14.16)***	48.21 (10.86)***
Income	217.79 (192.52)	231.40 (180.36)***	267.97 (184.93)***
N	32,810	18,957	11,114

\*\*\* p < 0.001, \*\* p < 0.01, \* p < 0.05. Significance corresponds to a significant difference between the current sample and the initial sample calculated using t-tests. Data: From own calculations of register data from Statistics Denmark.

Table 2 illustrates the distribution of the main variables from the registers when measured in 2012 and shows the attrition from the initial sample to the final sample. While the choice to include only individuals living with a partner and individuals who do not have a partner and have not been living with one the past five years clearly affects the means, the statistically significant difference in all variables from the initial sample appears already as a consequence of the survey's non-response.

## 6.6. Attrition and external validity

It is a well-known fact that one must deal with attrition, such as non-response, when using surveys, and that vulnerable groups are often the least likely to respond to surveys (Uhrig, 2008). But what is the consequence of this attrition and the fact that there is a statistically significant difference in almost all register variables between the initial representative samples and the final samples used in this dissertation?

That depends on what the purpose of the survey use is. Clearly, a question such as: 'How many adolescents in the Danish population offend?' is answered better using register data on the full population. In other words, this dissertation refrains from using its data descriptively to make claims about the *amount*, *prevalence* or *share* of individuals in the full Danish population's social bonds and law violations.

However, the main purpose of this dissertation's use of survey data is theory testing. It thus asks: 'Do individuals behave as we expect them to if we believe in the theory of informal social control?' To do this theory testing, the dissertation employs a variety of regression analyses. Lending from the literature on survey experiments, it is the claim of this dissertation that the results are generalisable to a wider population than the currently used samples despite the attrition from the surveys. Mullinix et al. (2015) thus show empirically that they reach similar effect estimates using very different non-representative convenient samples and compare them to the results using a population-based sample. Likewise, Druckman and Kam (2011) show that convenient samples generate unbiased estimates that can be generalised as long as the treatment effect is homogeneous. If the effect – on the other hand – is theorised to be heterogeneous, this is should be explicitly estimated. And importantly, once the heterogeneous effect is taken into account, a convenient sample will again produce unbiased estimates as long as the variable capturing the individual-level characteristics producing the heterogeneous effect varies to any degree.

That is indeed the case in this dissertation. In the research articles using the surveys, the 'impact' of the social bonds on law-breaking is at some point hypothesised to depend on either parental law-breaking, the partner's law-breaking, age or gender. This is explicitly tested in the articles while the descriptive statistics in each article show that the variables in question certainly do vary between individuals.

To conclude, the samples can be used to estimate and test the validity of theoretical expected associations, but they should not be used to generate descriptive statistics aimed at concluding on the general population regarding the *amount* of law violations or the *prevalence* of social bonds.

## 6.7. Variables

This dissertation analyses law violations. The rather technical term 'law violation' is used in order to specify the focus – although terms such as 'delinquency' or 'deviance' might also have been used instead. Law violations are operationalised as registered convictions in the official administrative registers. Convictions include offenses against the penal code and special laws, including the Road Traffic Act. Sentences include the range from unconditional incarceration to fines. However, the statistics do not include all fines – the register includes neither fines less than DKK 2,500 for violations of the Road Traffic Act nor fines less than DKK 1,000 for the majority of violations of other items of special laws. Nevertheless, the convictions include both felonies and misdemeanours – and for this reason, the dissertation refrains from coining

them 'crimes' as an overall term. However, compared to the well-known use of 'arrests' in the criminological literature, law violations can be argued to be a stronger measure as the question of guilt has been established by more than the arresting officer.

At the same time, the theoretical argument as to why social bonds are a protective factor works in relation to felonies and misdemeanours alike. The main question is whether the acts can be expected to illicit a negative reaction from society and significant others. Is a large fine for violating the Road Traffic Act, due to for instance speeding, likely to lead to negative reactions? This dissertation assumes that it is – although probably not to the same extent as a conviction for violence or robbery. Thereby the dissertation risks creating a less clear picture of the influence of social bonds on law-breaking. Especially, the dissertation runs an increased risk of type II errors, i.e. not finding a connection between 'strong social bonds' and 'law-breaking', even if such exists since the measure of law-breaking could be inflated. However, the choice to include all registered law violations is also based on practical concerns. As the first two research questions focus on the general population, where serious criminal offenses are rare, a more inclusive definition of law violations means that the dissertation does not suffer from severe power issues and is able to investigate the theory of social bonds on other than a high-risk population.

When the dissertation investigates the importance of unconventional parents, it follows Hirschi's idea that unconventional parents may in fact reinforce unconventional behaviour in the child – in other words, they have a moderating impact. As previously discussed, Hirschi empirically defines unconventional parents as 'lower-class parents' based on their history of welfare benefits, unemployment, occupational status and race from the idea that lower-class parents might inhibit deviant values. This dissertation uses parental law-breaking instead as a more direct measure of parental deviant values, including both serious crimes and misdemeanours alike.

However, are parents who get speeding tickets necessarily more likely to hold deviant values? Is the measure of 'unconventional' too broad? Again, the choice to include violations of the special laws, including the Road Traffic Act, is based on both theory and practical concerns. As the current dissertation uses the outcome adolescents' law violations and include violations of the Road Traffic Act, it includes the same violations in the measure of parents' law-breaking for consistency. In addition, the analyses of the impact of unconventional parents are based on a sample of the general population, in which serious offenses are rare. As previously discussed, a more inclusive measure of law violation and unconventional is therefore needed in order to analyse other than a high-risk population and not simultaneously suffer from severe power issues.

All three research articles use a dichotomous variable ‘any conviction’ as dependent variable, enabling a (cautious) comparison between the articles. This variable measures whether the individual breaks the law and enters the crime statistics. The first two research questions, ‘How do parental social bonds affect law-breaking in adolescence?’ and ‘How are social bonds to a romantic partner related to law-breaking in adulthood?’, are furthermore answered using the dependent variable ‘number of convictions’. This variable is included since Laub et al. (1998, p. 225) argue: ‘because investment in social relationships is gradual and cumulative, resulting desistance will be gradual and cumulative’. ‘Number of convictions’ thus aims at creating a more nuanced view on offending in which the impact of strong social bonds does not necessarily result in no law-breaking at all, but rather in less law-breaking. However, except for one result in article 2, there is no substantial difference between the results when using the two different dependent variables.

The last research question, ‘What is the effect of longer incarceration on recidivism in adulthood?’, does not focus on the general population, but rather on offenders who have been incarcerated. This warrants the inclusion of a more serious measure of the dependent variable ‘recidivism’, especially since Snodgrass et al. (2011) note that different measures of recidivism might yield different results regarding the consequences of incarceration. In order to provide two diverse measures, the dissertation therefore answers research question 3 with the variables: ‘any conviction’ (as in articles 1 and 2) and ‘a new unconditional prison sentence’, the latter being the most serious sanction in Denmark while furthermore being the type of sentence the offender was originally released from.

The independent variables in the first two articles capturing social bonds come from the surveys DALSC and SHIELD. The independent variable in the last article, i.e. incarceration length in units of ten days, is based on the official administrative registers. The following three chapters, offering summaries of each research article, provides overviews of the operationalisation and measurements of the dependent variables while the details can be found in the articles themselves.

The current dissertation includes a large range of control variables. The function of the control variables is to support as precise an estimate as possible of the association between the dependent and main independent variable. In themselves, control variables are not the focus of the analyses. Rather, control variables can enable an ‘all else equal’ estimate, keeping covariates constant. This is especially relevant in order to avoid omitted variable bias, which might pose a problem if variables correlated with both the independent and the dependent variable are not controlled for, but instead ends up in the error-term

(Angrist & Pischke, 2009, p. 60). One could for instance hypothesise that having a child might affect the bonds between a romantic couple while also independently affecting an individual's propensity to offend (Monsbakken et al., 2013). Because of this, a control variable measuring whether or not the individual has children is included in article 2. However, even observables not correlated with the independent variable can be relevant as controls. This is the case since adding observables which predict the dependent variable can reduce residual variance and in turn lower standard errors in the regression estimates (Angrist & Pischke, 2009, p. 24).

The current dissertation's choice of control variables is to a certain extent based on availability. Just as the surveys used here are not collected with the purpose of answering this dissertation's research questions, so was the choice of register data to be merged with the surveys not in the hands of this author. However, a large range of data has been available, and the following chapters, which summarises the findings of each article, will provide brief discussions of the choice of included control variables.



# Chapter 7.

## How do parental social bonds affect law-breaking in adolescence?

The results and conclusions in this chapter come from the article ‘Parental social bonds and adolescents’ convictions’ published in *Deviant Behavior*. The present chapter further elaborates and discusses empirical and theoretical details which could not be included in the article due to space constraints.

### 7.1. Motivation

Both Hirschi (1969) and Sampson and Laub (1993) emphasise the importance of parents in relation to juvenile delinquency. While the theory of (informal) social control argues that strong social bonds to parents will be a protective factor regarding delinquency, chapters 3 and 4 have illustrated that it is unclear whether strong social bonds to delinquent parents have the same beneficial influence on juvenile delinquency. Surprisingly, the reviewed literature on the subject does not investigate this puzzle. The current dissertation therefore aims to shed light on this underresearched topic.

### 7.2. Research design

In order to answer the research question, the dissertation uses the survey DALSC on N = 2,677 young people who answered the survey at ages 15 and 18. The survey has also been merged with administrative register data on the respondents and their parents from 1980-2013, meaning that the study can control for relevant background characteristics.

The data coming from two waves allow for a fixed effects (FE) approach. While a simple descriptive regression can estimate the between-variable associations, thereby illustrating the connection between concepts or theoretical ideas, the results are likely to be biased if used to make causal inferences. This is due to the risk of unobserved characteristics, which might affect both the explanatory and explained variables. If these characteristics cannot be controlled for, they will likely end up biasing the results. An FE approach takes us a step closer to a causal explanation since the FE controls for all time-invariant factors; both observed and unobserved (Allison, 2009). Since most of the literature on the subject is descriptive (Agnew, 1985; Aseltine, 1995; Cernkovich & Giordano, 1987; Costello & Vowell, 1999; Gault-Sherman, 2012; Higgins et al., 2010; Jang, 1999; Krohn & Massey, 1980; Mack et al., 2007; McCord, 1991;

Miller et al., 2009; Ranking & Kern, 1994; Schroeder et al., 2014; Wright & Cullen, 2001), a single exception being Childs et al. (2011), this study is thus one of the first to move closer to a causal estimate.

Since the explained variables come from the administrative registers, whereas the explanatory variables come from the survey, this dissertation also handles the risk of common source bias (Favero & Bullock, 2014). Almost all the literature reviewed for this dissertation on young people's delinquency and parental attachment uses self-reported delinquency and the child's attachment from the same survey (Agnew, 1985; Cernkovich & Giordano, 1987; Chappel et al., 2005; Childs et al., 2011; Costello & Vowell, 1999; Gault-Sherman, 2012; Higgins et al., 2010; Jang, 1999; Mack et al., 2007; Miller et al., 2009; Ranking & Kern, 1994). Measuring both dependent and independent variables in the same survey risks introducing common source bias if all the survey answers are affected by, for instance, social desirability. In using data from two different sources, the current study thus moves us another step closer towards an unbiased estimate. In the following, the variable choice is presented.

**Law violations:** The dissertation uses law violations as a measure for juvenile delinquency with the outcome variables 'any conviction' and 'number of convictions' from the administrative registers. These include misdemeanours such as violations of the Road Traffic Act. This entails that the current analyses have a broader scope than serious youth offenders. This is in line with the research tradition on juvenile delinquency, which is generally inclusive in its definition of 'delinquency', and often includes both serious crimes and either petty crimes or non-criminal activities. Acts such as truancy, graffiti, petty theft, running away from home, and drinking are thus frequently included in the measure of juvenile delinquency (see for instance Aseltine, 1995; Childs et al., 2011; Gault-Sherman, 2012; Hirschi, 1969; Ranking & Kern, 1994; Sampson & Laub, 1993).

Hirschi (1969) raises the question of whether strong social bonds to unconventional parents will lead to unconventional child behaviour. Unconventional parents are here identified as law-breaking parents. Law-breaking is defined as convictions for both serious crimes and misdemeanours alike and thus includes the same acts that define juvenile delinquency. This is based on the argument that young people are affected by parental deviant values (Hirschi, 1969), and that these values might be expressed as a disregard for the law – whether or not the offence itself is serious or involves petty crimes.

Table 3: Law violations by the sample and the sample's parents in 2012

	<b>Adolescents</b>		<b>Mothers</b>		<b>Fathers</b>	
Penal Code	N	%	N	%	N	%
Sexual offenses	0	0.00	0	0.00	2	1.37
Violent offenses	1	1.41	1	2.17	3	2.05
Property offenses	11	15.49	0	0.00	3	2.05
Other offenses	1	1.41	1	2.17	1	0.68
Road Traffic Act	49	69.01	41	89.13	108	73.97
Drugs	4	5.63	0	0.00	2	1.37
Weapons	1	1.41	0	0.00	3	2.05
Taxes and Fees	0	0.00	0	0.00	0	0.00
Other special laws	4	5.63	3	6.52	24	16.44
<b>Total offenses</b>	<b>71</b>	<b>100.00</b>	<b>46</b>	<b>100.00</b>	<b>146</b>	<b>100.00</b>

Data: From own calculations of register data from Statistics Denmark. Law violations include both main cases and additional minor cases.

Table 3 illustrates the offense types committed by the sample and the sample's parents by showing the distribution of law violations in 2012. Violations of the Road Traffic Act are by far dominant for both adolescents and their parents although more than 15% of the adolescents are convicted for property offenses. The in-depth discussion of the appropriateness of including misdemeanours, such as violations of the Road Traffic Act, in the measure of law violations (including those of unconventional parents) can be found in chapters 3 (section 3.1) and 6 (section 6.7) as it applies to the dissertation as a whole. However, it is worth noting again that by including misdemeanours in 'law violations', the study runs the risk of clouding the measure and potentially making it harder to test the theory. At the same time, this is the cost of testing the theory on other than high-risk populations since serious crimes are rare in the general population – and perhaps even rarer in this sample due to attrition. The question of attrition is discussed in detail in chapter 6 – however, it is important to repeat that while the current sample is useful for theory testing using regression analysis, the descriptive statistics in Table 3 are not necessarily representative of all Danish adolescents and their parents.

While the results should be applicable to the wider population of Danish youth, if the estimated relationships including heterogeneous effects are modelled correctly, a skewed sample's external validity is more vulnerable than a representative sample's if relevant interaction terms are erroneously omitted. This dissertation explores whether there are heterogeneous effects of social bonds to parents depending on parental law-breaking. Informal social control theory provides no reason to believe that there are other heterogeneous effects, which the current dissertation has overlooked. However, investigating this question more thoroughly would be an interesting road for future research.

Juvenile and parental law violations are measured in two waves when the young person is aged 15 and 18. The age of criminal responsibility in Denmark is 15, and the study thus measures juvenile law-breaking from this age. Parental law-breaking, on the other hand, is measured in a three-year timespan: three years up to (and including) when the young person turns 15, i.e. 2008, 2009 and 2010. And three years up to when the young person turns 18, i.e. 2011, 2012 and 2013. The argument for not including the complete parental offence history is two-fold: By only including the past three years, the study aims to measure recent parental delinquency. Furthermore, the analyses are based on a fixed effect (FE) design, which uses changes in variables. However, if the parents' entire history of delinquency was included, this might cloud the changes between the two waves.

**Social bonds:** As previously discussed, the current dissertation measures social bonds to parents as attachment and indirect supervision. Attachment is based on the young people's answers to a battery of questions stating: 'You can count on your mother to listen to you', 'You can ask your mother for advice', 'You can count on your mother for help if you have a problem', 'Your relationship with your mother is important to you', 'You trust your mother' and 'You experience that your mother loves you'. The same six items are repeated about the father. All questions have been collapsed into two summative scales: one for mother, one for father. Because of missing values, the study divides the results of the individual scales with the number of questions answered, and the attachment scales for mother and father thus end up ranging from 1 to 5, higher values representing stronger attachment. Sampson and Laub note that few studies include measures of attachment seen from the perspective of both the child and the parents although this would provide for a 'fuller specification of the attachment variable' (1993, p. 70). It is still rare to see attachment measured from both perspectives, and this study therefore includes another attachment measure based on the mothers' answers to a question about the closeness of their relationship to their child.

Indirect supervision is based on two questions to the mothers about their knowledge of their child's whereabouts and their child's friends.

**Controls variables:** Not all mothers nor all children answered all questions in the survey. In order not to enhance attrition further, this dissertation therefore only includes control variables based on register variables. Furthermore, as this article employs an FE model, all time-invariant personal characteristics are already controlled for by default. However, the analyses do include the mother and father's contact to psychiatric care facilities (emergency departments, hospitals or out-patient care) due to a psychiatric diagnosis as controls since parental psychiatric problems are likely to affect both parental social bonds and possibly also adverse child behaviour such as law-breaking.

The study uses linear FE models. When the outcome is 'any conviction', it uses FE linear probability models (LPM). However, the study does employ FE logistic regressions as a robustness check. When the outcome is 'number of convictions', the study uses FE ordinary least square (OLS) regressions.

The FE model is always consistent, but not necessarily the most efficient estimator. The dissertation therefore also conducts a series of Hausman tests between the FE and the random effect (RE) model.

### 7.3. Results

The main results show that neither the young person's assessment of their attachment to the mother, the father or the mother's own view of the attachment

nor the mother's own assessment of her knowledge of the young person's whereabouts is significant. This is the case when explaining whether the adolescents get a conviction and how many. However, one aspect of the mother's indirect supervision, namely knowledge of her child's friends, significantly reduces both the risk of any convictions and the number thereof. The robustness check shows that using a logistic model does not change this result.

A mother's knowledge of her child's friends significantly reduces the risk of convictions, regardless of the mother's own convictions. While the interaction terms between the social bonds variables and law-breaking are insignificant, part of this might come from the fact that few mothers have criminal convictions. The confidence intervals when the mother has been convicted are therefore quite large.

The Hausman tests suggest that the RE models might be the best choice. The result is very close to being in favour of the FE models, however, and this study therefore takes a conservative approach to inducing the risk of bias and continues with the FE models. RE models are nevertheless performed, showing that a mother's knowledge of her child's whereabouts is significant in terms of reducing the risk of law-breaking while a mother's convictions interacted with her knowledge of her child's whereabouts increase the risk. The result suggests that a convicted mother increases the risk of adolescents' convictions the more she conducts indirect supervision of her child. Due to the risk of bias, however, one should be cautious about emphasising this result excessively.

To conclude, the study shows that informal social control in the form of a mother's indirect supervision significantly reduces the risk of young people's law-breaking. This furthermore seems to be the case, regardless of the mother's own criminal convictions – very few mothers to the general population of young people are ever convicted of anything, however, and the confidence intervals for these results are therefore quite large. Attachment between parents and child, on the other hand, does not seem to impact young people's law-breaking.

# Chapter 8.

## How are social bonds to a romantic partner related to law-breaking in adulthood?

The results and conclusions in this chapter come from the article ‘How are social bonds to a romantic partner related to criminal offending?’ published in *European Journal of Criminology*. This chapter further elaborates and discusses empirical and theoretical details which could not be included in the article due to space constraints.

### 8.1. Motivation

The age-graded theory of informal social control emphasises marriage (or cohabitation) as one of the major informal social control institutions in adulthood. Especially in their earlier work, however, Sampson and Laub stress that not just any romantic relationship should be expected to reduce the risk of criminal activity, only ‘cohesive’ ones with strong social bonds (Laub & Sampson, 1993, p. 304). In their early empirical work, this is measured as attachment (Sampson & Laub, 1993). While most quantitative research on social bonds in adulthood refers to the work of Sampson and Laub, almost none of it includes the direct or explicit measure of the social bonds. Moreover, the quantitative research that does include such a measure is primarily US-centred and based on a population younger than 30. The question of the universality of the theory therefore remains.

The current research question is answered by testing three hypotheses:

1. People with strong adult social bonds to a romantic partner violate the law less than do people with weak adult social bonds to a romantic partner.
2. People with weak adult social bonds to a romantic partner violate the law as much as do people without a romantic partner.
3. The association between adult social bonds to a romantic partner and law violations varies with age, gender and the partner’s history of law violations.

## 8.2. Research design

The current dissertation tests these hypotheses with the survey SHIELD on  $N = 11,053$  individuals living with a partner and  $N = 61$  individuals who do not have a partner and have not been living with one for the last 5 years.

The analyses are between-individual, meaning that individuals are not followed over time. However, Sampson and Laub's theory is a life course theory, raising the question of whether a cross-sectional analysis is sufficient to answer the research questions. The current dissertation argues that this is the case. Sampson and Laub (1993) theorises that the strengthening or weakening of social bonds explain changes in deviant behaviour. One of the theoretical arguments is that romantic partners invest in each other and their relationship. The greater the investment, or the more 'interdependent (the) system of obligations and restraint', the more is at stake and the less likely the individual is to deviate (Sampson & Laub, 1993, p. 141). In other words, while a *change* in social bonds explains a *change* in deviant behaviour, the *strength* of the individual's social bonds is highly relevant in explaining who is *currently* engaged in deviant behaviour, and who is not. If we take a snapshot of the Danish population, we should therefore expect a pattern in which people with strong social bonds violate the law less than people with weak social bonds do. This is exactly what the current dissertation does.

Along the same line of argument, a cross-sectional snapshot should be able to inform us of the importance of age, gender and partner's delinquency for individual law-breaking, especially since the between-individual analyses include a wide range of controls which take the importance of individual observables into account. The study's variable choice is presented in the following:

**Law violations:** The study defines law violations as convictions with the explained variables being 'any conviction' and 'number of convictions' measured in 2012. These data come from the administrative registers and include both serious offenses and violations of the special laws, including the Road Traffic Act. Table 4 shows the distribution of law violations for the sample and the sample's partners in 2012. The table shows that the respondents and their partners have the same pattern of law violations with the vast majority of law violations being violating the Road Traffic Act. This underlines the point from chapter 3 that serious crimes are rare in the general population – and perhaps more so in this study since the amount of individuals convicted in the current sample is lower due to attrition (see chapter 6). The appropriateness of the operationalisation of law violations, including the limits and strengths, is discussed in detail in chapters 3 (section 3.1) and 6 (section 6.7) and thus not repeated here in order to ease reading.

Regarding attrition, Table 2, chapter 6 shows that there are significant differences in all analysed variables between the initial sample and the final one. As discussed in the previous chapter, this poses a threat to external validity if the model fails to take into account relevant heterogeneous effects. However, this study already tests several variables for moderating associations with the majority being insignificant. Furthermore, the theory of informal social control does not suggest that there are other heterogeneous effects, which should be included. Consequently, the attrition does not seem to pose a severe threat to external validity.

Table 4: Law violations by the sample and the sample's partners in 2012

	All respondents	N	%	Partners	N	%
Penal Code	Sexual offenses	0	0.00	Sexual offenses	0	0.00
	Violent offenses	1	0.36	Violent offenses	3	1.06
	Property offenses	4	1.43	Property offenses	3	1.06
	Other offenses	1	0.36	Other offenses	1	0.35
Road Traffic Act	Road Traffic Act	229	81.79	Road Traffic Act	228	80.85
Special Laws	Drugs	3	1.07	Drugs	1	0.35
	Weapons	1	0.36	Weapons	2	0.71
	Taxes and Fees	1	0.36	Taxes and Fees	1	0.35
	Other special laws	40	14.29	Other special laws	43	15.25
Total offenses in the sample		280	100.00		282	100.00

Note: Data are from own calculations of register data from Statistics Denmark. Law violations include both main cases and additional minor cases.

**Social bonds:** The explanatory variables are ‘strong attachment to partner’ for Hypotheses 1 and 3. For Hypothesis 2, the explanatory variable is ‘having a partner’, combining information from the survey and the registers from 2012. ‘Strong attachment’ is based on two survey questions. The first question asks: ‘With whom do you primarily talk about personal and serious problems?’ to which 84% of the respondents living with a partner choose that person. The second asks: ‘If you think about the next three years of your life, what is the likelihood that you will be living with the same partner?’ to which 71% answer 100%. ‘Strong attachment’ is a dichotomous variable, taking the value 1 if the individual goes to their partner with problems and answers ‘100%’ to the second question.

**Control variables:** As in the previous article, the analyses predominantly use register variables as controls in order not to enhance the problem of attrition due to non-responses of any non-vital items. Control variables in

this study are the individual's history of law violations, income, age, sex and having children. The first two variables are measured in 2007, five years before the explained variable, in order to avoid any obvious reverse causality issues. The rest are measured in 2012. For Hypotheses 1 and 3, which focus solely on individuals with a partner, years of relationship, partner's history of law violations and marital status are also included, measured in 2012. Age and sex are 'classic' demographic controls included to reduce residual variance. The study includes the rest of the controls from a concern that they might correlate with both the dependent and the independent variable.

The method employed to investigate the research hypotheses are linear probability models (LPM) when the outcome is 'any conviction' and ordinary least square (OLS) regressions when the outcome is 'number of convictions'. The dissertation conducts a series of robustness checks, showing that the main results do not change in significance and signs when employing logistic models and negative binomial regression instead.

### 8.3. Results

The results confirm Hypothesis 1 and show that people with a strong attachment to their partner have a statistically significantly smaller risk of law-breaking than those with weak attachment. Stronger attachment is thus associated with a reduced risk of 18% for receiving a conviction as well as for the number of convictions.

Hypothesis 2 is confirmed to the degree that there is no statistically significant difference between the rate and the risk of law-breaking for people without a partner and people with a weak attachment to their partner. It is important to stress that an acceptance of the null hypothesis (i.e. that there is no difference) cannot be a proof. Had the dissertation found a difference, however, it would suggest that more work would be needed in order to use the theory of (informal) social control in the Nordic context. This does not seem to be the case.

Hypothesis 3 is confirmed to a very limited degree. Neither the interaction terms for the partner's history of law violations nor the respondent's sex is significant in the estimations, suggesting that men and women benefit equally from strong attachment to a romantic partner. Likewise, an individual seems to benefit from strong attachments regardless of whether they are attached to someone with a history of convictions. One result concerning age shows that people over age 30 benefit less from strong attachment to a romantic partner than those younger than 30. This result is only present when the outcome is 'any offense', but not 'number of offenses'. Furthermore, attachment interacted with an alternative age split of 18-24, 25-34, 35-44, 45-54 and 55-64 also

turns out to be insignificant. In total, the result that older individuals (> age 30) should benefit less from strong social bonds than their younger counterparts should be seen as suggestive, but not conclusive.

In conclusion, the results from this study support informal social control theory. Strong attachment to a romantic partner is thus associated with a reduced risk of law-breaking while there is no statistically significant difference in law-breaking between people with weak partner attachment and no partner. Furthermore, the association does not seem to be moderated by gender or the partner's law-breaking. One result regarding age suggests that the attachments of older individuals are associated with reduced law-breaking to a lesser extent; however, that result is highly suggestive.



# Chapter 9.

## What is the effect of longer incarceration on recidivism in adulthood?

The results and conclusions in this chapter come from the article ‘The effect of incarceration length on recidivism – evidence from a natural experiment’, invited for resubmission by *Crime and Delinquency* in an earlier version.

### 9.1. Motivation

As argued and illustrated throughout this report (see chapters 2, 3, 4 and 5), incarceration is a severe and intrusive formal social control practice. Yet, while incarceration lengths have generally increased worldwide, especially over the past decades, we know very little about the causal effects of this development on individual recidivism.

### 9.2. Research design

As discussed in Chapter 7, simple regressions can lead to a biased estimate if used to make causal explanations as unobserved characteristics might affect both the explanatory and explained variables. Yet, most studies investigating the consequences of incarceration length on recidivism employ regression or matching, the latter being another way of controlling for observables (Angrist & Pischke, 2009). A stronger method for ensuring an unbiased estimate, thereby enabling causal claims, is to use a natural experiment or quasi-experimental approach. To this author’s knowledge, this approach has only been used once before on the current research question, and that is on American data.

This dissertation uses a reform of the Danish Penal Code on 8 June 2002, which increased the maximum penalty for, among other things, simple violence. This translates into an actual increase in incarceration length for this type of offense by 11% for the currently analysed offender group. Landersø (2015), who focuses on post-prison labour market outcomes for violent offenders, has used this reform once before. The current dissertation uses the reform to instrument incarceration length in a 2SLS LPM. The sample consists of all the individuals in Denmark committing simple violence in the period from one year before the reform until one year after and receiving an uncon-

ditional prison sentence for it. The control group consists of individuals committing simple violence before the reform, and the treatment group consists of individuals committing simple violence after. The first sentence counts as the ‘treatment/control sentence’ while any later sentences count as recidivism. Since the individuals in the treatment group cannot commit simple violence (and receive an unconditional prison sentence for this) a year before – because if they had, they would have been included in the control group – the study balances the sample by imposing a likewise restriction on the control group. The final sample consists of  $N = 1,151$  offenders aged 18-35. All data used in the study are administrative register data. The study’s variable choice is presented in the following:

**Law violations:** The study investigates two outcomes: ‘any conviction’, like in the previous two chapters, and a new prison sentence where at least part of it is unconditional. Furthermore, the timing of this recidivism is explored within the first four years of release. Chapter 6, section 6.7 provides a thorough discussion of the choice of outcome variables used throughout the dissertation.

**Incarceration length:** The main results in the current study uses actual experienced incarceration length instead of the imposed sentence length by the courts since several theories (see chapter 3) suggest that it is the time spent in prison, which will likely matter the most for recidivism risk. The most important reason why these two measures of incarceration length might differ is that most inmates at that time were released earlier on parole if there had been no major problems during their incarceration. While this might also introduce endogeneity to the study, using sentence length instead of actual incarceration length to test the robustness of the results does not change the results.

**Control variables:** Some scholars suggest that when evaluating the effectiveness of imprisonment on preventing recidivism, at least two case characteristics (prior record and conviction offense type) and three demographic variables (age, race and gender) should be included (Nagin, Cullen & Jonson, 2009). The demographic controls in this study are thus: age, sex and whether the offender is of an ethnic minority. The case specific controls include whether one or more minor additional offenses exist in connection with the main case in focus, and whether the offender had committed other offenses up to five years before the case of simple violence. Furthermore, the current study includes the SES controls: whether the offender was connected to the labour force or enrolled in a formal educational institution as well as their disposable income. All controls except case-specific variables are measured one year before the violence was committed.

### 9.3. Results

While the reform did increase incarceration lengths by 11%, the extra time in prison does not seem to affect recidivism in any of the four years after the inmate's release. This is the case for both measures of recidivism. As mentioned in the previous section, using imposed sentence length by the court instead of time served as a robustness check does not change the main results.

Another question is how well the instrument works. In order to investigate this, the study both shows that the treatment and control group are similar on all observables, and that the share of unconditional prison sentences for simple violence out of all convictions by the Penal Code for individuals aged 18-35 was relatively stable for violence committed between 2000 and 2004. In other words, it is highly likely that the treatment and control groups in this study are similar in terms of their recidivism risk.

The dissertation also explores whether 'mock reforms' one year before and one year after the actual reform could claim to have the same highly significant impact on incarceration lengths. The first one is by far the most important one since it illustrates whether the increase in actual experienced incarceration length, which this study ascribes to the reform, was actually part of a trend already taking place in the population in question. This does not seem to be the case. While the mock reform one year before the actual reform is insignificant and shows almost no difference, the mock reform one year after is highly significant and shows an even larger increase in incarceration length than the actual reform. This suggests that the reform was indeed the driving force behind the increase in actual experienced incarceration lengths – while, on the other hand, it took more than a year to fully implement the change.

Finally, the most common offence type in 2001-2003 after simple and serious violence, which people were sentenced to unconditional prison for, was drugs. This offense type is thus investigated since the sentence lengths for these offenses should not have been affected by the reform. Incarceration lengths for drug-related offenses do in fact increase during the period. However, while this is very likely a consequence of the high political focus on drug-related crimes, the increase is not statistically significant.

In short, the data suggest that the reform was indeed the driving force behind the observed significant increase in incarceration lengths, and that the instrument is well suited. The results show that longer incarceration for simple violence has no significant effect on recidivism. This form of formal social control thus seems to be ineffective in reducing crime for violent offenders in Denmark.



## Chapter 10. Discussion and conclusion

The current dissertation investigates whether informal and formal social control affects the individual's risk of law violation. It does so by looking into social bonds in adolescence and adulthood and incarceration – specifically longer incarceration – in adulthood. When the dissertation investigates social bonds, it uses data on the general population instead of only a high-risk sub-population. Informal social control theory was developed in the US based on American family life for the birth cohorts born in the 1920s and 1930s, and this dissertation thus tests the theory's universality by applying it to a contemporary Scandinavian country.

The results suggest that social bonds do indeed matter. For adolescents, attachment does not seem to affect law-breaking, neither when estimated from the perspective of the child nor the mother. However, the mother's knowledge of her child's friends (i.e. indirect supervision) reduces the risk of law-breaking. Likewise, social bonds to a romantic partner, measured as strong attachment, are associated with a decreased risk of law-breaking for adults.

Initially, it might seem curious that attachment is important for adults, but not for adolescents. However, the argument put forward by Hirschi (1969) and Sampson and Laub (1993) is that strong attachment is deterring because the individual cares about the opinion of the significant other and fears jeopardising the relationship; perhaps with good reason as 46% of all marriages in Denmark result in divorce (DST, 2014b). This is not the case for children and parents – while attachment is flexible and might change for better or worse, as previously discussed, most children stay with their parents until they become young adults and leave home as part of the maturation process. In other words, children do not have to fear the ending of their relationship to their significant others (i.e. their parents) to the same extent as do adult romantic partners. Apart from attachment, in the work of Hirschi (1969), social bonds also consist of commitment and involvement in conventional activities and beliefs in the common value system of society. Maternal knowledge (and thereby presumable acceptance) of her child's friends could thus be hypothesised to be a proxy for involvement in conventional activities. The more time the young person spends with conventional peers, the less the time for – and risk of – illegal activities.

Importantly, it does not seem to matter if the person to whom the individual has the social bonds is breaking the law him or herself. Both in the investigations of adolescents and adults, the significant others' convictions are not moderating the impact of the social bonds. Furthermore, the impact of age and gender is investigated for adults. The results suggest that both men and women benefit equally from strong social bonds. Age is significant in one result, suggesting that older individuals (> age 30) benefit less than do younger individuals. Other results regarding age are not significant, however, making the result for the above-30s suggestive, but not conclusive.

While social bonds are predictive of law-breaking, formal social control in the form of longer incarceration is not. The current dissertation investigates whether the increase in incarceration lengths for violence as a result of a reform of the Danish penal code increases inmates' recidivism. Regardless of how recidivism is measured (conviction or return to prison) and which year recidivism is measured in (within the first four years of release), longer incarceration does not seem to have an effect on later crimes.

This dissertation has a number of limitations that should be taken into consideration. Some of them are discussed in the individual articles if they are minor and mainly have relevance for the article in question. This report highlights the aspect that the current research on social bonds is based on samples of the 'general population'. However, the general population is not very criminal. This is illustrated by an investigation of the marginal effects of parental attachment, depending on parental convictions. The confidence interval when a parent has a conviction is large, meaning that the estimates are more imprecise and that getting significant estimates is less likely. Oversampling in surveys for parents and partners with a history of convictions might therefore be a way to ensure more precise estimates of the impact of social bonds to a law-breaking significant other. This would be an interesting road for future research to take.

The issue of low offending rates is further enhanced by the fact that both surveys suffer from attrition due to non-response. In the investigations of the impact of social bonds, both surveys thus underrepresent individuals in less privileged circumstances. While attrition is an issue often encountered in survey-based research, and it is well known that vulnerable individuals are also the least likely to participate in surveys, it does pose a potential problem for the generalisability of the results. Again, oversampling of individuals in more marginalised positions or developing new techniques for improving response rates in order to achieve a more representative sample might, to a certain extent, mitigate this problem in future research.

The investigation of longer incarceration uses a sample of offenders convicted for simple violence. Thus, the result is not necessarily applicable to

other offense types. The results also show that those who were affected by the reform were mainly individuals younger than 25 and individuals who had been convicted during the previous five years. With the extremely limited amount of research on incarceration length using natural experiments, more research using this approach would increase our knowledge of the causal impact of incarceration length. This would especially be the case for future research focusing on incarceration length for non-violent offenders.

Another important point is whether the results can be interpreted as strict causal estimates. This is only the case for the analyses of longer incarceration in which the dissertation uses a natural experiment. In the analyses of adult social bonds, the analyses are based on standard linear regressions with a wide range of control variables. The analyses of adolescents' social bonds use a FE approach and thus control for all time-invariant characteristics; both observed and unobserved. While this brings the analyses closer to an unbiased estimate, the question of the direction of the causality remains. Individuals interact with those with whom they share social bonds. Parents-children and romantic partners are likely to interact on a daily basis, influencing each other and each other's behaviour. While the theory predicts that weak social bonds increase the risk of crime and delinquency, crime and delinquency also plausibly affect the social bonds between individuals. After all, that is one of the arguments Hirschi (1969) and Sampson and Laub (1993) put forward for why social bonds should be deterring: The individual cares about the opinion of their significant other and fears jeopardising the relationship. Empirical research supports this hypothesis, showing that the parent-child attachment is affected by child delinquency (Gault-Sherman, 2012). There is no reason to believe this should not be the case for adults as well. This means that even though the current dissertation uses strong methods in comparison with much of the international literature, it does not claim to have estimated one-directional strict causal effects regarding social bonds.

The dissertation finds no effect of longer incarceration, but does find support for informal social control. What are the policy implications of this? That depends on the aim of the penal policy. If the purpose is to 'send a strong signal' (see e.g. Ministry of Justice, 2017), perhaps there are no policy implications of these results. If the aim is exclusively to reduce law-breaking, however, social projects targeting delinquent youth should actively work on strengthening the bonds between parents and children. A parental training programme such as Parental Management Training – Oregon (PMTO), which aims at enhancing parental skills (e.g. monitoring and supervision), is an example of this (Bjørnebeek et al., 2015).

Regarding adults, Danish prisons do allow convicted inmates visits from their families. Nevertheless, Minke (2012) shows that it can be hard to maintain the contact with a romantic partner while incarcerated. If strong social bonds are a salient factor for a crime-free life after prison, this could be incorporated to a higher degree by the Danish Prison and Probation Service into its rehabilitative objective. This would entail that the inmates' romantic lives with significant others should be actively nurtured as part of the Service's aim to 'motivate offenders to become law-abiding citizens'.

The results also suggest that adolescents and adults alike benefit from strong social bonds to significant others irrespective of the possible criminal convictions of the latter. This is in line with the observation made by West and Farrington (1977) that parents with a criminal history do not communicate anti-establishment attitudes, but in fact actively discourage criminal activity. Whether or not a parent or a partner has a history of offending, these results thus suggest that social bonds to that person can still be included in crime preventive measures.

In terms of incarceration, the current dissertation does not find that longer incarceration decreases later law-breaking or return to prison. At least for the offenders convicted of simple violence, the results thus suggest that policy-makers should emphasise other penal approaches if the goal is to reduce later crimes.

In short, this dissertation uses state-of-the-art quantitative methods and finds no effect of longer incarceration as an example of formal social control. However, the results confirm the relevance of the theory of informal social control in the contemporary Scandinavian setting for the general population. This was not given beforehand. As previously described, Denmark as a society seems to be remarkably different from Sampson and Laub's description of the American family in the 1920s-1930s. Nonetheless, the argument that social bonds to significant others act as a protective factor against law-breaking seems to transcend geography and time; at least within these two Western societies.

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## English summary

This dissertation investigates how informal and formal social control affects an individual's law violations. This is done answering three research questions: 1) How do parental social bonds affect law-breaking in adolescence?, 2) How are social bonds to a romantic partner related to law-breaking in adulthood? and 3) What is the effect of longer incarceration on recidivism in adulthood? The three questions are investigated in separate research articles. This report is a summary report.

The current dissertation takes its theoretical departure from Hirschi's (1969) social control theory and Sampson and Laub's (1993) age-graded theory of informal social control. According to these theories, individuals deviate when their bonds to society are weak or broken. During the life course, different informal and formal social institutions have salient importance in aiding desistance. Sampson and Laub highlight the significance of strong social bonds to parents during adolescence and to a romantic partner in adulthood. Both areas of research have received considerable attention in the international literature, and the theories of social control and informal social control thus continue to be of substantial importance.

Sampson and Laub touch upon what they call formal social control institutions and conduct a brief investigation of the association between the length of incarceration and later crime. The research topic of incarceration length remains highly relevant as incarceration lengths have increased internationally in recent decades. And while some refer to the penal practises observed in Denmark as part of the 'Scandinavian exceptionalism', harsher sentencing practices have also been introduced in Denmark, including increased incarceration lengths in recent years. While incarceration is one of the most severe formal social control practices a state can impose on its citizens, we know very little about the causal effect of longer incarceration on later crimes.

This dissertation thus makes several contributions: First, it investigates whether the impact of parental social bonds depends on parental convictions. The theory is unclear on this, and there is almost no empirical evidence on this subject. Second, it explicitly investigates the theoretical argument in informal social control theory that not just any relationship will aid the desistance process, but only a relationship with strong social bonds. While many scholars point to the work of Sampson and Laub, most research on the topic investigates the presence of a romantic partner, not the quality of the relationship. The dissertation also investigates whether the individual's age, gender and partner's criminal convictions moderate the association between the social bonds and individual conviction. Third, the dissertation uses state-of-the-art

quantitative methods for estimating unbiased results. One of the articles employs standard linear regression with a wide range of control variables. The two other articles use advanced quantitative methods, such as fixed effects and a natural experiment, which – each compared to the previous empirical literature on the research question in focus – are big steps towards estimating causal effects. Fourth, the dissertation investigates social control (both informal and formal) in a contemporary Scandinavian context. American family life for the birth cohorts in the 1920s-1930s was very different from the contemporary Danish family. Furthermore, some continue to refer to Danish penal practices as ‘exceptional’ with low prison rates and good prison conditions despite the recent push for harsher sentences. This dissertation thus investigates the theory’s universality across time, geography and cultural context.

This dissertation combines survey data and individual-level administrative register data. The use of administrative registers has several benefits, among them that the entire population is included each year with no opt-out option. The dissertation thereby makes use of fine-grained panels based on both administrative register data for each year and survey data, the latter which can tap into the type of information not registered by official bodies (e.g. individual opinions, beliefs, lived experiences).

The results suggest that social bonds matter. For adolescents, attachment does not seem to affect law-breaking. However, the mother’s knowledge of her child’s friends (i.e. indirect supervision) reduces the risk of juvenile delinquency. Likewise, social bonds to a romantic partner, measured as strong attachment, are associated with a reduced risk of law-breaking for adults.

Importantly, it does not seem to matter if the person to whom the individual has the social bonds is breaking the law him or herself. In the investigations of both adolescents and adults, the significant others’ convictions are not moderating the impact of the social bonds. Furthermore, the impact of age and gender is investigated for adults. The results suggest that both men and women benefit equally from strong social bonds. Age is significant in one result, suggesting that individuals over age 30 benefit less than younger individuals. Other results regarding age are not significant, however, making the result for the over-30s suggestive, but not conclusive.

While social bonds and thereby informal social control are predictive of law-breaking, formal social control in the form of longer incarceration is not. This is in line with much of the previous literature in which some scholars suggest that it is time to accept the fact that longer – or shorter – incarceration has no effect on a convicted criminal’s later criminality.

The policy implications are discussed in the last chapter. One implication might be that social projects targeting delinquent youth should actively work on strengthening the bonds between parents and children. If social bonds are

salient for a crime-free post-prison life, the Danish Prison and Probation Service could also, to a higher degree than currently, incorporate the nurturing of inmates' romantic lives with significant others into its rehabilitative objective.



# Dansk sammenfatning

Denne ph.d.-afhandling undersøger, hvordan uformel og formel social kontrol påvirker individers lovovertrædelser. Det gøres ved at undersøge tre spørgsmål: 1) Hvordan påvirker sociale bånd til forældre unges lovovertrædelser? 2) Hvordan er sociale bånd til en partner relateret til lovovertrædelser for voksne? 3) Hvad er effekten af længere fængselsstraffe på recidiv for voksne? De tre spørgsmål besvares i tre særskilte videnskabelige artikler. Denne rapport er en opsummeringsrapport.

Afhandlingen tager et teoretisk udgangspunkt i Hirschis (1969) social kontrol-teori og Sampson og Laubs (1993) uformel social kontrol-teori. Ifølge teorierne har individet større tendens til normbrydende adfærd, når dets bånd til samfundet er svage eller ødelagte. I løbet af livet har forskellige uformelle og formelle sociale institutioner den primære betydning i forhold til at holde individet fra kriminalitet. Sampson og Laub fremhæver vigtigheden af stærke sociale bånd til forældre, mens man er ung, og til en partner, når man er voksen. Begge disse forskningsområder har opnået stor opmærksomhed i den internationale litteratur, og både social kontrol-teori og uformel social kontrol-teori har således fortsat en markant indflydelse.

Sampson og Laub berører det, de kalder formel social kontrol, og laver en kort undersøgelse af sammenhængen mellem længden på fængselsstraf og senere kriminalitet. Længden af fængselsstraf er stadig et højt relevant emne, idet man de senere årtier har observeret en stigning i fængselslængder internationalt. Og mens nogle stadig betegner den danske praksis på strafområdet som værende en del af den ”skandinaviske exceptionalisme”, er der også her i landet sket stramninger på strafområdet i de senere år, blandt andet i form af længere straffe. Mens fængsling er en af de mest alvorlige former for formel social kontrol, som staten kan lægge ned over dens borgere, ved vi dog meget lidt om den kausale effekt af længere straflængder på senere kriminalitet.

Denne afhandling bidrager derfor på flere måder til den internationale litteratur. For det første undersøger den, hvorvidt påvirkningen af sociale bånd til forældre afhænger af, om forældrene selv overtræder loven. Teorien er ikke entydig om dette, og der findes næsten ingen empirisk viden på området. For det andet går afhandlingen nærmere ind i det teoretiske argument om uformel social kontrol, nemlig at det ikke er ethvert parforhold, som fungerer som en kriminalitetsbeskyttende faktor, men kun et parforhold med stærke sociale bånd. Mens mange forskere henviser til Sampson og Laubs arbejde, undersøger de fleste imidlertid kun tilstedeværelsen af en partner og ikke selve kvaliteten af forholdet. Afhandlingen undersøger ydermere, hvorvidt individets køn, alder og partnerens lovovertrædelser modererer sammenhængen mellem

de sociale bånd og individets lovovertrædelser. For det tredje benytter afhandlingen state-of-the-art kvantitative metoder. En af artiklerne benytter en standard lineær regression med en lang række kontrolvariable. De to andre artikler bruger avancerede statistiske metoder, såsom fixed effect og et naturligt eksperiment, hvilket – hver især sammenlignet med den tidligere empiriske litteratur på de respektive undersøgelsesområder – er store skridt i retning af at estimere kausale effekter. For det fjerde undersøger afhandlingen social kontrol (både uformel og formel) i en samtidig skandinavisk kontekst. Familielivet for de amerikanske fødselskohorter 1920-1930 var markant anderledes sammenlignet med en nuværende dansk families. Ydermere bliver dansk straffepraksis stadig betegnet af visse forskere som ”exceptionel” på grund af lav fængslingsrate og gode forhold i fængslerne sammenlignet med internationale forhold – på trods af en tendens til hårdere straffe i de senere år. Denne afhandling undersøger dermed teoriens generaliserbarhed over tid, geografi og kulturel kontekst.

Afhandlingen benytter en kombination af surveydata og registerdata. Brugen af registerdata har flere fordele, blandt andet er hele populationen inkluderet hvert år uden mulighed for at fravælge dette. Afhandlingen benytter dermed et fintmasket panel baseret både på administrative registerdata for hvert år samt surveydata. Sidstnævnte afdækker den type information, som ikke registreres fra officiel side. Dette er for eksempel personlige holdninger, forestillinger og erfaringer.

Resultaterne viser, at sociale bånd har betydning. For unge er det moderens kendskab til deres venner, dvs. indirekte supervision, som reducerer risikoen for lovovertrædelser. Ligeledes er sociale bånd til en partner som voksen, målt som stærk tilknytning, associeret med en reduceret risiko for lovovertrædelser.

Resultaterne tyder derimod ikke på, at det har betydning, hvorvidt den person, et individ har sociale bånd til, selv begår lovovertrædelser. Hverken i undersøgelserne af unge eller voksne modererer den ”signifikante anden”s lovovertrædelser således påvirkningen fra de sociale bånd. Det undersøges for voksne ydermere, om køn og alder har betydning. Resultaterne tyder heller ikke på, at individets køn påvirker sammenhængen mellem sociale bånd og lovovertrædelser. Alder er signifikant i ét resultat og peger på, at sociale bånd er mindre kriminalitetsbeskyttende for ældre individer over 30 år. Andre resultater i forhold til alder er dog insignifikante, og resultatet for alder er således indikerende, men på ingen måde konkluderende.

Mens sociale bånd, og dermed uformel social kontrol, således er predikterende i forhold til lovovertrædelser, er længere fængselsstraf, som et eksempel på formel social kontrol, ikke. Dette resultat er på linje med den tidligere litteratur på området, hvor nogle forskere foreslår, at det er på tide at acceptere

det faktum at længere – eller kortere – fængselsophold ikke har nogen effekt på den fængsledes senere kriminalitet.

Policy-implikationerne diskuteres i det sidste kapitel. Et forslag kunne være, at sociale projekter, rettet mod kriminalitetstruede unge, aktivt kunne arbejde med at styrke de sociale bånd mellem forældre og børn. Hvis sociale bånd har en fremtrædende betydning for et kriminalitetsfrit liv efter en fængsling, kunne Kriminalforsorgen også, i højere grad end på nuværende tidspunkt, indtænke pleje af de fængsledes parforhold som en del af rehabiliteringsmålsætningen.