GENERAL INTRODUCTION

1.1 INTRODUCTION

When individuals are sentenced to prison, they are physically separated from their family and friends and they are unable to have regular contact with the outside world. Hence, imprisonment can have far-reaching consequences for the social relationships and networks of prisoners. On the one hand, because opportunities to meet each other are restricted and controlled, imprisonment can cause existing social relationships to change. Imprisonment also withdraws offenders from their criminal lifestyles; that is, prisoners are unable to commit crimes when incarcerated and it may change their criminal thinking and criminal ties (Giordano, Cernkovich and Rudolph, 2002). On the other hand, imprisonment can lead to the formation of new social relationships. Incarceration brings prisoners into contact with other inmates and offers the opportunity to establish new relationships (Tremblay, 1993). Moreover, released prisoners often need to find a new job or a new house (Travis, Solomon and Waul, 2001), and therefore move into new social settings, which again urge them to establish new social ties and probably change existing ones (Feld, 1982; Feld and Carter, 1998). The question arises whether and which social relationships change, which are maintained after imprisonment, and which are newly included in the network of prisoners. These are the questions studied in this thesis.

Research on the characteristics of and changes in the social networks of prisoners is important, because network members are the main providers of help and support (Granovetter, 1985; Lin, Woelfel and Light, 1985; Lin, 2001; Bourdieu, 1980). The role the social network plays in providing help and support is evident from studies focusing on people in the general population and studies focusing on prisoners. In studies on the general population, it has been found that networks are an important resource in various domains of an individual’s life: networks help getting a job (De Graaf and Flap, 1988), finding a house (DiMaggio and Louch, 1998) and staying healthy (House, Landis and Umberson, 1988). Moreover, studies among prisoners have revealed that released prisoners often receive financial support from their network members (Visher, LaVigne and Travis, 2004), and rely heavily on network members to find jobs after release (Visher and Travis, 2003; Visher et al., 2004; Berg and Huebner, 2011).

A part of the social network that is in particular considered to be important for providing help and support is the so-called ‘core discussion network’ (McPherson, Smith-
Lovin and Brashears, 2006; Burt, 1984; Marsden, 1987). The core discussion network consists of the network members with whom people discuss their important personal matters (Burt, 1984). Research has demonstrated that core discussion relationships are generally the stronger ties in a social network, and are therefore referred to as the ‘immediate social circle’ of people (McPherson et al., 2006, p.356; see also Bailey and Marsden, 1999; Marsden, 1987; Wellman and Wortley, 1990; Mollenhorst, Völker and Flap, 2008). To date, several studies have examined the core discussion networks of people in the general population, but no studies exist on the core discussion networks of prisoners.

Whereas many studies have demonstrated the importance of social networks for people’s life outcomes, criminologists have emphasized that social networks can also have negative outcomes for society. It has been argued that individuals who are embedded in criminal networks and have access to ‘criminal capital’, are more likely to commit crimes because they have the criminal social resources to do so (Sutherland, 1947; Burgess and Akers, 1966; McCarthy and Hagan, 1999). In line with this idea, research has shown that having criminal relationships increases the likelihood that people are involved in criminal offending (see, among others, Weerman, 2011; Haynie, 2001; 2002; Piquero, Farrington and Blumstein, 2003; McCarthy, Hagan and Cohen, 1998; McCord and Conway, 2002). Considering the impact criminal networks can have on crime, it is thus crucial to examine both criminal and non-criminal networks of prisoners.

Research on the criminal and non-criminal networks of prisoners is still scarce. Although several studies have revealed that social networks can improve prisoners’ life circumstances in prison and after release, little is known about the characteristics of and changes within their networks. More concretely, we do not know whether the relationships from prisoners actually differ from the relationships of non-prisoners. Furthermore, given the argument that criminal capacities are partially learned through intimate social relationships (Sutherland, 1947), one would like to know how many criminals prisoners have in their core discussion network and how such criminal ties are embedded in the network of other relationships. And last but not least, still little is known about the social relationships that remain stable, dissolve or are newly formed after a term in prison has been served. This dissertation tries to bridge this gap in our knowledge and aims to provide insight into the composition, overlap and changes in the core discussion network and the criminal network of prisoners.

This thesis contributes to the existing literature in at least three ways. First, this dissertation compares prisoners’ core discussion networks with the core discussion networks of people in the general population. Comparing the social networks of prisoners with the social networks of the general population is a relevant starting point when examining changes in the social networks of prisoners. What do the social relationships of
prisoners look like prior to incarceration, and how different (or similar) are their relationships from the social relationships of people in the general population? In this dissertation, several characteristics of the core discussion network of prisoners will be examined and compared. These characteristics include the size of the social network, the density of the social network (i.e. how well do network members know one another?), the quality of the social relationships (contact frequency, levels of trust, relationship duration) and the embedded socioeconomic resources in the social network (network member’s employment status and level of education).

Secondly, this thesis will examine criminal network members in prisoners’ core discussion network and the level of overlap between prisoners’ criminal network and their core discussion network. It will address network overlap by examining whether criminal network members are also core discussion network members, and by examining whether criminal network members are related to prisoners’ core discussion network members. If prisoners’ criminal network is either identical or highly connected with their immediate social circle, it seems likely that criminal network members also exert influence on prisoners’ norms and behaviour. As already mentioned, social learning of criminal behaviour generally takes place in ‘intimate personal groups’ (Sutherland, 1947, p.6).

Thirdly, this dissertation will examine whether and how the core discussion network of prisoners changed during the period from before to after imprisonment. It will examine whether and which existing social relationships are maintained (or dissolve) in the period from before to after incarceration. It will also examine whether and which social relationships are newly formed after release. Several characteristics of the prisoner (e.g. sentence length, socialization with other inmates and criminal motivation) and several characteristics of the network members (e.g. their role and criminal involvement) are related to the likelihood that relationships between prisoners and their core discussion network members remain stable or change (either dissolve or are newly formed) after their incarceration.

Consequently, the research questions of this dissertation are as follows:

1 What does the core discussion network of prisoners look like prior to their incarceration? To what extent does the core discussion network of prisoners differ prior to incarceration from the core discussion network of the general Dutch population?

2 To what extent do prisoners have criminal network members in their core discussion network prior to incarceration? Who are these criminal network members and what are the characteristics of these criminal relationships? Which characteristics of a) the network member; b) the prisoner; and c) the relationship are related to the probability of having a criminal network member in one’s core discussion network?

3 To what extent do prisoners’ core discussion network and criminal network overlap prior to incarceration? How do differences in network overlap relate to a) characteristics of the prisoner; and b) characteristics of the network members?
4 How do social networks of prisoners after release differ from their social networks prior to imprisonment? To what extent are a) characteristics of the prisoner; and b) characteristics of the network members associated with relationship stability, dissolution and formation?

1.2 THEORETICAL ARGUMENTS
The answers to the research questions that are central in this dissertation serve to provide insight into the composition, overlap and changes in the social networks of prisoners. To formulate hypotheses about prisoners’ social network prior to their imprisonment and about changes in their social network, several theories are helpful. In this study, theories from both the criminological literature and the general social network literature are used.

In the criminological literature, a number of different theories exist in which criminals’ social networks play a prominent role. The first two theoretical models that will be used are the social ability model and the social inability model (Hansell and Wiatrowski, 1981). The social inability model assumes that delinquents lack the social skills needed to maintain strong relationships. The social inability model, on the other hand, assumes that delinquents and non-delinquents have the same social skills. Although these models fit in well with questions about the composition, overlap and changes in social networks of prisoners, this theory has not been applied before in research on prisoners’ social networks.

Another theory from the criminological literature that provides insight into the social networks of prisoners is the theory of social signalling and stigma (Goffman, 1963). This theory assumes that criminal behaviour results in negative responses from the outside world, causing criminals to have more difficulties maintaining existing social relationships and engaging in new ones. In this study, this theory will be used in particular to answer the question about the extent to which social networks change between the period prior to imprisonment and the period after release.

In the general literature on social networks, several theoretical insights exist that can be used to explain the composition, overlap and changes in social networks of prisoners. This study has used the idea that relationship formation and change are the result of investment considerations (Coleman, 1990; Lin, 2001; Flap, 1999) and meeting opportunities (Feld, 1982; Blau, 1994). These insights have been used in a number of sociological studies to understand the formation of partner relationships (Goldscheider & Waite, 1986; Kalmijn, 1998) and to gain insight into network changes after an important life event (such as a marriage or a divorce) (Terhell, Broese van Groenou and Van Tilburg, 2007; Kalmijn, 2012). These theories from the general social network literature have not yet been applied, however, to research on prisoners’ social networks.

In sum, theories from both the criminological literature and the general social network literature will be used to answer the research questions. Below, these theories and
the hypotheses resulting from these theories will be addressed. By applying these theories in this study to prisoners, this dissertation makes progress upon previous research by providing better explanations for the social networks of prisoners. At the same time, this study will empirically test the social (in)ability model, the idea of investment considerations and the idea of meeting opportunities, among a group of research subjects for whom this has never been done before. In doing so, besides asking new questions, this thesis will contribute to the development of theory in this field of research.

1.2.1 Social ability and social inability model

In the field of criminology, there are two theoretical models that have contrasting ideas about offenders' ability to establish and maintain emotional ties with others: the social ability model and the social inability model (Hansell and Wiatrowski, 1981).

The social inability model is grounded on basic assumptions of Hirschi's Social Control Theory (Hirschi, 1969). The Social Control Theory assumes that all people are able to commit crimes, but strong bonds with society keep people from engaging in criminal behaviour. Hirschi distinguishes four types of bonds which make people refrain from delinquency: involvement, belief, commitment and attachment. The concept of attachment has important implications for this dissertation, because it refers to the emotional ties people maintain with others. According to Hirschi, people are less likely to commit crimes if they maintain strong emotional ties to others, for instance, their family, friends and neighbours. People with strong emotional ties would risk losing these ties if they get involved in criminal activities, and therefore refrain from criminal activity (Hirschi, 1969). It is assumed that offenders lack emotional ties to others and therefore feel less inhibited to commit crimes (Hirschi, 1969). In their social inability model, Hansell and Wiatrowski (1981) highlight Hirschi's assumptions about the quality of offenders' social relationships. According to the social inability model, offenders would have little or no emotional ties to others due to their lack of social skills. Offenders are thought to form and maintain social relationships with other criminals because there are no conventional others to whom they can turn and on whom they can rely. These criminal relationships are, however, expected to be 'cold' and 'brittle' (Hirschi, 1969).

The social ability model is based on assumptions of the Differential Association Theory (Sutherland, 1947). According to the Differential Association Theory, criminal behaviour is learned in interaction with criminal others. Whereas non-criminals obey the law because they are influenced by conventional others, criminals are assumed to break the law because they are socially surrounded by criminal counterparts. An important proposition in the Differential Association Theory is that offenders' social relationships are similar to the social relationships of non-offenders in terms of intensity, frequency, duration and priority. Duration and frequency refer to the length and number of times that individuals are exposed to criminal norms. Priority refers to whether individuals are exposed to
criminal norms at a rather early age or not. Intensity refers to the status and prestige of those to whom individuals are exposed (see also Lanier and Henry, 2009). In their contribution, Hansell and Wiatrowski (1981) incorporate Sutherland’s propositions in the social ability model and argue that offenders’ social networks are similar to the social networks of non-offenders regarding network size and relationship quality.

The social ability model and social inability model have been used in studies trying to explain network differences between delinquent and non-delinquent youth (for an overview, see Young and Rees, 2013). Both models can also be used, however, to explain network differences between adult prisoners and people in the general population. The dominant hypothesis resulting from the social inability model is that prisoners have a smaller and less dense core discussion network than people in the general population have. Moreover, it can be expected that, compared to the general population, prisoners have weaker core discussion relationships (i.e. relationships typified by lower trust, less contact, and a shorter duration). By contrast, these differences are not to be expected in the social ability model.

1.2.2 Investment considerations

A theoretical idea from the general social network literature used in this thesis is the idea of investment considerations. The idea is based on the assumption that relationship formation and maintenance are a result of individual decisions to invest in social relationships. According to this idea, people are reasoning individuals who weigh the benefits against the costs when investing in a social relationship (Rusbult, 1980). Several factors would underlie the decision to invest in a social relationship (see also Terhell, Broese van Groenou and Van Tilburg, 2004; Terhell et al., 2007). For this study, it is relevant to highlight four factors that are important for one’s investment considerations. Basically, the argument is that individuals are more likely to invest in relationships if these relationships have (a) higher direct benefits; (b) higher future benefits; (c) lower present costs; and (d) higher previous investments (Rusbult, 1980).

First, researchers have emphasized that the direct benefits of a social relationship are higher if (potential) network members have similar attributes or characteristics (e.g. the same gender, age, or similar beliefs or behaviour patterns) (Rusbult, 1980). A tendency to invest in relationships with similar others is also called ‘homophily’ (Lazarsfeld and Merton, 1954; Homans, 1950; McPherson, Smith-Lovin and Cook, 2001). Direct benefits of relationships with similar others are expected to be higher because there generally is more mutual understanding in these relationships. Therefore, these ties are experienced as being easier and more pleasant (see also Homans, 1950; McPherson et al., 2001; Van Busschbach, 1996).

In the field of criminology, it has been suggested that the process of homophily plays a prominent role in the formation of criminal relationships (Hirschi, 1969). That is,
delinquents are expected to be more likely to form relationships with other delinquents, whereas non-delinquents generally choose non-criminals as (potential) network partners (Hirschi, 1969; Glueck and Glueck, 1950). Likewise, in the more general network literature, it has been argued that individuals tend to form, among other things, relationships with others who have similar socio-economic positions in society (McPherson et al., 2001; Lin, 2000a). Both notions also lead to expectations about network differences between prisoners and people in the general population. Taken the lower socioeconomic position prisoners generally hold within society (Visher et al., 2004), it can be expected that – besides having more criminal relationships – prisoners have less socioeconomic resources in their social networks than people in the general population.

Secondly, scholars have argued that future benefits are important for the degree to which people invest in social relationships. A theory that emphasizes future benefits of social relationships as a motive to invest in social relationships is that of social capital (Coleman, 1990; Lin, 2001; Flap, 1999). According to the theory of social capital, individuals invest in relationships which can be important for them in the future (Flap and Völker, 2013). People would strive for higher levels of social capital and social resources in their network (e.g. information or skills) because these resources can help them to attain future goals or to improve life circumstances. The argument of the social capital theory is two-sided. That is, an individual may have the wish to form a social relationship with someone who gives access to useful resources, but a social relationship can only be established if one is attractive enough as a (potential) network partner and has something to offer to the other in return (Flap and Völker, 2013). Within the criminological literature, a similar idea can be found in the instrumental perspective. Relying on the instrumental perspective, Weerman (2003) has argued that offenders are more likely to invest in co-offending relationships if committing crimes together is easier and more rewarding than committing crimes alone.

Applied to the current thesis, the idea of future benefits predicts that prisoners are more likely to invest in criminal relationships if these criminal ties can help them to attain criminal goals. In this thesis, it is predicted that (strong) criminal ties are more beneficial for prisoners who are specialized in one type of crime, and prisoners who have been more criminally active (see Chapters 3 and 4). As a result, these prisoners may have more criminals in their core discussion network, and have more overlap between their criminal and their core discussion network. Furthermore, it is expected that prisoners with criminal motivations are more likely to maintain and form criminal relationships in the period from before to after incarceration, because these ties can be used to commit future crimes.

A third factor that would play a role in a decision to invest in a social relationship are the present costs (Rusbult, 1980). The present costs of a social relationship are higher if people have to put more effort into maintaining a social relationship (Van Busschbach, 1996). The effort that is needed to maintain a social relationship would be greater if people
have to spend more time and energy on a social relationship or if they experience more
friction.

The idea that people are more likely to invest in social relationships which have lower
present costs, has been used in studies on network changes after important life events (e.g.
a marriage or a divorce). In accordance with this idea, it has been found that, for instance,
signs of disapproval by network members after a divorce increase the likelihood that
relationships are discontinued (Terhell et al., 2007). The idea about present costs can also
explain changes in the social networks of prisoners. It is expected that prisoners who are
incarcerated farther away from their homes are less likely to maintain their social
relationships because longer travel distances increase the costs of a social relationship.

Fourthly, researchers have assumed that previous investments are important for a
decision to invest in a social relationship (Rusbult, 1980). It has been argued that individuals
build up sympathy and credits if they invested more time and energy in a social relationship.
If individuals have more credit or receive more sympathy from their network members, it is
more likely relationships are continued (Van Busschbach, 1996). Moreover, individuals are
less likely to break off contact with highly invested social relationships, because of the
expected returns of these investments in the future and the time and energy that would be
lost if these relationships are ended (Arriage and Agnew, 2001; Terhell et al., 2007).

The idea of previous investments has been used by researchers to explain relationship
discontinuation after important life events. A main finding is that relationships with family
members and relationships with network members who have been known for a longer
period of time are more likely to remain stable after a life event (see also Wrzus, Hänel,
Wagner and Neyer, 2013; Terhell et al., 2004; 2007; Van Busschbach, 1996). The idea of
previous investments can also explain changes in the social networks of prisoners. It can be
expected that prisoners who have more family relationships and have relationships of
better quality before their incarceration are more likely to maintain their social relationships
after release.

1.2.3 Meeting opportunities

Another theoretical idea from the general social network literature used in this dissertation,
is the idea of meeting opportunities. This idea posits that the probability that relationships
are formed depends on the opportunities individuals have to meet others. This line of
thought is central to the theory of structural constraints (Blau, 1994) and the theory of foci
of activity (Feld, 1982; Feld and Carter, 1998). Moreover, with regard to the criminological
literature, it also relates to theoretical work by Felson (2003) about the offender
convergence settings or ‘hangouts’. The general idea is that individuals participate in
several social settings each day, such as the neighbourhood, the workplace or school. In
these social setting, individuals come into regular contact with others. The social
composition of these settings affects the type of relationships individuals can maintain and
form (Feld and Carter, 1998; Mollenhorst et al., 2008). That is, the probability that individuals establish social relationships with one another is higher if they participate in the same social settings and meet one another more regularly. An often-heard saying is that ‘one cannot marry an Eskimo if no Eskimo is around’ (Blau and Schwarz, 1984, p.87). This saying refers to the idea that individuals may have a preference for relationships with certain others, but that individuals have to meet one another in order to form a social relationship.

In the field of criminology, the idea of meeting opportunities has primarily been used in studies on co-offending relationships. These studies show that offenders are more likely to form co-offending ties with those living nearer (Schaefer, 2012; Sarnecki, 2001). Applied to this thesis, a general expectation derived from the meeting opportunities argument is that prisoners who met criminals more frequently are more likely to have criminal relationships. It is expected that prisoners came in repeated contact with other criminals if they have committed more crimes in the past, have committed crimes for a longer period of time, served more terms in prison, lived closer to their criminal network members, and shared more foci of activity with their criminal network members (e.g. the neighbourhood, workplaces or school). Hence, these groups of prisoners may have more criminals in their core discussion network, and have more overlap between their criminal network and their core discussion network as well.

Furthermore, Feld and Carter (1998) have emphasized that changes in meeting opportunities also have consequences for the continuation, maintenance and formation of social relationships. They have argued that relationship discontinuation can be a direct result of an important life event, because life events force people to leave their social settings (e.g. a relocation forces people to move out of the neighbourhood). If individuals move out of certain social settings, it is argued, they generally move into new ones, which facilitates the meeting and interacting needed for the formation of new social relationships (Feld and Carter, 1998). Applied to this study, it can be expected that imprisonment has consequences for prisoners’ meeting opportunities, in prison as well as after release. It is expected that prisoners who serve a longer prison sentence are less likely to maintain their social relationships (less opportunities to meet family and friends), and are more likely to form new social relationships (more opportunities to create ties with fellow inmates). Moreover, it is expected that prisoners who cannot return to the same social settings (i.e. an employer, place of residence or romantic partner), are less likely to maintain their social relationships, and are more likely to form new social relationships.

**1.2.4 Social signalling and stigma**

A final theoretical idea used in this dissertation, and frequently used to explain changes in social bonds after a prison conviction, is the theory of social signalling and stigma (Goffman, 1963). The theory of social signalling posits that criminal behaviour leads to social exclusion and negative reactions from society. People in society are assumed to attribute negative
personal networks of prisoners
characteristics to offenders in general. Examples of such negative conceptions include unreliability and egocentric behaviour. According to the theory of social signalling, individuals who commit an offence obtain a stigma, because of which they are treated differently after committing a crime (Goffman, 1963; see also Apel, Blokland, Nieuwbeerta and Van Schellen, 2010).

In general, it is expected that imprisonment leads to changes in the social relationships of prisoners because of the stigma prisoners receive from people in their social surrounding. It has been argued that prisoners are more likely to lose their social relationships, because family, friends and other network members are afraid of becoming victims themselves (Van Schellen, 2012). Moreover, network members may break off contact with a former prisoner, because they are concerned about their own reputation. That is, network members might be concerned about the reactions from their own family and friends if they are seen in the company of someone suspected of or convicted for committing a criminal offence.

The theory of social signalling and stigma can be used to explain changes in the social networks of prisoners in the period from before to after incarceration. Whereas a prison sentence can lead to stigma, it can also be expected that prisoners who have been involved in a violent or sexual offence run a higher risk of being negatively stereotyped than prisoners who were involved in other types of offences (see also Chapter 5). Therefore, prisoners who are suspected of committing a violent or sexual offence may experience more difficulties maintaining and forming social relationships.

1.3 PREVIOUS RESEARCH

There are several studies that have focused on the (criminal) social networks of offenders (McGloin and Kirk, 2010), and in recent years, more attention has been paid to the social networks of prisoners (Cochran, 2014). Most studies have related prisoners’ social networks to life outcomes and recidivism (see also the literature review of Visher and Travis, 2003), whereas the number of studies on the composition and coming about of prisoners’ networks is still limited. Some main empirical findings from the criminological literature and the social network literature are summarized below. The discussion that follows does not present a complete overview of the existing literature. It provides, however, a short overview of what is already known about the social networks of offenders and prisoners in particular, and highlights the gaps in our existing knowledge. The literature is divided into the central aims of this dissertation. That is, a brief outline of the literature is given concerning: 1) prisoners’ social networks in comparison to the social networks of the general population; 2) criminal network members and network overlap; and 3) changes in the social networks of prisoners.
1.3.1 Prisoners’ social networks in comparison to the social networks of the general population

The first question of this dissertation concerns the differences and similarities between the core discussion networks of prisoners and the core discussion networks of the general population. In the general social network literature, several studies have examined the core discussion network. The core discussion network consists of the network members with whom people discuss important personal matters and is often referred to as the immediate social circle (McPherson et al., 2006; Mollenhorst et al., 2008). Although research on the core discussion networks of prisoners is non-existing, several studies do exist on the core discussion networks of people in the general population (e.g. Marsden, 1987; McPherson et al., 2006; Mollenhorst et al., 2008; Fischer, 2009).

The question about the core discussion network was asked for the first time in the study on California communities by Fischer (1982). In the past decades, several other scholars have examined the core discussion network of people in the general population, which include studies in the United States (Marsden, 1987; McPherson et al., 2006), the Netherlands (Mollenhorst et al., 2008), Germany (Wohler and Hinz, 2007) and China (Ruan, 1998). From these studies, some general conclusions can be drawn. For instance, it has been found that the core discussion network generally consists of two to three network members. Both family and non-family make up the core discussion network of people, but family members are often overrepresented. Moreover, the core discussion network is a very dense part of the social network, which means that network members know each other and get along well. Relationships in the core discussion network are generally strong: individuals see or speak to their core network members frequently, have a high level of trust in them, and generally know their network members for several years (Marsden, 1987; McPherson et al., 2006; Mollenhorst, 2009; but see also Small, 2013).

In the general social network literature, no studies have compared the core discussion network of prisoners with the core discussion networks of the general population in terms of network size and relationship quality. There are criminological studies, however, that have compared such network characteristics between criminals and non-criminals (see e.g. Giordano, Cernkovich and Pugh, 1986; Baerveldt, Van Rossem, Vermande and Weerman, 2004; Brownfield and Thompson, 1991; Kandel and Davies, 1991; Claes and Simard, 1992). These studies focused on juveniles and their peer networks, and the results of these studies are still inconclusive (Young and Rees, 2013; Marcus, 1996). To illustrate, Giordano and colleagues (1986) found that when compared to non-criminals, criminals know their peers for the same length of time, trust their friends and have the same amount of contact with their peers. By contrast, Brownfield and Thompson (1991) analyzed data from the Seattle Youth Study and showed that delinquents had less trust in and respect for their peers than non-delinquents did.
Furthermore, empirical studies in the general social network literature show that people generally engage in relationships with others in a similar socioeconomic position (Campbell, Marsden and Hurlbert, 1986; Marsden, 1987; McPherson et al., 2001). Because previous studies have shown that prisoners often have a lower socioeconomic position in society (see e.g. Western, 2002; Visher et al., 2004), it seems likely that prisoners have less socioeconomic resources in their social network than people in the general population. There is, however, no direct support for this expectation.

In sum, it can be concluded that the core discussion network of the general population has already been studied regularly, but that sociological research into the core discussion network of prisoners is absent. A number of studies has compared the social networks of criminals with the social networks of non-criminals. These studies are based, however, on data about adolescents and their peer networks. The question whether qualities that characterize the social network of people in the general population also characterize the social network of prisoners remains unanswered.

1.3.2 Criminal network members and network overlap

Two other questions addressed in this dissertation are the extent to which prisoners have criminals in their core discussion network and the extent to which prisoners have overlap between their core discussion network and their criminal network.

Research on criminal networks is diverse and different parts of the criminal network have been investigated. Most of the studies have analyzed the criminal network in terms of relationships with criminal peers (generally, see Haynie and Kreager, 2013; Haynie, 2001, 2002; Warr, 2002; Weerman, 2011), relationships with co-offenders (e.g. Van Mastrigt and Farrington, 2011; McGloin and Nguyen, 2014; Hochstetler, 2013; Reiss and Farrington 1991; Tremblay, 1993), and involvement in troublesome youth groups and gangs (e.g. Papachristos, 2009; Decker and Weerman 2005; Klein, 1995). Despite the long tradition of research on criminal networks, existing studies usually focus on juvenile offenders, whereas little attention has been paid to the criminal network members of adult prisoners. Current knowledge about the criminal network members of prisoners is mainly provided by the Returning Home Project, a longitudinal panel study on (ex-)prisoners in the United States. Studies related to the Returning Home Project show that three out of five prisoners had a family member who had been convicted of a crime, and two out of five had a family member who was serving time in prison (Visher, Kachnowski, La Vigne and Travis, 2004; Visher et al., 2004).

Research on the overlap between prisoners’ criminal network and their core discussion network is absent. Yet, findings from prior research suggest that high levels of overlap between the criminal network and the core discussion network are not to be expected. Krohn, Massey and Zielinski (1988) have shown, for instance, that the parents of juvenile offenders are often unaware of the (criminal) friends of their children. That is,
juveniles who have less overlap between their family and peer network would run a higher risk of committing crimes because it would make inappropriate or antisocial behaviour less visible for family members (see also Krohn, 1986). Moreover, several studies have shown that offenders are reluctant to share personal information with their criminal network members (Wright and Decker 1994; Rosenfeld, Jacobs and Wright 2003). Sharing personal information increases the risk of betrayal and the probability that offenders are arrested (Morselli, 2009; McCarthy et al., 1998).

Whereas the number of studies on criminal networks of prisoners is limited, several studies have examined the factors associated with the likelihood that (juvenile) offenders have criminal network members. A consistent finding in the field of criminology is that criminal activity is positively related to the number of criminal relationships people have (McCord and Conway, 2002; Warr, 2002; Haynie, 2001). This has been found in studies focusing on criminal peers (e.g. Haynie, 2001; Weerman, 2011), co-offending networks (e.g. McCord and Conway, 2002; Reiss, 1988) and involvement in problematic groups and gangs (e.g. McGloin and Kirk, 2010; Klein, 1995; Papachristos, 2009). Individuals who are criminally active are more likely to have criminal relationships (McCord and Conway, 2002; Haynie, 2001; Warr, 2002). Moreover, it has also been found that criminal relationships increase the length of a criminal career (Piquero et al., 2003).

Research has also related the criminal network to criminal specialization. The number of studies in this field are, however, still limited. Warr (1996), for instance, has examined whether the size of the criminal network differs between criminal specialists and criminal generalists. He found that offenders who are specialized in one type of crime are more likely to participate in one criminal group; whereas generalists are more likely to participate in different criminal groups. McGloin and Piquero (2010) have examined the variation in network density between criminal specialists and criminal generalists. Although they found that specialized offending in group crimes is more likely to take place in dense co-offending networks (i.e. networks in which members are highly interconnected), solo offending specialization was not found to be associated with the density of the co-offending network.

Moreover, studies have also examined the effects of meeting criminals on the likelihood that offenders have criminal network members. The association between residential proximity and co-offending relationships has been studied, for instance. In general, this research shows that residential distance is negatively associated with the likelihood that co-offending relationships are established (Schaefer, 2012; Reiss and

2 The explanation for the association between the size of the criminal network and criminal behaviour has generated substantial debate in the literature (see also Weerman, 2011; Dijkstra, Lindenberg, Veenstra, Steglich, Isaacs, Card and Hedges, 2010; Svensson, Burk, Stattin and Kerr, 2012). On the one hand, it has been argued that criminal others encourage criminal offending (i.e. social learning; Sutherland, 1947). On the other hand, it has been argued that offenders tend to associate with criminal others (i.e. social selection; Hirschi, 1969).
Personal networks of prisoners (Farrington, 1991; Sarnecki, 2001). Prior research has not yet examined whether offenders are more likely to associate with other criminals if they share multiple social settings with them. In addition, empirical support for the idea that meeting leads to the formation of social relationships comes predominantly from studies in the general social network literature. These studies have revealed that individuals are more likely to associate with others who are physically closest to them (Hipp and Perrin, 2009; Caplow and Forman, 1950).

Taken together, the preceding overview of the existing literature shows that much is already known about the coming about of criminal networks. An important limitation of existing research is, however, that it is mainly based on criminal networks of juveniles and adolescents. Furthermore, prior research only provides indirect support for the hypotheses that are tested in this dissertation. Research into the extent to which prisoners have criminal network members in their core discussion network and the extent to which prisoners have overlap between their criminal network and their core discussion network does not exist.

1.3.3 Changes in the social networks of prisoners

A final question posed in this thesis concerns the extent to which prisoners’ core discussion network changes in the period from before to after incarceration. Three types of studies are helpful in examining changes in the social networks of prisoners: studies on changes in the core discussion networks of people in general, studies on important life events, and studies on the effects of imprisonment.

There are a number of studies in which the changes in the core discussion networks of the general population have been examined. Network changes in the core discussion network have been examined by researchers in various countries (McPherson et al., 2006; Mollenhorst, Völker and Flap, 2014; Wohler and Hinz, 2007; Ruan, 1998). Although these studies have provided insight into the changes in the core discussion networks of the general population, research on changes in the core discussion networks of prisoners, or of other problematic groups, is lacking.

In addition, there are several studies on changes in the social network that are a result of important life events (for an overview of the literature, see Wrzus et al., 2013). For instance, there are studies on network changes after a marital divorce (e.g. Albeck and Kaydar, 2002; Nelson, 1995; Terhell et al., 2004; Terhell et al., 2007), a relocation (e.g. Starker, 1990; South and Haynie, 2004) and unemployment (Jackson, 1988). An important contribution of studies on life events is that they have examined network changes at relationship level. This means that respondents were asked to name their network members before a life event took place, and were asked to name their network members after the life event had happened. This way of gathering network data provides the opportunity to map out the stability, discontinuation and the formation of relationships (also see paragraph...
Although the studies have yielded relevant insights about network changes after a variety of life events, no research has yet been conducted into relationship changes after imprisonment (another important life event).

Few researchers interested in the effects of imprisonment have examined the changes in the social networks of prisoners. Some studies have used cross-sectional data to examine changes within prisoners’ networks (among others Brodsky, 1975; Rocque, Bierie and MacKenzie, 2011). In these studies, prisoners were asked (retrospectively, during their imprisonment) whether they felt their relationships with relatives and friends had changed since their detention started. To date, only two studies have specifically looked at network changes in the period from before to after incarceration: a study conducted by the Returning Home Project (see, among others, LaVigne, Naser, Brooks and Castro, 2005; Naser and LaVigne, 2006) and a study by Moerings (1978). Both studies have used longitudinal panel data to examine changes in the social networks of prisoners.

The studies by the Returning Home Project and by Moerings fit in best with the research question about network change addressed in this thesis. Yet, although both studies have resulted in important insights, they have three important limitations. Firstly, the studies by the Returning Home Project and Moerings made use of relatively small samples to examine network changes. Secondly, the studies only looked at changes at network level. In the Returning Home Project, respondents were asked about the quality of their family ties at several moments in time. In Moerings’ study, respondents were asked about the level of contact with particular groups of network members, including their parents, brothers/sisters, and friends. Yet, neither study provides insight into the stability of existing social relationships or the formation of new social relationships in the period from before to after incarceration. Thirdly, the studies are limited with respect to the theories they used to derive hypotheses about network changes. Although Moerings relied on the theory of stigma and social signalling, neither study relied on theories from the general social network literature to derive hypotheses about changes in prisoners’ social networks.

This dissertation tests several hypotheses about characteristics of the prisoner and characteristics of the network members related to network change. It is expected that network change relates, among others, to the distance between prison and prisoners’ place of residence, the type of relationships, the sentence length and a return to the same social settings.

With regard to the distance between prison and the place of residence, studies have revealed that a long travel distance to prison constitutes a barrier for many relatives and friends to visit a prisoner (Christian, 2005; Bales and Mears, 2008; Duwe and Clark, 2013). There is, however, no direct evidence for the expectation that the distance between prison and prisoners’ place of residence leads to relationship dissolution. Studies on important life events show that individuals have difficulties maintaining social relationships after a
residential move, because they have fewer opportunities to visit their network members and to share activities with them (Jerusalem, Hahn and Swarzer, 1996; South and Haynie, 2004). Travel distance to one’s place of residence is also found to be negatively associated with contact frequency with local network members (Neyer and Lang, 2003).

With regard to the type of relationship, it is expected that prisoners who have more family relationships and have relationships of a better quality before incarceration, are more likely to maintain their social relationships. There are several studies that provide support for this hypothesis. The study by Moerings (1978), for instance, shows that when looking at contact frequency, fewer changes occur in family relationships than in relationships with friends. Moreover, cross-sectional prison studies on network changes also show that prisoners are more likely to perceive changes in their relationships with friends than in their relationships with family members (Rocque et al., 2011; Brodsky, 1975). Besides the studies conducted among prisoners, research into other important life events demonstrates that non-family relationships are more often discontinued after a life event than relationships with family members are (Terhell et al., 2007; see also Wrzus et al., 2013). Furthermore, it is expected in this thesis that prisoners who serve a longer prison term are less likely to maintain their social relationships, while they are more likely to form new social relationships. Regarding this hypothesis, Moerings (1978) found that prisoners serving longer prison spells are more likely to experience a decline in contact frequency with family and friends. In addition, using data from the Returning Home Project, LaVigne and colleagues (2004) revealed that, when controlling for pre-prison family relationship quality, the prison sentence length is negatively associated with family relationship quality after release. Based on these findings, one could argue that a longer prison sentence increases the likelihood of relationship discontinuation. The association between the sentence length and relationship formation has yet to be examined.

Finally, it is also expected that prisoners who cannot return to the same social settings (i.e. their employer, place of residence or romantic partner), are less likely to maintain their social relationships, while they are more likely to form new social relationships. Several studies have shown that imprisonment increases the probability of unemployment, a relocation and a marital divorce (Fagan and Freeman, 1999; Huebner, 2005; Roman and Travis, 2006). It is unknown to what extent these changes lead to changes in social networks of prisoners. From studies on important life events, it is known that unemployment, a relocation and a divorce lead to major changes in the composition of the social network of people in general (see Wrzus et al., 2013). Yet, these findings provide only indirect support for the hypothesis that a return to the same social settings affects a network change among prisoners.

All in all, still little is known about the changes that take place in the networks of prisoners. Prisoners’ relationship stability, relationship dissolution and relationship formation in the period from before to after incarceration have not been examined in
either existing studies on the core discussion network of people in general, studies examining important life events, or studies focusing on the effects of imprisonment. To date, few studies have used longitudinal data to examine changes in the networks of prisoners. Those few studies are based, however, on relatively small datasets, measured network changes at network level, and are limited with respect to the theories used to explain network changes.

1.3.4 Limitations of previous studies
A review of the existing literature shows that there is much research on the social networks of offenders and of people in general, but still little is known about the social networks of prisoners. At least four gaps in our knowledge of prisoners and their social networks can be pointed out. First, few studies have examined changes in the social networks of prisoners. If studies have used longitudinal data, they relied on small sample sizes. Moreover, the small number of studies on prisoners' social networks has measured network characteristics at network level. That is, inmates are asked, for instance, about the overall contact frequency or relationship quality with 'family members' or 'peers'. An important limitation of such data is that if one observes a decrease or an increase in contact frequency or relationship quality, it remains unknown which particular relationship and why relationships have changed. Secondly, research on the core discussion network has been limited to the general population only, thereby neglecting the core discussion networks of disadvantaged or problematic groups. Characteristics of the core discussion network might be different for problematic groups. That is, individuals may run a higher risk of getting involved in problematic behaviour because they receive little help and support from their core discussion network members. Thirdly, studies on criminal networks have relied predominantly on data of juvenile offenders. Criminal network members may also play a prominent role in the lives of adult offenders (see also Wright and Decker, 1994; 1997). There are few empirical studies on adult offenders and their criminal relationships that are not per se part of the same criminal group or organization. Fourthly, research on the overlap between the criminal network and the immediate social circle is non-existent. There is only indirect evidence for a low degree of network overlap, but the actual overlap between prisoners' criminal network and their core discussion network is unknown.

1.4 DATA AND MEASUREMENTS
This study examines the composition, overlap and changes in the social networks of prisoners. To gain insight into the changes in social networks of prisoners, longitudinal data are needed on prisoners’ social relationships. Moreover, information is needed about prisoners’ social networks at relationship level. With data at relationship level it is possible to study which relationships remain stable or disappear, and which relationships are newly
formed in the period from before to after incarceration. In addition, it is useful to gather information about network members who might play an important role in the re-entry process of prisoners. Finally, network data are needed that can be compared to data of the general population. That is, when examining the effects of imprisonment on prisoners’ social relationships, it is important to know whether prisoners’ social networks already differ prior to incarceration, and whether imprisonment improves the social situation of prisoners or, on the contrary, makes it worse.

To date, there are no studies that have used such data to examine changes in prisoners’ social networks. There are a few studies that have used longitudinal data; however, these studies are based on small data sets and data at network level. For this study, unique data have been collected that possess the four afore-mentioned characteristics. The data that will be used are a) longitudinal; b) measured at relationship level; c) theory-driven; and d) can be compared with data of the general population. Below, the data from the Prison Project will be described and the main advantages of this dataset will be explained.

1.4.1 Longitudinal data from the Prison Project
The Prison Project is a large-scale longitudinal panel study that aims to examine the effects of imprisonment on the risk of recidivism and the life circumstances of prisoners. The sample consists of male prisoners between the ages of 18 and 65, who were born in the Netherlands and who had been in pre-trial custody for three weeks. Prisoners who suffered from serious psychological problems were excluded from participation in the survey. In this dissertation, data of two measurements of the Prison Project are used: the first measurement in prison (T1) and the first follow-up study after release (T2).

The first measurement in prison took place between October 2010 and April 2011. Data were obtained by means of a questionnaire and a face-to-face interview. For T1, prisoners were asked to participate in the survey by trained interviewers in their prison cell or in a consulting room. These trained interviewers informed potential respondents about the project and asked them whether they were willing to participate. If prisoners were positive about participating in the project, they were asked to fill out an informed consent form and an appointment was made for the interview. The interviews generally took place in a consulting room and lasted for about an hour and a half. During these six months of sampling, 2,945 prisoners met the selection criteria, 2,775 of whom could be approached. The main reasons that prisoners could not be approached were that prisoners had already been released or were not allowed to see or speak to others during the police investigation. Eventually, 69 per cent of the 2,775 prisoners were willing to participate, which resulted in a final sample, constituted of 1,909 prisoners.
Besides data on the 1,909 prisoners of the initial sample, this dissertation uses data of 702 prisoners who were interviewed for the first follow-up study after release (in short: T2). These 702 prisoners do not make up the eventual response rate of the follow-up interview; they are the prisoners who were released and re-interviewed before July 2012. T2 took place six months after the respondents returned to society. Prisoners of the initial sample received a letter and/or a phone call and were asked to participate in the survey again. The contact details used for the follow-up study were retrieved during the first measurement in prison. During T1, participants were asked to report about their (home) address and telephone number after release. Because many prisoners were unsure about the location they would go to after release, prisoners were also asked to provide the contact details of their lawyer, romantic partner and other significant people (if they had any). Moreover, if contact details were missing or incorrect, contact details of the prisoners were retrieved from officially registered data (e.g. the GBA and probation services). These data were only retrieved if prisoners filled out an informed consent form during the first interview in prison and had thus given permission to retrieve official registered data. The follow-up study after release consisted of a face-to-face interview, which normally took place at the home of the respondent. The interview lasted for about two hours and was held with the respondent alone, to avoid interference by others.

1.4.2 Data at relationship level
To gain insight into the social networks of prisoners and the changes that take place in their social networks, detailed information about their social networks was gathered. To this end, the name generator/interpreter method was used to identify prisoners’ network members. This method has often been applied in the general social network literature, but has not yet been used in research into the social networks of prisoners.

The name-generator/interpreter method incorporates two sets of questions. First, the name generator questions aim to identify the names, nicknames or initials of the network members. There are four different types of name generator questions (Marin and Hampton, 2007). The first type of questions aims to identify network members who have certain roles in the network, for instance the names of friends, family members or the romantic partner. The second type of questions is based on the level of contact people have with their network members. For instance, respondents are asked to name the people with whom they had contact in the last week or the last month. The third type of questions aims to identify the network members with whom people feel ‘emotionally close’ or who ‘are most significant to the respondent’. The fourth type of name generator questions provides insight into the network members who give access to certain resources. All types of name generator questions aim to identify the names of respondents’ network members.

Once the names of the network members have been identified, interpreter questions – the second set of questions – are asked to obtain information about each network
member and the relationships with these network members. Name interpreter questions often include questions about background characteristics of the network member (e.g., his/her gender, age, criminal involvement), characteristics of the relationship between the respondent and his/her network member (e.g., the contact frequency and level of trust), and characteristics of the relationships between respondents’ network members (e.g., how well does a network member know the other network members?). Thus, the interpreter questions result in detailed information about each network member and the relationships with these network members.

A major advantage of using the name generator/interpreter method in combination with longitudinal panel data is that, at a later point in time, it is possible to ask whether or not a network member mentioned earlier is still part of prisoners’ social network. Furthermore, the method also provides insight into the formation of new social relationships since, at a later measurement, a respondent can mention new network members in relation to the name generator question. Asking name generator questions at several moments in time thus yields very insightful information about the changes that take place in the social networks of prisoners.

1.4.3 Theory-driven network questions
Previous research has shown that network members can be important to prisoners both during their detention and after their release. On the one hand, network members can play a significant role in providing help and support. On the other hand, criminal network members may exert influence on the involvement of offenders in committing crimes. When looking at the re-entry process of prisoners, network members thus can generate either positive resources (e.g., help and support in order to improve life circumstances) or negative resources (i.e., ‘criminal social capital’; see also McCarthy and Hagan, 1995). In this thesis, two name generator questions were used to identify the network members who provided one or both types of resources. First, a name-generator question was used to identify the core discussion network of prisoners; core discussion network members are in particular considered to be important for providing help and support. Secondly, a name generator question was used to identify the criminal network of prisoners; criminal network members are important for the exchange of criminal knowledge and skills.

To obtain information about the core discussion network, prisoners were asked the following name generator question: ‘With whom did you discuss important personal matters in the past six months?’ (see also Burt 1984; McCallister and Fischer 1978). Prisoners were allowed to mention five network members with whom they discussed important personal matters.

To obtain information about the criminal network, prisoners were asked the following name generator question: ‘In the past six months, with whom did you discuss criminal activities and exchange knowledge and skills that could be used by you to commit a crime?’ Again,
prisoners in our sample were allowed to mention five network members. Because some of them were not willing to provide the real names of their network members, especially if they were asked about their criminal network members, prisoners could also give the nicknames or initials of their network members.

At the first measurement of the Prison Project (which took place in the first weeks of incarceration) the wording of the name generator question was changed into ‘the six months prior to your arrest’. This allowed us to collect information about the social network members of prisoners prior to incarceration. At the second measurement of the Prison Project (which took place after six months of release) the original wording of the name generator questions was used. This allowed us to collect information about the network members of prisoners after their release.

1.4.4 Comparing data with The Survey of the Social Networks of the Dutch

A main question in this dissertation is how the social networks of prisoners differ from the social networks of the general population. To this end, this dissertation uses data from the Survey of the Social Networks of the Dutch (SSND). The questions, such as they were included in the Prison Project, were inspired by the questions asked in the SSND. This means that the name generator question about the core discussion network and several interpreter questions were identical in both surveys.

The SSND is a panel study among people in the general Dutch population between the ages of 18 and 65. The first measurement of the SSND took place in 1999/2000. A sample was drawn from the general Dutch population and 1,007 individuals were interviewed. In 2007/2008, all respondents from the first measurement were approached for the second measurement. Of the respondents whose addresses could be retrieved, more than seventy per cent were willing to participate again. This resulted in a sample of 604 respondents who were interviewed at both the first and the second measurement of the SSND. To reduce selection attrition, an additional sample of 394 people was drawn, which increased the total sample size of the second measurement to 998 respondents. Data were obtained by means of face-to-face interviews, which were held at the respondent’s home and lasted on average for two hours (Völker and Flap, 2002; Völker, Flap and Mollenhorst, 2007). For this dissertation, data of the second measurement of the SSND are used.

1.5 THE DUTCH CONTEXT

In order to study the composition, overlap and changes in the social network of Dutch prisoners, it is important to outline the context in which Dutch prisoners are situated. Because most studies on the effects of imprisonment have been carried out in the United States, it is important to highlight some differences and similarities between the Dutch prison context and the prison context in the United States.
Like many other Western countries, the Netherlands have experienced a large increase in the number of prisoners in the past decades (see also Tonry and Bijleveld, 2007). Whereas the Netherlands stood out for their liberal criminal justice system in the Seventies with the lowest imprisonment rates of the Western countries, since then the number of prisoners has drastically increased (Tonry and Bijleveld, 2007). Between 1975 and 2005, the number of prisoners increased from 35 prisoners per 100,000 inhabitants to 150 prisoners per 100,000 inhabitants (Tonry and Bijleveld, 2007). Since 2005, there has been a decrease in the number of prisoners, but still about 38,000 people are locked up in Dutch prisons each year (Linckens and De Looff, 2013). With regard to prison sentence length, prisoners are incarcerated for a shorter period of time than prisoners in the United States are. In the Netherlands, prisoners serve an average prison term of 3.7 months; about 30 per cent of the prisoners are incarcerated for 3 months or longer; and about 10 per cent of the prisoners are incarcerated for longer than a year (Linckens and De Looff, 2013). By contrast, in the United States, prisoners serve an average prison term of two years (Guerino, Harrison and Sabol, 2011).

As in most Western countries, prisoners in the Netherlands can stay in contact with their family and friends by writing letters, making phone calls and receiving visits in prison (De Groot, 2009). With regard to the in-prison visits, prisoners are responsible for arranging the visits of their family and friends. That is, prisoners have to register their visitors in advance, including the items or products visitors are planning to take with them. In addition, prisoners are obliged to inform relatives and friends whether a visit is or is not allowed and at what time it is to take place. Furthermore, both prisoners and visitors undergo a strict security check before they can enter the visiting rooms. Similar to the situation in the United States, visits are limited to a couple of hours per week, and take place on fixed days and times in the week (De Groot, 2009).

The visiting rooms in Dutch penitentiaries are sober settings. In-prison visits take place in purpose-furnished rooms, where inmates receive their visitors simultaneously. During a visit, correctional officers supervise the situation for security and safety reasons. Apart from a brief welcome and goodbye, prisoners and their visitors are not allowed to have physical contact during the visits, and they are separated by a one-meter high partition. An exception, however, are the conjugal visits. In the Netherlands, inmates are eligible to spend a few hours in private with their family or their romantic partner. Conjugal visits are allowed at most once a month and only under strict conditions (e.g. inmates have to prove that their relationship with the visitor is strong and sustainable) (De Staatssecretaris van Veiligheid en Justitie, 2014).

Taken together, prisoners in the Netherlands have several opportunities to stay in contact with their relatives and friends; however, the barriers that are often related to these contact opportunities may have consequences for their social network.
1.6 THIS DISSERTATION

This dissertation tries to reach a better understanding of the social networks of prisoners. It attempts to do this by addressing some relevant questions in the four empirical chapters of this dissertation. Table 1.1 gives a brief overview of the next four (empirical) chapters and summarizes for each of these chapters which aims are central, which main dependent variables are examined, and which data are used. Chapters 2 to 4 will shed light on the social networks of prisoners prior to incarceration. Chapter 5 will examine changes in the social networks of prisoners in the period from before to after incarceration.

This dissertation uses data of 1,909 prisoners. Most analyses in this dissertation are based on data of prisoners with a social network. This means that prisoners without a social network are often excluded from the analyses which makes that the analytical samples in the empirical chapters are generally smaller than 1,909. Table 1.2 provides information about the number of respondents and the number of network members that are included in the analyses of Chapters 2 to 4. Table 1.3 provides information about the analytical sample in Chapter 5.

In Chapter 2, the core discussion network of prisoners in the six months prior to imprisonment will be described and compared with the core discussion network of the general population. Using data of the Prison Project and the SSND, this chapter will examine prisoners’ core discussion network in terms of network structure (i.e. the network size and network density), the quality of the relationships (i.e. the contact frequency, level of trust and relationship duration), and embedded socioeconomic resources (network members’ educational level and employment status).

Chapter 3 will take a closer look at the criminals who make up the core discussion network of prisoners prior to incarceration. The aims of this chapter are twofold. First, it will examine whether criminal network members are part of prisoners’ core discussion network prior to incarceration. Secondly, this chapter will examine whether characteristics of the network member (e.g. his or her role and gender), characteristics of the prisoner (e.g. length of his criminal career) and characteristics of the relationship (e.g. the level of trust and relationship duration) are related to the probability that prisoners have a criminal core discussion network member. An important contribution of this study is that it focuses on the criminal network members of adult prisoners. Most studies on the social relationships of offenders focus on juveniles and their criminal peers. Criminal social relationships of adult offenders have been studied far less extensively.

Chapter 4 will examine the level of overlap between prisoners’ criminal network and their core discussion network prior to incarceration. In contrast to Chapters 2 and 3, in which the central focus is on prisoners’ core discussion network, Chapter 4 will have prisoners’ criminal network as the focus of analysis. Network overlap will be measured in two ways. First, the chapter will examine whether criminal network members are also core discussion partners. Secondly it will examine whether and to what extent criminal network
members are related to prisoners’ core discussion network members. Chapter 4 will address the question whether and to what extent variance in network overlap can be explained by characteristics of the prisoner (e.g. the degree to which a prisoner was criminally active) and characteristics of the particular relationship between the prisoner and his network member (the residential proximity and number of shared social settings).

Chapter 5 will look at the changes in the core discussion network of prisoners in the period from before and after imprisonment. By using two waves of data of the Prison Project, prisoners’ core discussion networks prior to incarceration are compared with prisoners’ core discussion networks after release. Several characteristics of the social networks will be examined such as network size, criminal composition and relationship quality. Moreover, the chapter will examine whether and to what extent characteristics of the prisoner (e.g. the sentence length, socialization with other inmates and criminal motivation) and characteristics of the network member (e.g. his or her role and criminal involvement) are associated with relationship stability, dissolution and formation. Multilevel regression analyses will be performed to examine the likelihood that relationships between prisoners and their core discussion network members remain stable or change (either dissolve or are newly formed) after their incarceration.

Chapter 6 will summarize the main conclusions of this dissertation, discuss the practical implications of the results and provide suggestions for future research.
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Aims</th>
<th>Sociograms reflecting the aims</th>
<th>Main dependent variables</th>
<th>Data</th>
</tr>
</thead>
</table>
| 2       | 1 To describe the core discussion network of prisoners in terms of network structure, relationship quality and embedded socioeconomic resources. | ![Prisoners and general population](image) | a. Network structure (i.e. network size and network density).<sup>1</sup>  
  b. Relationship quality (i.e. contact frequency, level of trust and relationship duration).  
  c. Embedded socioeconomic resources (i.e. network members' educational level and employment status). | Prison Project (T1)  
  SSND (T2) |
|         | 2 To compare prisoners' core discussion network with the core discussion network of the general Dutch population. |                                  |                                           |                               |
| 3       | 1 To describe the criminal network members who make up prisoners' core discussion network prior to incarceration. | ![Criminal network](image) | a. Whether a core discussion network member had provided criminal knowledge. | Prison Project (T1) |
|         | 2 To examine the quality of the criminal relationships in the core discussion network. |                                  | b. Whether a core discussion network member had been involved in criminal activities during the past year. |                               |
|         | 3 To investigate whether the number of criminals in the core discussion network can be explained by characteristics of the prisoner. |                                  |                                           |                               |
| 4       | 1 To examine the level of overlap between the criminal network and the core discussion network of prisoners prior to incarceration. | ![Overlap between criminal and core network](image) | a. Whether a criminal network member was also a core discussion network member. | Prison Project (T1) |
|         | 2 To investigate whether and to what extent variance in network overlap can be explained by characteristics of the prisoner and the particular relationship between the prisoner and his network member. |                                  | b. Relative number of relationships between a criminal network member and prisoners' core discussion partners. |                               |
| 5       | 1 To describe the differences and similarities between the core discussion network of prisoners prior to and after incarceration. | ![Core network before and after release](image) | a. Changes in core discussion relationships (i.e. 'stable', 'dissolved', or 'new' core discussion relationships). | Prison Project (T1 and T2) |
|         | 2 To examine the characteristics of the prisoner and the network member that relate to the probability that prisoners have stable, dissolved or new core discussion network members. |                                  |                                           |                               |
### TABLE 1.2. THE ANALYTICAL SAMPLES OF CHAPTERS 2 TO 4

(a) Number of respondents at T1

<table>
<thead>
<tr>
<th>Valid answers on the name generator question about...</th>
<th>Prison Project</th>
<th>Chapter 2</th>
<th>Chapter 3</th>
<th>Chapter 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>... the core discussion and the criminal network</td>
<td>Core</td>
<td>998</td>
<td>998</td>
<td>998</td>
</tr>
<tr>
<td></td>
<td>Both core and criminal</td>
<td>510</td>
<td>510</td>
<td>510</td>
</tr>
<tr>
<td></td>
<td>Criminal</td>
<td>62</td>
<td></td>
<td>62</td>
</tr>
<tr>
<td></td>
<td>No network</td>
<td>267</td>
<td></td>
<td></td>
</tr>
<tr>
<td>... only the core discussion network</td>
<td>Core</td>
<td>14</td>
<td></td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>No network</td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>... only the criminal network</td>
<td>Criminal</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No network</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Both missing</td>
<td></td>
<td>38</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1909</td>
<td>1522</td>
<td>1508</td>
<td>572</td>
</tr>
</tbody>
</table>

(b) Number of network members at T1

<table>
<thead>
<tr>
<th>Valid answers on the name generator question about...</th>
<th>Prison Project</th>
<th>Chapter 2</th>
<th>Chapter 3</th>
<th>Chapter 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>... the core discussion and the criminal network</td>
<td>Core</td>
<td>3078</td>
<td>3078</td>
<td>3078</td>
</tr>
<tr>
<td></td>
<td>Both core and criminal</td>
<td>345</td>
<td>345</td>
<td>345</td>
</tr>
<tr>
<td></td>
<td>Criminal</td>
<td>817</td>
<td></td>
<td>817</td>
</tr>
<tr>
<td></td>
<td>No network</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>... only the core discussion network</td>
<td>Core</td>
<td>34</td>
<td></td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>No network</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>... only the criminal network</td>
<td>Criminal</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No network</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Both missing</td>
<td></td>
<td>4275</td>
<td>3457</td>
<td>3423</td>
</tr>
</tbody>
</table>
**TABLE 1.3. THE ANALYTICAL SAMPLE OF CHAPTER 5**

<table>
<thead>
<tr>
<th>Did respondent have a core discussion network prior to and/or after imprisonment?</th>
<th>Number of respondents</th>
<th>Number of network members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Only prior to imprisonment</td>
<td>71</td>
<td>Dissolved at T2</td>
</tr>
<tr>
<td>Prior to and after imprisonment</td>
<td>477</td>
<td>Dissolved at T2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stable at T2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>New at T2</td>
</tr>
<tr>
<td>Only after imprisonment</td>
<td>72</td>
<td>New at T2</td>
</tr>
<tr>
<td>No network prior to and after imprisonment</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>No valid answer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Only at T1</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>At T1 and T2</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Only at T2</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>702</td>
<td></td>
</tr>
</tbody>
</table>