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## Receiving visits in Dutch prisons: a study on the determinants and consequences of prison visitation

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# 1

## **General introduction**

## 1.1 Background

Approximately 30,000 adults are incarcerated in a correctional institution in the Netherlands every year (De Looft et al., 2018). Since recidivism rates are high and correctional budgets increasingly constrained, questions surrounding the social and economic consequences of imprisonment and reintegration have risen. Considering this, scholars suggest that aspects of the prison experience which affect prison order and reentry outcomes need to be more greatly investigated. Moreover, since prisons have the moral and legal task to provide decent and humane treatment, it is important to understand how aspects of the prison experience impact incarcerated individuals.

### Prison Visitation

One experience, prison visitation, is especially salient for incarcerated individuals as it is one of the few opportunities presented to them to facilitate meaningful social interaction and stay connected to the community while incarcerated. By law, adults incarcerated in the Netherlands have the right to at least one hour of visits per week (Article 38, Section 1 of the Penitentiary Principles Act [*Penitentiare beginselenwet*]). This legal right – also adopted in several countries throughout the world – arises from the moral argument that individuals should not become socially isolated while incarcerated. Prison systems have also been encouraged to implement visits based on the belief that visits will improve reintegration. In addition, enabling prison visits can safeguard against unintended or collateral consequences of imprisonment. For example, for some groups of individuals, a lack of access to social ties could be experienced as an additional punishment and may perpetuate social disadvantage. Moreover, allowing visits is also important for those affected by incarceration beyond the prison walls. It provides family and friends an opportunity to see their loved one and check how they are doing. Finally, visits are a key mechanism for upholding individuals' right to private and family life under Article 8 of the European Convention on Human Rights (1950). Given this, it is not surprising that prisons worldwide have the physical and administrative infrastructure to allow prison visits. Although correctional systems cannot control individuals' social networks outside the prison walls, they can adopt visit friendly policies that help enable family and friends – and social ties more broadly – to visit and create environments that promote supportive relationships.

Bearing in mind that visits are embedded in the structure of prisons worldwide, scholars propose that visitation has the potential to be a cost-effective practice for

mitigating harmful effects of imprisonment and improving behavior, familial, and reentry outcomes. Several criminological theories suggest that meaningful contact through visits can help minimize the pains of imprisonment by providing individuals with emotional support and coping resources, which may improve adjustment to prison life (Adams, 1992; Liebling, 1999). Visits also provide incarcerated individuals the chance to maintain or strengthen relationships with family, friends, and the community as well as an opportunity to plan for release. These relationships not only practically help individuals find housing or employment but can also help individuals manage the many challenges associated with the reentry process. Thus, the expectation is that visited individuals, compared to non-visited individuals, are more likely to adjust to prison life and have a more successful reentry.

### **The Determinants of Prison Visitation: Who Gets Visited in Prison?**

Despite the potential benefits of receiving visits, existing studies shows that a substantial number of incarcerated individuals do not receive visits in prison and that certain groups of individuals are less likely to receive visits (Cochran et al., 2017; Cochran et al., 2016; Rubenstein et al., 2021; Tewksbury & Connor, 2012). Scholars have emphasized that a broad range of factors influence the receipt and frequency of prison visits, ranging from practical factors (such as the amount of distance family and friends must travel to visit, see Christian, 2005; Clark & Duwe, 2017, Rubenstein et al., 2021), relational factors (such as the strength of relationships prior to incarceration, see Atkin-Plunk & Armstrong, 2018; Hickert et al., 2019), and experiential factors (such as how visits are experienced, see Turanovic & Tasca, 2019; Pleggenkuhle et al., 2018). What remains unclear is how these factors – which are interrelated, and concern incarcerated individuals, visitor(s), and prison practices and policies – *simultaneously* affect the likelihood and frequency of prison visits, and more specifically, how these factors impact the ties available to incarcerated individuals. The latter is necessary as the nature of relationships between individuals and visitors are different and, as visitors are a heterogeneous group, there are likely to be diverse reasons to (not) visit. To better understand who gets access to external social support during incarceration systematic investigations of the factors that enable, or hinder, visits from various perspectives are needed.

### **The Consequences of Receiving Visits in Prison**

Having access to external social ties through prison visitation seems important as existing scholarship typically suggests that individuals who receive visits in prison experience benefits stemming from these visits, including improved well-being

during incarceration (Houck & Loper, 2002; Lindquist, 2000; Monahan et al., 2011), better adjustment to prison life (Cihan & Sorensen, 2019; Cochran, 2012; Reidy & Sorensen, 2020), and reduced recidivism (Bales & Mears, 2008; De Claire & Dixon, 2017; Mitchell et al., 2016). While these results are encouraging, not all studies show positive effects. Several studies have identified null effects (Atkin-Plunk & Armstrong, 2018; Clark, 2001; Goetting & Howsen, 1986) and a small number even identify harmful effects (Benning & Lahm, 2016; Casey-Acevedo et al., 2004; Jiang et al., 2005; Lindsey et al., 2017; Siennick et al., 2013). These contrasting results are likely a consequence of the heterogeneous nature of visits. Individuals differ namely not only in *whether* they receive visits, but also *from whom* and *how often* they receive visits. Also, visitation experiences are not uniformly positive: while some individuals report positive experiences (e.g., feeling refreshed and having lifted spirits after visits), other experience great feelings of loss and separation (Moran & Disney, 2019; Pleggenkuhle et al., 2018) or visits comprised of conflict, arguments, and confrontation (Meyers et al., 2017). Moreover, individuals do not consistently receive visits throughout their prison term. While some may receive visits at the start of their prison term, visits may knife off over time. Others may only see family and friends just before being released. These variations in visitation experiences are likely to have diverse implications for certain types of behavior in prison and have consequences for life after release.

Early work on visits' effects typically utilized limited measurement and conceptualization of visits (e.g., measuring visits as an event that occurred or not). Although more recent work has improved on this by using more articulate measures of visits and employing rigorous study designs, still little is known about these heterogeneous features of visitation and limitations remain. For example, the influence of unobserved confounders on visits' effects, such as an individuals' pre-prison social network, remains a critical problem as researchers tend to rely on large prison administrative datasets. In doing so, existing research focuses mostly on incarcerated individuals, even though other actors play a critical role in visitation (including visitors and prisons). Consequently, most prior research has been conducted at a single level of analysis (i.e., individual level), thus ignoring the influence of prison context on individual behavior. Not only that, overlooking differences in context is problematic as prison facilities adopt varying policies and practices which could undermine the receipt of visits and their potential benefits.

Lastly, it is unclear how generalizable our prevailing conclusions about the determinants and consequences of prison visits are since almost all prior research stems from the United States (U.S.). It is possible that some results are unique to

the features of the U.S. penal system (such as its punitive character and excessive incarceration lengths). Research across contexts is critical, then, for advancing theory and policy conversations about visitation, its impacts, and its likelihood across people.

### **This Dissertation and Research Questions**

Against this backdrop, this dissertation seeks to advance our current knowledge on the determinants and consequences of prison visitation by expanding our knowledge about prison visits to the Netherlands, combining information about visits from multiple data sources (including surveys, prison records across the entire prison term, and documents about the set-up and administrative infrastructure of visits), broadening the focus from incarcerated individuals to include more contextual influences (such as prison policies and shared experiences), and using rigorous tests to specify which types of behavior visits are likely to affect. The aim of this dissertation is threefold. First, this dissertation aims to describe how visitation works in law, policy, and practice in the Netherlands. Second, it aims to describe and evaluate the factors that contribute to receiving visits in Dutch prisons. Third, it aims to test to what extent receiving visits affects offending behavior in prison (i.e., misconduct) and after release (i.e., recidivism).

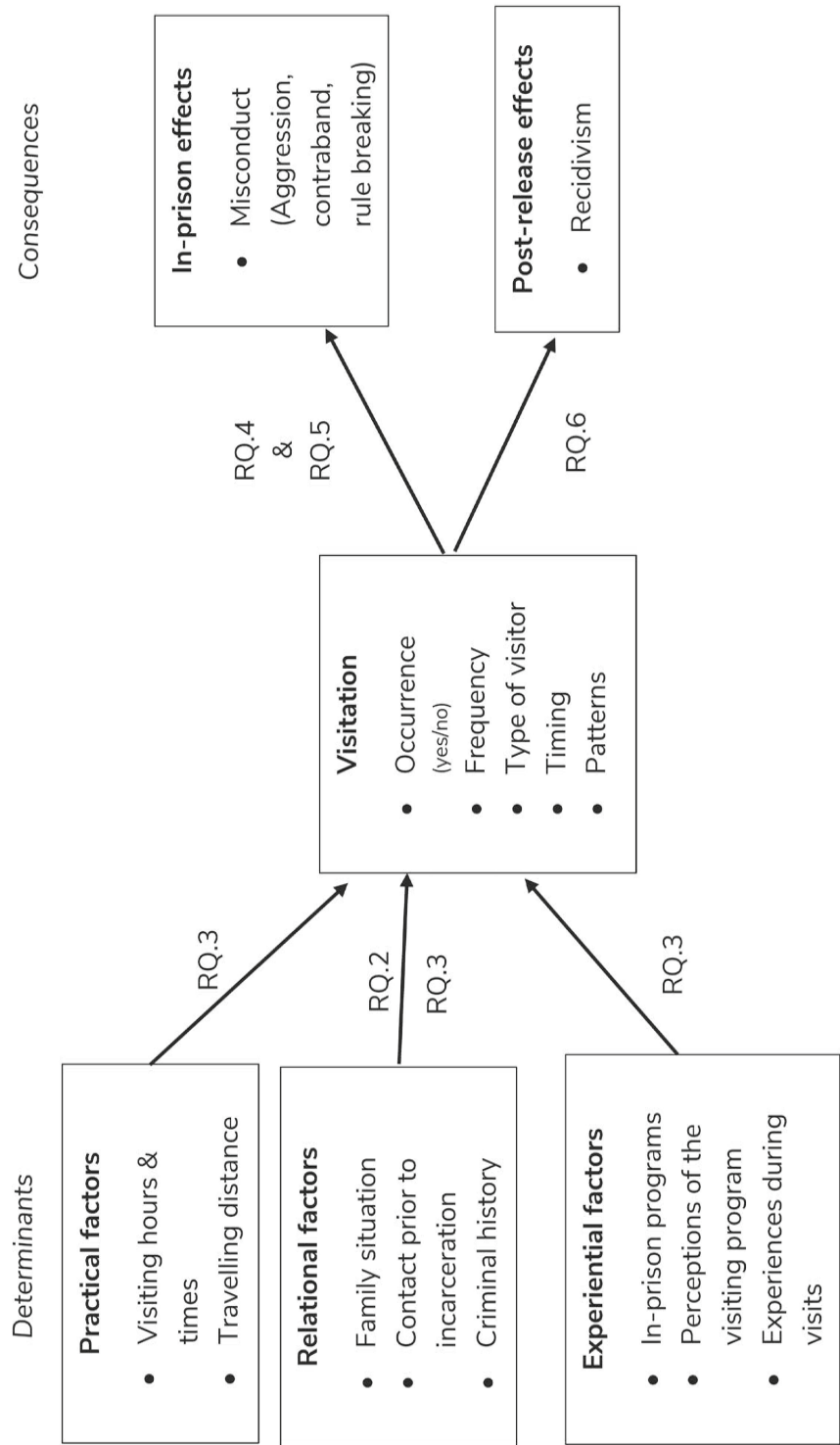
More specifically, six research questions are investigated. Figure 1.1 presents a schematic overview of these research questions. As a starting point, this dissertation presents a detailed description of the context of prison visitation in the Netherlands. The first research question is therefore:

1. How is contact via prison visits regulated in Dutch law, policy, and practice?

Then, to understand which factors contribute to receiving visits in Dutch prisons, this dissertation provides the first large-scale study into the prevalence of visitation in the Netherlands. Moreover, this dissertation evaluates how both individual and contextual factors may explain who gets visited in prison. This led to two research questions:

2. To what extent are social network characteristics and criminal history related to receiving visits in prison?
3. To what extent are practical, relational, and experiential factors related to whether, how often, and from whom incarcerated individuals receive visits in prison?

Figure 1.1 Schematic Overview of Research Questions



Subsequently, this dissertation examines the effect of receiving visits on in-prison behavior. Specifically, two questions are investigated:

4. To what extent does receiving visits in prison relate to aggressive and contraband misconduct?
5. To what extent does the probability of misconduct change in the weeks surrounding a visit?

Finally, the focus shifts to studying whether receiving visits protects individuals from offending after release. The final research question is:

6. To what extent do visitation patterns relate to individuals' post-release offending?

As evidenced by the research questions (and as will be discussed in more depth later), prison visitation is conceptualized in a multifaceted way, including whether a person is visited, how often they are visited, and from whom they received visits. For the consequences of visits, the timing and patterning of visits is further specified to understand how visits over time affect in-prison and post-release behavior.

## 1.2 Theoretical Background

Throughout the empirical chapters of this dissertation many theories are used to derive expectations concerning the determinants and consequences of prison visitation. This introductory chapter shortly discusses the main theoretical arguments which are covered more extensively in the empirical chapters. The research questions related to the determinants of visitation are grounded in a social ecological framework that emphasizes that multiple actors are important for developing and maintaining social support during incarceration (i.e., the prison, the visitor(s), and the incarcerated individual) and in doing so considers the practical barriers to visitation, but also the social and incarceration contexts in which people reside. Expectations about the consequences of receiving visits in prison are rooted in several mainstream criminological theories, including Hirschi's social bond theory (1969), strain and deprivation theory (Agnew, 1992; Sykes, 1958), and life course criminology (Laub & Sampson, 2003).

### Determinants of Prison Visits

Social support can be critical in times of stress and trauma. Vaux (1988) argued that in such times of stress, the process of maintaining social support is complex

and transactional. An interplay occurs between individual, social network, and contextual factors; factors at one of these levels influences factors at another level. Starting with the individual, differences in personality and social skills likely influence whether an individual can develop, maintain, or utilize a supportive network. For example, individuals who are more socially competent (e.g., make conversation, listen, express empathy) likely develop supportive networks easier in times of stress than those who are less socially skilled. Beyond the individual, the social network can also respond and help in times of stress. The reaction of the social network is contingent on their resources and the intensity and persistence of the stressor. In addition, network characteristics such as size, density, composition, and quality, can impact the sustainability of social support. For instance, if a stressful situation is chronic and the network is small and comprises of, for instance, only family members, support may deplete over time. Finally, Vaux (1988) notes that this transactional process takes place in a social context. Contexts of space, time, history, and broader social roles shape the development of social support. These contexts create a backdrop for the transactional process between the individual and their social network.

This social ecological framework is applicable to prison visitation. Imprisonment is a stressful event, physically disrupting the connection between an individual and the outside world. Visitation is a key form of social support, being that it is the only way individuals can maintain physical contact with loved ones beyond the prison wall. To maintain this form of contact, both incarcerated individuals and their visitor(s) must decide whether and how often they (receive) visits within the bounds of their specific social and incarceration contexts (see Figure 1.2). Individuals in prison can be assumed to make decisions on whether and how often they receive visits depending on their individual characteristics (e.g., their age and criminal history, whether they have a spouse or children) and their emotional situation (e.g., reactions to incarceration and visitation experiences).

Beyond the incarcerated individual, visitors must also decide whether they take the effort to travel to prisons and spend time and money on these trips. These decisions can be assumed to be impacted by practical factors, including travelling distance to the prison, their ability to travel to the prison, and being able to afford the costs of visits. These are all barriers which could hinder family and friends, particularly those with low incomes, from visiting. Despite such barriers, some visitors overcome these hardships. Those who are close to the incarcerated individual are more likely to be responsive to their troubles and to engage in supportive behavior even if it is costly or requires effort (Vaux, 1988). Furthermore,

some visitors, such as partners or parents, may have made prior investments in their relationship with the incarcerated individual. These visitors are less likely to break off a relationship in which they have already invested because otherwise, time and energy for their investment would be lost (Arriaga & Agnew, 2001).

**Figure 1.2** Social Ecological Model of Visitation



These decisions concerning whether and how often to (receive) visit(s) are made within a specific ecological context, namely the prison. Since prison officials are granted substantial discretion to determine whether and when visits take place, it can also be assumed that visitation policies impact the receipt of visits. While some policies may extend visiting hours, therefore making visits more accessible, others may create challenges to visiting (for example, if visiting hours are only during the week). This could also explain variation in visitation rates.

### Consequences of Prison Visits

The consequences of social ties on offending behavior are central to many criminological theories, including Hirschi's social bonds theory (1969), informal

social control, and life course approaches (Laub & Sampson, 2003). By extension, scholars have developed several theoretical arguments explaining how receiving visits in prison might influence offending behavior both within and beyond prison walls. Many of these theories expect that maintaining social ties through prison visits can prevent or reduce offending behavior, but as evident below, the ways in which these ties contribute to it differ.

### ***Receiving Visits Reduces Offending Behavior***

Imprisonment severs social connections to family and friends, as well as the larger community. According to Hirschi's (1969) social bonds theory maintaining strong bonds to family, friends, and the community can help restrain a person from committing crime. Visits may be crucial for maintaining, or even restoring, these social bonds while incarcerated as it is the only opportunity individuals are given to see these relationships face-to-face. Thus, those individuals who receive visits likely have stronger bonds than those who do not receive visits and are therefore more likely to restrain from crime. These bonds may be especially important during confinement as they may help restrain individuals from pressures to conform to deviant prison subcultures. Also, by staying connected with the broader community individuals may be less likely to identify with the prison culture.

In addition, visits can help individuals manage the pains of imprisonment (Sykes, 1958), especially with social isolation inherent to confinement (Adams, 1992). Visits can provide a legitimate coping mechanism for individuals which can help reduce stress and decrease their likelihood of engaging in misconduct. This argument is rooted in strain and deprivation theories which emphasize that a lack of coping mechanisms in times of stress can contribute to misconduct or other antisocial behavior (Agnew, 1992, 2001; Broidy, 2001).

Visits may also function as a key source of informal social control. Visitors can check in on incarcerated individuals and see how they are doing. In this way visitors can indirectly monitor individuals' behavior, which may encourage prosocial behavior (Liu et al., 2016). Even in anticipation of visits, individuals may be careful to avoid any behavior that may upset or disappoint potential visitors or that may cause a visit to be delayed. Thus, individuals who (wish to) receive visits may be more likely to conform to prison rules.

In a similar vein, informal social control is emphasized in life course approaches as an integral factor for desisting from crime (Lilly et al., 2018). Sampson and Laub's (2003) age-graded theory of informal social control underscores the importance of social supports in negotiating life transitions. Release from prison constitutes

an important life event, whereby individuals transition into freedom while also being confronted by the challenges and stresses of having a criminal background (Visser et al., 2004). The expectation is that social ties are critical for managing negative events while incarcerated and after release (Maruna & Toch, 2005). Moreover, and perhaps more critically for the desistance process, visitation may help provide individuals with a more positive sense of personal identity (Maruna, 2001). Visitation can counter negative labels (i.e., criminal, offender) and processes (i.e., discrimination in jobs) as it cements relations that provide access to supportive social networks after release.

Implicit in these theories – and perhaps at the core of why scholars argue that receiving visits in prison is so critical – is the assumption that social networks benefit individuals through social capital. Social capital can be defined in two ways: 1) the resources it provides, including expressive (i.e., emotional support) and instrumental support (i.e., provision of goods and providing information or guidance) (Bourdieu, 2011; Cullen, 1994; Lin, 1986), 2) the norms and values produced through communities (Putnam, 1993). Both conceptualizations show that social ties (both with family and friends [informal] and the community [institutional]) are important as they provide resources and helping behavior. Visits can remind individuals of the social capital available to them and help activate, preserve, or perhaps even strengthen, their connections to these sources of support. The provision of emotional and instrumental support can help them navigate the stresses and pains of imprisonment, and perhaps more crucially, provide access to housing and employment after release, thus increasing chances of reentry success.

In short, these theories collectively assume that visits are beneficial. These possibilities notwithstanding, some scholarship lead to the opposite prediction, namely that visits could increase offending behavior. As described next, visits' effects are likely contingent on how visits are experienced, the frequency of visits, and who is visiting.

### **Visits' Effects: Which visits, When, and From Whom?**

Efforts to reduce offending behavior through prison visits assume that 1) visits are a positive event, 2) that visits occur regularly, and 3) that visitors are prosocial and supportive. However, visits are not uniformly positive. Some visits may be upsetting, which could increase levels of stress. Also, visits may vary across time both in terms of frequency and consistency. However, many of the aforementioned theories implicitly require frequent visitation for positive outcomes. For example, if visits operate via informal social control, then visits must occur regularly if visitors wish to

monitor individuals' behavior in prison. Finally, not all visitors hold prosocial norms nor are supportive. Individuals receive visits from a wide range of relationships, ranging from current or previous romantic partners, child(ren), siblings, grandparents to community workers. As visitors are not screened nor denied access to visiting due to criminal records in the Netherlands, it is also possible that some visitors are criminal peers, extending and perhaps supporting criminal norms, values, and identity which could result in adverse behaviors both within prison (for example, continuing criminal behaviors by smuggling in prohibited items) and after release.

### **1.3 Prior Research**

Research on prison visitation has expounded in recent years, evidenced by systematic reviews and meta-analyses (De Claire & Dixon, 2017; Mitchell et al., 2016), conceptual frameworks to guide researchers in this field (Cochran & Mears, 2013), and descriptions of how to advance visitation research (Tasca et al., 2016). As prior work focuses either on the determinants or the consequences of prison visits, studies on each topic will be discussed separately below. The discussion below focuses largely on international research as Chapter 2 provides a detailed overview of prior Dutch research on both the determinants and consequences of visitation. Also, since more extensive overviews of the literature will be provided in the empirical chapters (chapter 2-7), the studies discussed below provide mainly a background and show how the current study progresses on previous work.

#### **Studies on the Determinants of Visitation**

A general observation from national and international studies is that a substantial number of individuals do not receive visits in prison (Cochran et al., 2017; Janssen, 2000; Moerings, 1978; Tewksbury & Connor, 2012). International (American) studies based largely on prison administrative data have focused on differences between incarcerated individuals based on demographic and criminal characteristics or travelling distance to explain why some individuals are more or less likely to receive visits. These studies show that young, incarcerated individuals with less extensive criminal histories and who have committed less severe crimes were most likely to be visited (e.g., Clark & Duwe, 2017; Cochran et al., 2017; Jackson et al., 1997; Tewksbury & Connor, 2012). Also, when visitors lived further away from the prison and came from disadvantaged areas, they were not only less likely to visit, but also visited less frequently (e.g., Clark & Duwe, 2017; Cochran et al., 2016; Mikytuck & Woolard, 2019; Poehlmann et al., 2008; Young & Hay, 2020). While the latter studies highlight

practical factors that may affect visits, these data sources lack measures pertaining to the policies adopted by prisons (i.e., visiting hours, days, time slots, etc.), which may promote or restrict the receipt of visits. Although some scholarship, including qualitative studies in the Netherlands, have offered evidence for the expectation that the adoption of restrictive policies may make it more difficult for loved ones to visit (Clark & Duwe, 2017; Hickert et al., 2018), no prior studies have actually tested whether or how these policies affect the receipt of visits in prison.

Only in recent years have scholars studied how social support prior to incarceration may explain disparities in receiving prison visits. Data from longitudinal surveys show that having good quality relationships prior to incarceration increases the likelihood of receiving visits in prison (e.g., Atkin-Plunk & Armstrong, 2018; Hickert et al., 2019; Young et al., 2019). These findings were based on specific samples, such as pretrial detainees in the Netherlands (Hickert et al., 2019) and incarcerated youth in Florida (Young et al., 2019). No such studies were conducted using large, representative groups of incarcerated individuals.

Finally, a separate, but related body of literature has emerged on visitation experiences. This literature, generally qualitative in nature, has described visitors' journey to the prison as well as their experiences during visits (Arditti, 2003; Christian, 2005; Fuller, 1993). As a whole, these studies paint a grim picture: visits not only cost family and friends a lot of time and money, but visitors describe their visit experiences as restrictive, unpleasant, and unwelcoming (Arditti, 2003; Comfort, 2016; Sturges, 2002). Interview accounts with incarcerated individuals also show that some individuals opt out of receiving visits due to the perceived strains on family and friends (Pleggenkuhle et al., 2018). Moreover, incarcerated individuals' experiences with visits appear to be diverse, dynamic, and not universally positive (Moran & Disney, 2019; Moran et al., 2016; Turanovic & Tasca, 2019). Yet, it remains unclear how these experiences impact whether and how often individuals receive visits.

Collectively, studies on the determinants of prison visitation identify a range of factors that seem important for understanding who gets visited in prison. Yet, surprisingly little is known in the literature about how these factors simultaneously relate to visitation, as most studies have focused on one or a few of these factors without taking the possible interaction between these factors into consideration. Also, limited knowledge is available about whether consequential factors, such as visitation policies or visitation experiences, actually impact access to external social ties, especially in contexts beyond the U.S.

## **Studies on the Consequences of Visitation**

The bulk of prior research on visitation effects focuses on misconduct and recidivism. Below, prior work on the consequences for in-prison behavior (i.e., misconduct) will firstly be reviewed, followed by behavior after release (i.e., recidivism).

### ***Consequences of Visitation on In-prison Behavior***

Studies in which visited and non-visited individuals are compared in terms of misconduct represent a popular strand of research within the visit-misconduct literature. Notably, no Dutch studies have been conducted on this topic. Existing international studies show mixed findings: some find that individuals who receive visits in prison engage in less misconduct (Ellis et al., 1974; Gonçalves et al., 2016; Woo et al., 2016), while others report that they engage in more misconduct (Benning & Lahm, 2016; Casey-Acevedo et al., 2004; Jiang et al., 2005; Lindsey et al., 2017), and even others find no significant relationship between the two (Clark, 2001; Goetting & Howsen, 1986). These varying results may be due to study quality, as visited and non-visited individuals differ in many important ways and most studies do not have measures for all these confounds. Moreover, many studies are cross-sectional meaning time order cannot be determined. This is important as misconduct likely also affects visits. For example, if an individual misbehaves in prison, this may discourage visits from family and friends. The opposite is also possible, if individuals seem to have trouble adjusting to prison life, then family and friends may visit more often to support them. These threats to internal validity make it difficult to disentangle visits' effects on misconduct.

One American study employed an instrumental variable analysis (Tahamont, 2013), which is better suited to isolate these effects. Results showed that receiving visits reduces *certain types* of misconduct, such as possession of a weapon or stolen property, verbal and physical aggression towards another incarcerated individual and being out of place, but visits did not affect drug and alcohol violations nor verbal or physical assaults against staff. While this study addressed possible differences between individuals in *whether* they receive visits, individuals also differ in *how often*, *when*, and *from whom* they receive visits which can have consequences for misconduct.

Empirical studies on these aspects of visitation in relation to misconduct are the exception. Studies on who is visiting are rare; a few studies suggest that partners may help reduce misconduct (Siennick et al., 2013; Woo et al., 2015) whereas child visits have been linked to increases in drug and rule violations (Benning & Lahm, 2016; Casey-Acevedo et al., 2004; Jiang et al., 2005). A small number of studies have investigated how visitation patterns (i.e., how often and when individuals

receive visits) impact misconduct (Cihan et al., 2020; Cochran, 2012; Siennick et al., 2013). Using group-based trajectory models Cochran (2012) and Cihan et al. (2020) found that individuals who were visited often, already from the start of their prison term, were less likely to engage in misconduct. However, individuals who received infrequent visits or who only received visits early in the prison term had the highest probabilities of misconduct, even in comparison to non-visited individuals. A third study, by Siennick et al. (2013), took a different approach and explored the short-term effects of visits by examining week-to-week associations between disciplinary infractions and the weeks surrounding a visit. They found that the probability of disciplinary infractions decreased in the weeks leading up to visits, indicating that individuals moderate their behavior in anticipation of visits. After a visit, the probability of disciplinary infractions sharply increased; this suggests that individuals may have a hard time separating from family and friends at the end of each visit. Taken together these studies lend support to the idea that who is visiting, the frequency, and the timing of visits matter for understanding visits' effects on misconduct.

### ***Consequences of Visitation on Behavior After Release***

Several studies have examined visitation effects on recidivism. Mitchell et al. (2016) conducted a systematic review and meta-analysis of 16 studies on this topic. The meta-analysis showed that receiving visits in prison reduced recidivism by 26%. While this result seems encouraging, the effect of visits on recidivism substantially decreased when multivariate studies were considered (then the estimates were around 4%). This review highlighted the importance of controlling for confounders and rigorous testing when investigating how receiving visits in prison relates to recidivism.

In response to this, studies published in recent years have been more critical – both substantively and methodologically – of visits' effects on recidivism. To begin, a few recent studies suggest that purely receiving visits does not reduce recidivism, but rather *relationship quality* matters for recidivism. In a British study among incarcerated males, Brunton-Smith and McCarthy (2017) found that the *strengthening* of family relationships reduced reoffending risks, not visits. While some visits may help strengthen these relationships, not all visits improved relationships.

Scholars have also argued that visitation effects may merely reflect social capital that already existed prior to incarceration, as those individuals who have strong social ties are more likely to succeed post-release. Most prior studies typically did not include measures of pre-prison social capital as they relied upon prison administrative data. Using survey data, Atkin-Plunk and Armstrong

(2018) found that the quality of an individuals' relationships prior to incarceration were more important for reducing recidivism than visitation. However, two other studies found differing results. Using data from the longitudinal (Dutch) Prison Project, Hickert et al. (2019) observed that visits remained significantly related to post-confinement expressive support even when controlling for social support prior to incarceration. Thus, visits seem important for having emotional support after release, but may be less influential in the actual provision of goods. A similar result was found among a large sample of incarcerated individuals in the U.S., although the focus was on feelings of isolation while incarcerated (Anderson et al., 2020). Nevertheless, this study reinforces the idea that visits are necessary for maintaining the connection to avenues of social support – even for those who had social capital prior to incarceration.

While the previous examples use more substantive measures to try and isolate visits' effects two recent studies used instrumental variable analysis to statistically isolate the effects of visits on recidivism. Lee (2019) found that visited individuals were significantly less likely to recidivate, although estimates differed depending on sample restrictions and control variables. For example, when travelling distance between the county where an individual was convicted and the prison was controlled for, the benefits of visitation were largely eliminated. Cochran et al. (2020) also examined the distance of the prison from the incarcerated individuals' home community as an instrumental variable. Although the results of this analysis showed that visits reduced recidivism, the effect was not significant in the instrument variable analysis. In sum, it remains unclear to what extent and how visits affect life after release. Work on this topic is complicated by several potential confounds, which raises questions about whether visits have causal effects on recidivism.

### **Limitations of Prior Research**

Although the extant literature offers considerable insight into the determinants and consequences of visitation, limitations remain. To start, most earlier studies examined visitation as an event that has occurred or not, or as a count variable (i.e., total number of visits). Such aggregate measures mask the variability inherent in prison visitation. Researchers have increasingly stressed how complex and multifaceted prison visits are. Several nuances seem to matter for prison visits, including who is visiting (e.g., partner, parents, children, family, friends, volunteers, lawyers, social workers), the frequency (i.e., consistent vs. sporadic), timing and patterning of the visit (e.g., beginning, middle, end of prison term) (Cochran & Mears, 2013). Although recent studies have increasingly examined these aspects,

still more research is needed that uses articulate measures of visitation to capture who receives visits in prisons (and how often and from whom) and to understand when visits improve behavioral outcomes and when they may have little or even adverse effects on behavior.

Existing research has also almost exclusively relied on prison administrative data. Although this data is needed to establish visitation patterns over time, the use of prison administrative data alone cannot explain many of the dynamic processes inherent to visitation (including the impact of prison policies, visitation experiences, and preexisting social support). There is a need to pair these data with rich, self-report data (such as survey data) to broaden our understanding of the determinants and consequences of prison visitation. This pairing is important as an overreliance on a single source of data (as studies which do not use prison administrative data rely solely on self-report data) may inflate the correlations between constructs, resulting in shared method bias. Moreover, a consequence of relying on prison administrative data sets means that the extant literature focuses heavily on incarcerated individuals, even though visitors and prisons play an integral role in visitation. It seems therefore useful to consider other actors and contexts at play. This requires multilevel analyses and a greater examination of the contexts under which visits take place.

An overall limitation is that conclusions are almost solely based on data pertaining to individuals incarcerated in the U.S. For the determinants of visitation this is problematic as some factors may be particular to the context (for instance, results on travelling distance may be so profound because of the size of U.S. states; some entire countries, including the Netherlands, are smaller than some U.S. states). For the consequences of visitation, this is also important as visits are considered a privilege in most U.S. states. This could result in a selection bias as individuals who are granted access to visits already behave well, which could impact estimates on offending behavior. Findings from other contexts are thus needed to help validate conclusions. While some prior Dutch research does exist, it is limited to specific populations (such as individuals serving short sentences or incarcerated mothers) or prisons (with most studies done in one specific prison) and most data is outdated reducing its generalizability.

Besides these limitations, there are several unexplored areas in this research field. With regards to the determinants of visitation, most studies have focused on differences between incarcerated individuals based on demographic and criminal characteristics or travelling distance to the prison. To increase our understanding of the factors that contribute to (frequent) visits in prison, research that takes a

more holistic approach and includes practical factors (e.g., visiting times), relational factors (e.g., size of social network and relationship quality), and experiential factors (e.g., experiences with visits) *simultaneously* seems warranted. In addition, little is known about how visitation experiences and prison policies impact visits. With regards to the consequences of visitation, even though the body of literature on visits' effects is growing, it remains unclear for whom and under which circumstances visits have a positive, negative, or no effect on incarcerated individuals. Scholars often limit their examination to offending likelihood (e.g., whether an individual committed misconduct), but correctional practitioners and individuals could benefit from a deepened understanding of when, how, and which types of behaviors are affected by visits. Even within the small number of studies that have explored the aforementioned topics, methodological rigorous and large-scale studies remain an exception.

## 1.4 Data

This dissertation was designed to overcome some of the limitations of previous studies and to provide insight into the determinants and consequences of prison visitation in the Netherlands. To provide empirical answers to the research questions, this dissertation used detailed data on prison visits and behavioral outcomes from the Dutch Prison Visitation Study (DPVS). The DPVS is part of a large-scale research project into prison climate and the quality of life in Dutch prisons (the Life in Custody study, Palmen et al., 2019; Van Ginneken et al., 2018). The DPVS specifically focuses on prison visitation, which is one of the six dimensions of prison climate: 'contact with the outside world' (Boone et al., 2016). The DPVS aims to examine prison visitation from different perspectives and in all its variety. It comprises of two data collections conducted in 2017 and 2019. This dissertation uses data from the 2017 data collection which focused on the determinants and consequences of prison visitation and combined rich survey data (Prison Climate Questionnaire, PCQ) on visits and important background characteristics (including information about individuals' pre-prison and current social network), data on the set-up and organization of visits within prisons, and prison administrative data on visits across the entire prison term. In addition to data on visits, data for this study are extended with administrative data on individual and prison unit characteristics, misconduct, and recidivism.

By combining different data sources, the current dissertation offers a thorough and detailed exploration into prison visitation in the Netherlands. Since prison

administrative data on visitation is not available (or reliable) in all prisons (described below), this dissertation uses two study samples. Below both study samples are described and then the different data sources are described (see Table 1.1 for an overview).

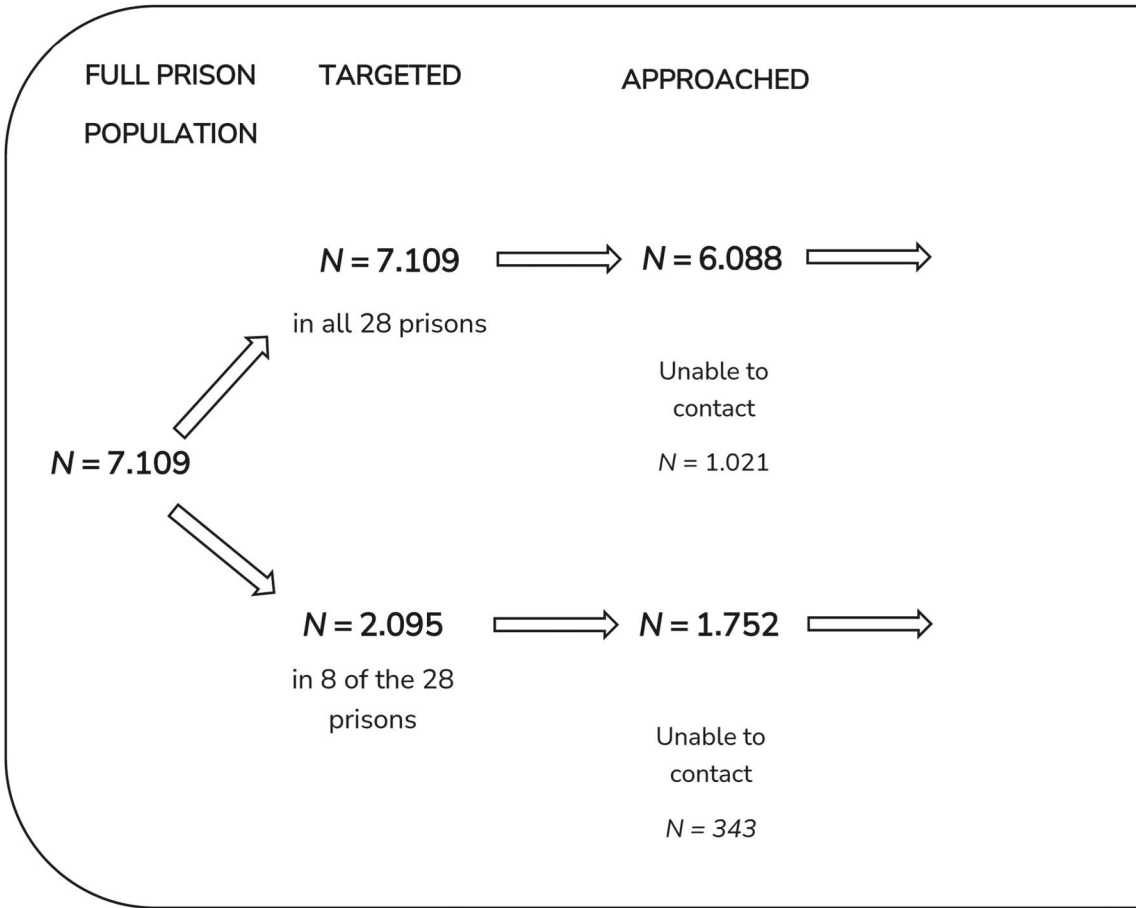
## Samples

An overview of the two samples can be found in Figure 1.3. For the first study sample, information about visits is self-reported and comes from the PCQ (described below). The full population of male and female persons, in all regimes, who were incarcerated between January and April 2017 in one of the 28 operating Dutch prisons were targeted ( $N = 7,109$ ; see Figure 1.4 for the geographical locations of the prisons). From this group, 473 (7%) could not be invited to participate due to language barriers, severe psychological problems or being placed in isolation during the data collection. Additionally, 548 (8%) could not be invited due to practical conflicts, including being released in the week of the data collection or not being present in the unit (due to obligations elsewhere, including in transit to court or work).

Individuals who could be invited ( $N = 6,088$ ) were individually approached by research assistants to participate in the study. They were approached at the door of their cell and both participants and non-participants were offered a small incentive (e.g., a snack or can of soda). Of those invited to participate, 4,983 (81%) agreed to participate and completed the PCQ. The most common reasons for not wanting to participate was “lack of interest” ( $N = 662$ ), “distrustful of research” ( $N = 163$ ), and that they were “almost being released” ( $N = 40$ ).

Those who wished to participate were also asked for permission to match their survey with official prison records (such as disciplinary reports); 400 participants did not give permission and participated anonymously (due to this these individuals were not included in this dissertation). Surveys were collected one to two days after handing them out. In case of literacy or concentration problems, researchers would assist in filling out the survey. For the purposes of this dissertation, participants in open regimes were excluded from the study sample as individuals in this regime have furlough every weekend and therefore do not receive visits in prison. Therefore, the total DPVS sample for which self-report data on various aspects of visitation is available includes 4,376 individuals from 236 prison units.

**Figure 1.3** Sample Selection: Dutch Prison Visitation Study (Jan – April 2017)

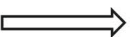


PARTICIPATED

MATCHED

FINAL SAMPLE

**$N = 4.938$**



**$N = 4.538$**

Refused to  
participate  
  
 $N = 1.150$

No permission for  
matching  
  
 $N = 400$

**4.376 individuals  
in 236 prison units**

Individuals in open  
regime excluded  
 $N = 162$

**$N = 1.397$**



**$N = 1.348$**

Refused to  
participate  
  
 $N = 355$

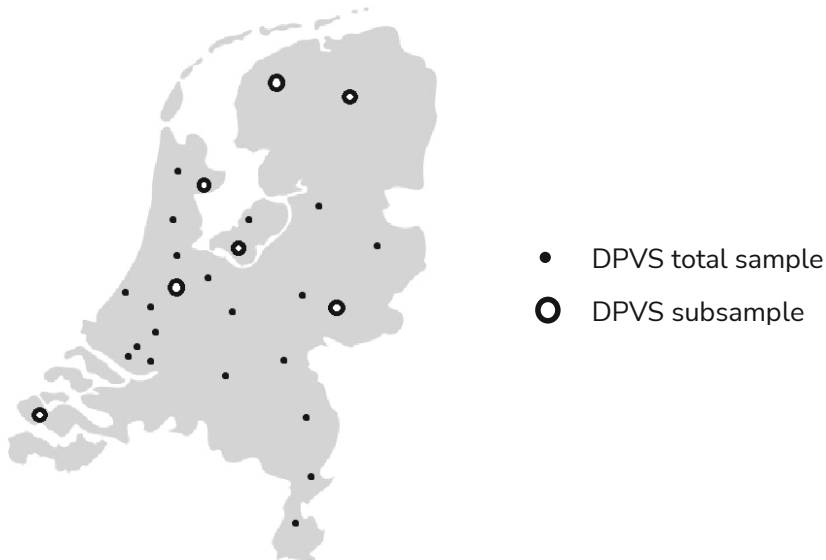
No permission for  
matching  
  
 $N = 49$

**1.235 males  
in 53 prison units**

Individuals in open  
and persistent  
offender regime  
excluded  
 $N = 113$

The second sample consists of a subsample of DPVS participants, for whom additional prison administrative data on visits were combined with self-report data on visits in the PCQ. This was carried out in eight prisons. While many prisons in the Netherlands have administrative data on visits, not all prisons use the nationwide system (*TULP Bezoek*). Even when prisons do use *TULP Bezoek* to record information about visits, the quality of the information recorded varies enormously. After site visits and inspection of the data, eight prisons were shown to have the most complete visitation data. These eight prisons are spread geographically throughout the Netherlands (see Figure 1.4), located in both urban as well as more rural areas. These prisons house individuals from all regimes, but only house adult males. In terms of cell capacity and staff-incarcerated individual ratio these prisons do not significantly differ from other prisons in the Netherlands.

**Figure 1.4** Geographical Location of Prisons from the Two Study Samples



Note. One location included in the subsample has two separate prisons, thus totaling eight prisons.

All individuals in the eight selected prisons between January and April 2017 ( $N = 2,095$ ) were targeted. The procedures for this data collection were the same as described above. Of those eligible, 1,397 agreed to participate and completed the PCQ (common reasons for refusal to participate are the same as above).

Individuals were specifically asked to give permission to use administrative data, such as visitation records, for research purposes; as can be seen in Figure 1.3, most individuals gave permission for matching. Individuals in open regimes were excluded from this subsample for the same reason described above. Additionally, individuals in persistent offender regimes were excluded as they can also see family and friends on furlough. While some individuals in this regime do receive visits in prison, it is not uniformly recorded in administrative records. Therefore, this subsample includes 1,235 males in 53 prison units. For this sample information about visits is available from the PCQ and administrative data. Moreover, specific information is available about the set-up and organization of visits for each of the 53 prison units.

### **Visitation Data**

A unique strength of this dissertation is the use of multiple conceptualizations and measures of visitation to improve our understanding of these heterogeneous events. In total, this dissertation used four data sources to measure visitation. Below, a description is given of each data source.

### **Legal, Judicial, and Policy Data**

To understand how prison visits are regulated in law, policy, and practice (RQ.1), information was collected from several legal, judicial, and organizational sources. The Penitentiary Principles Act provided data about the legal basis of prison visitation. More specifically, Articles 36-40 pertain to incarcerated individuals' contact with the outside world. Policy directives (i.e., more detailed rules about prison visits) were also collected via the Dutch Prison Service (*Dienst Justitiële Inrichtingen*) and the websites of each prison. Jurisprudence was collected from the website of the supervisory committee (*Commissie van Toezicht*). All cases that concerned prison visits were investigated (in total there were 51 court cases from 2010-2017). Finally, to fully understand how these regulations were implemented in practice prison staff were interviewed and observations were done in all 28 operating prisons (between November 2016 and April 2017). These data allowed for a comprehensive understanding of the broader legal and organizational context of prison visitation in the Netherlands (see Chapter 2).

### **The Set-up and Organization of Prison Visits**

To capture the variety in the practical implementation of visits in Dutch prisons, extra information was collected during site visits leading up to the data collection.

This included visitation forms, “house rules”<sup>1</sup>, daily programs, and pamphlets for visitors. These documents provided insight into how visits are arranged in practice for each prison unit. From this information an overview was created per unit on which days individuals could receive visits and at what time. Additionally, it was recorded whether individuals could choose from different time slots. If so, then it was recorded how many options they could choose from. Finally, it was noted whether visits were available in the weekend or evening hours. These data provided an opportunity to explore how visits operate in practice (described in Chapter 2) and to examine how visitation policies relate to whether and how often individuals receive visits in prison (see Chapter 4).

### ***Prison Climate Questionnaire (PCQ)***

The PCQ is a new instrument developed specifically for the Dutch prison climate (Bosma et al., 2020a). This survey includes questions about several dimensions of prison climate, including ‘contact with the outside world’ (Boone et al., 2016). In this dimension several questions were asked about visitation, including whether and how often individuals saw their partner, child, family, and friends in the past three months (or if imprisoned shorter than three months, since entry), how satisfied they were with visits, and their experiences with these visits. A more extensive discussion of these visit measures can be found in the separate empirical chapters of this dissertation (chapter 3 and 5).

### ***Administrative Data (TULP Bezoek)***

For a subsample of DPVS participants, visitation was also measured using administrative data on prison visits from *TULP Bezoek*. These data included the following information: date of the visit, the type of visit (standard, conjugal, special family visits, parent-child days, official), the length of the visit, how many visitors came, the relationship between each visitor and the incarcerated individual, and the place of residence of the visitor(s). These data allowed for examinations of how travelling distance contributes to receiving frequent visits in prison (Chapter 4), and how the timing (Chapter 6) and patterning of visits (Chapter 7) affects behavior.

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1 These are rules that are given to individuals upon entering the prison which explains, among many things, how visitation works.

### **Data on Misconduct (CDD)**

To understand the effects of prison visits on misconduct (RQ. 4 & RQ.5) data from the Central Digital Depot (CDD) were examined. This system archives all documents concerning incarcerated individuals (including reports on institutional decisions, participation in activities, reports on reintegration activities, and disciplinary infractions). The author of this dissertation and five research assistants analyzed reports on disciplinary infractions. For everyone in the study samples, it was documented whether an individual received a disciplinary report in the six months prior to the data collection (July 2016) to one year after the data collection (February 2018). Subsequently, the type of infraction was recorded. The following categories were used: verbal aggression (includes yelling or threatening) against another incarcerated person or staff member, physical aggression (includes punching, kicking, pushing or fight) against another incarcerated person or staff member, possession or use of contraband (e.g., mobile telephones, drugs, illegal medication, drugs), and general rule breaking (e.g., violating house rules, work refusal, unauthorized absence). These specifications provided an opportunity to investigate how prison visits relate to specific forms of misconduct (see Chapter 5 and 6).

### **Data on Recidivism**

The effect of receiving visits on recidivism (RQ.6) was investigated using data from the Scientific Research and Documentation Center of the Ministry of Justice and Security. These data contained detailed information on registered crimes and convictions and was made available for all DPVS participants who were released in 2017 and gave permission for obtaining administrative data. Recidivism was measured based on whether an individual was reconvicted within six months and up to two years after release. In addition, measures of the seriousness of the offense for which an individual was reconvicted were included. All participants had an equal time at risk using these recidivism measures. These data allowed for an examination of how visitation patterns relate to individuals' post-release offending (Chapter 7).

### **Data on Individual and Prison Unit Characteristics**

As part of the DPVS, data were collected on individual and prison unit characteristics. The PCQ provided information about social relationships *prior* to incarceration. Participants were asked about how much contact they had with partner, child(ren), parents, family, and friends in the three months *prior* to incarceration. These data provided an opportunity to examine how preexisting social ties impact the receipt

of visits and to control for the influence of pre-prison social networks on recidivism (see Chapter 3, 4, and 7).

The PCQ also included questions about several background characteristics, including whether participants had a partner or child(ren), level of education, country of birth, and nationality. Moreover, administrative data from the Judicial Institutions Department (*Tenuitvoerlegging persoonsgebonden straffen*, TULP) were also collected on age, the amount of time served in the prison (both in the prison where the survey was collected, as well as in total), index offense, and incarceration history. TULP also provides information about prison unit characteristics, including the regime, cell capacity, and staff-prisoner ratio. As these individual and prison unit characteristics form important control variables, these data were used throughout all empirical chapters.

## 1.5 Societal Relevance

As described above, this dissertation aims to improve upon and further our knowledge of the determinants and consequences of prison visitation. This is not just relevant for the scientific community, but is pertinent for correctional policy, practice, and those in the community affected by incarceration for several reasons. First, empirical knowledge on the determinants of prison visitation creates understanding of the factors that contribute to prison visitation. This understanding should lead to an identification of groups of individuals least likely to be visited. These groups can be more intensively connected to other sources of social capital. Moreover, by understanding how these factors simultaneously work more specific policy guidelines can be provided to stimulate and encourage visits from supportive relationships. The measures needed to improve the prevalence and frequency of visits are likely straightforward and cost-effective. Simple remedies such as expanding visiting hours, providing easier access to public transport, and improving visit spaces are relatively easy and less expensive than what is required for other types of prison programming. Such remedies could not only increase visitation, but also relieve partners, children, family, and friends of incarcerated individuals of the costs and unpleasant, intrusive experiences of prison visitation.

Second, empirical research can provide awareness of how prison officials use their discretionary power to organize visitation. This is important for the Dutch Prison Service because various implementations of visitation in prisons may lead to disparity in the receipt of prison visits as some individuals may be more likely to be visited purely based on in which prison they are housed.

Third, beyond the determinants of prison visitation, this dissertation creates knowledge on the effects of receiving visits in prison for life in prison and after release. It gives insight into when prison visits may have adverse or beneficial effects. For life in prison, this should make correctional staff better prepared to react to events that occur during or after visits. In addition, this dissertation provides insight into which types of behavior are affected by visits, both from personal as well as official visitors. All of this helps to identify in which conditions and for whom visitation may result in reductions in offending behavior.

Fourth, empirical research on specific types of misconduct (such as contraband) can also help inform debates about security measures implemented before, during, and after visits. Also, risk-focused policies, such as recent decisions to place security officers in visiting rooms instead of correctional officers who work in the prison unit, can be more critically considered. Moreover, understanding more specifically which visits increase security risks can help in deliberations about how to best implement security measures.

Finally, this dissertation should inform the Dutch Prison Service's recent administrative act 'Providing Opportunities for Reentry' (*Kansen bieden voor re-integratie*) which posited that having a supportive social network is necessary for a successful reintegration. Outcomes of this dissertation should provide more guidance in how to connect more incarcerated individuals to their social network and detail what is needed for these social networks to stimulate prosocial behavior beyond prison walls.

## 1.6 Outline of Dissertation

This dissertation aims to (1) describe how visitation works in law, policy, and practice in the Netherlands, (2) describe and evaluate the factors that contribute to receiving visits in prison, (3) to test to what extent receiving visits affects offending behavior in prison and after release. Each of these aims is addressed in one part of the dissertation. An outline of the empirical chapters described below is displayed in Table 1.1.

### Part I. The Context of Prison Visitation in the Netherlands

To address the first aim, legal documents, jurisprudence, and relevant websites were studied to determine the legal and policy regulations concerning visitation. To understand how these regulations are implemented in practice, site visits and structured observations were done in all 28 operating Dutch prisons. Researchers

also talked to prison staff who were involved with prison visits. Using this information from diverse sources, Chapter 2 details how prison visits are organized in law, policy, and practice in the Netherlands. This chapter also describes and evaluates prior Dutch research done on the determinants and consequences of visitation. Finally, Chapter 2 provides current figures on the prevalence of visits in Dutch prisons and uses bivariate analyses to explore how differences between incarcerated individuals and prisons relate to receiving visits (information about these analyses are displayed in Table 1.1).

## **Part II. The Determinants of Prison Visitation**

The second aim is addressed in Chapter 3 and 4. Chapter 3 explores how social network characteristics and criminal history relate to receiving visits from partner, children, family, and friends. Using survey data this chapter investigates to what extent visits are determined by these individual differences. This is assessed using multilevel logistic regression models. Chapter 4 extends the focus of determinants to not only factors concerning incarcerated individuals, but also visitors and prisons. In this chapter a social ecological framework is used to test to what extent practical, relational, and experiential factors relate to whether individuals receive visits. Moreover, the analyses test how these factors relate to how often individuals are visited and who visits (partner, parents, family, and friends). This is assessed using multilevel logistic and linear regression models.

## **Part III. The Consequences of Prison Visitation**

To address the third aim, Chapter 5 and 6 examine in-prison effects of visits and Chapter 7 examines post-release effects of visits. Chapter 5 focuses on the relationship between the receipt of visits and aggressive and contraband misconduct. Using multilevel logistic regression models, this chapter examines whether receiving visits is related to these two types of misconduct. More specifically, the analyses test whether the visit-misconduct relationship differs across visits from partner, children, family, and friends and the frequency of their visits. Chapter 5 thus investigates differences between individuals who receive visits and those who do not. Chapter 6 zooms in on how visits affect an individuals' behavior. Using a within persons design, this chapter tests whether an individuals' risk of misconduct differs in weeks leading up to visits, when a visit occurs, and in the weeks following visits in comparison to their usual risk in weeks when they do not receive visits. This is assessed using two-level random effects logistic models.

Turning to post-release effects, Chapter 7 investigates how receiving visits in prison relates to post-release offending. Specifically, Chapter 7 uses group-based trajectory models on longitudinal visitation data to identify distinct visitation patterns. Then, this chapter tests how these visitation patterns relate to various measures of recidivism while also controlling for important individual confounders (including demographic characteristics, criminal history, and pre-incarceration social networks) using logistic regression models.

In closing, Chapter 8 presents the general discussion. It summarizes the main findings of this dissertation and discusses them in the context of theory and prior research. Furthermore, the strengths and limitations of the present study will be discussed as well as implications for future research, policy, and practice.

**Table 1.1** Overview of Empirical Chapters in this Dissertation

|                                | Chapter | Research question                                                                                                                                     | Study sample DPVS | N individuals | N prison units | Data                                               |
|--------------------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------|----------------|----------------------------------------------------|
| Part I. The Visitation Context | 2       | How is contact via prison visits regulated in Dutch law, policy, and practice?                                                                        | Total             | 4,376         | 236            | Legal, judicial, and policy data, and PCQ          |
|                                | 3       | To what extent are social network characteristics and criminal history related to receiving visits in prison?                                         | Total             | 4,376         | 236            | PCQ                                                |
| Part II. Determinants          | 4       | To what extent are practical, relational, and experiential factors related to whether, how often, and from whom individuals receive visits in prison? | Sub-sample        | 773           | 53             | TULP Bezoek, set-up and organization data, and PCQ |
|                                | 5       | To what extent does receiving visits in prison relate to aggressive and contraband misconduct?                                                        | Total             | 3,885         | 230            | PCQ and CDD                                        |
| Part III. Consequences         | 6       | To what extent does the probability of misconduct change in the weeks surrounding a visit?                                                            | Sub-sample        | 823           | -              | TULP Bezoek and CDD                                |
|                                | 7       | To what extent do visitation patterns relate to individuals' post-release offending?                                                                  | Sub-sample        | 541           | -              | TULP Bezoek and recidivism                         |

Note. GBTM = group-based trajectory modeling. The sample sizes differ between chapters. Reasons for this are the differences in the source of visitation data (PCQ or administrative data [TULP Bezoek]). In Chapters 2, 3 & 5 PCQ data is used to measure visits and therefore uses the total DPVS sample (see Figure 1.3). Some participants did not have complete data on visit measures; these individuals were excluded in Chapter 5. In Chapters 4, 6 & 7 administrative data is used to measure visits and therefore focuses on the subsample of DPVS participants (see Figure 1.3). Chapter 4 includes individuals in this subsample who were incarcerated for at least one month. Chapter 6 includes individuals in this subsample who were visited more than once in the period August 2016 – September 2017. Chapter 7 includes individuals in this subsample who were incarcerated for at least two months and up to four years and were released from prison in 2017.

| Dependent Variables                                                                                             | Independent Variables                                                                                                                                           | Analytic Strategy                               |
|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| Received a visit from partner, child, family, or friend in the past three months<br>Monthly average of visits   | Individual characteristics (e.g., age, gender, time served)<br>Prison characteristics (e.g., weekend visits)                                                    | Document analysis & bivariate analyses          |
| Received a visit from partner, child, family, or friend in the past three months                                | Social network characteristics (e.g., pre-incarceration contact)<br>Criminal history (e.g., incarceration history, index offense)                               | Multilevel logistic regression                  |
| Received a visit from partner, parents, family, or friend in the past three months<br>Monthly average of visits | Practical factors (e.g., travelling distance)<br>Relational factors (e.g. family situation)<br>Experiential factors (e.g., emotional experiences during visits) | Multilevel linear and logistic regression       |
| Aggressive and contraband misconduct                                                                            | Received a visit in the past three months<br>Weekly visits from partner, child, family, or friend                                                               | Multilevel logistic regression                  |
| Received a disciplinary report (aggression, contraband, and rule breaking)                                      | Weeks leading up a visit, visit week, and weeks after a visit<br>Being visited by partner, family, friend, child, or official visitor                           | Multilevel logistic regression (within persons) |
| Reconviction within six months and two years for all and serious offending                                      | Visitation patterns: never, sporadically visited, decreasingly visited, increasingly visited, often visited                                                     | GBTM and logistic regression                    |

