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## Procedural justice in prison

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# 1

## General introduction



## **1.1 Introduction**

Crime is a major problem in society. One way societies deal with crime is by incarcerating offenders. In many Western countries imprisonment is the most severe sanction that can be imposed upon a person. More than 10 million people are held in penal institutions throughout the world, mostly as pre-trial and sentenced prisoners (Walmsley, 2011). In the Netherlands, every year, approximately 40,000 adults are incarcerated in a correctional institution for a shorter or longer period (Linckens & De Looft, 2012). Since many people are incarcerated, it is important to know how detention is executed and how prisoners are treated within prison.

There is a growing recognition that prisoners should be treated in a procedurally just manner within prison. A procedurally just treatment refers to a fair and respectful treatment of individuals by authorities (Lind & Tyler, 1988; Tyler, 1990). Several philosophers have argued that being treated with respect and dignity is a fundamental right of all human beings (Kant, 1964; Rawls, 1971; Rousseau, 1988). Subsequently, prison scholars have stressed the moral obligation to treat prisoners with fairness and humanity, as prisoners are still human beings (Butler & Drake, 2007; Johnson, 1996, 2002; Liebling, 2011). In line with this view, the European Prison Rules of 2006 adopted by the Council of Europe state first and foremost that all persons deprived of their liberty shall be treated with respect for their human dignity (<https://wcd.coe.int/ViewDoc.jsp?id=955747>). Moreover, mission statements of national Prison Services in North-American and European countries typically emphasize the importance of a decent and humane treatment of prisoners (<http://www.justice.gov.uk/about/hmps>; <http://www.kriminalforsorgen.dk>; Dutch Prison Service, 2009; Gaes, Camp, Nelson, & Saylor, 2004).

Besides the fact that being treated with dignity and humanity is a fundamental right of prisoners, the way prisoners feel treated also has important implications for life in prison. First, a procedurally just prison climate, in which prisoners feel treated with fairness and respect, is related to prisoners' (mis)behavior. According to procedural justice theory (Leventhal, 1980; Lind & Tyler, 1988; Thibaut & Walker, 1975; Tyler, 1990), a procedurally unjust treatment of prisoners could undermine prison order and security, as it will lead to resistance and noncompliance among prisoners. Previous research has indeed indicated that prisoners who evaluate their treatment as unfair and disrespectful are more likely to be involved in misconduct, like disobedience and violence (Reisig & Mesko, 2009; Sparks & Bottoms, 1995). Second, a humane and decent treatment of prisoners appears vital for prisoners' psychological well-being. Interpersonal relationships and being treated with dignity and respect are very important for human beings in general, as well as for life in prison (Liebling, 2011). As a result, a degrading and careless treatment can make prisoners feel devalued and

may cause feelings of distress. Prior research has indeed suggested that prisoners who felt treated unfairly and disrespectfully by correctional officers in prison were more anxious, depressed, and distressed (e.g. Gover, MacKenzie, & Armstrong, 2000; Liebling, Durie, Stiles, & Tait, 2005; Slotboom, Kruttschnitt, Bijleveld, & Menting, 2011).

Because an unfair and disrespectful treatment of prisoners seems to have significant consequences for prison order and prisoners' psychological well-being, it is important to examine factors within the correctional setting that may contribute to a more procedurally just prison climate. Within the prison literature, possible determinants have been suggested. For instance, prison scholars have stressed the importance of the behavior and characteristics of correctional officers in creating a fair and humane prison climate (e.g. Bottoms, 1999; Crewe, Liebling, & Hulley, 2011; Liebling, 2004; Woolf, 1991). Correctional officers play a central role in the correctional system and they determine, to a large extent, how the system is run and how prisoners are treated (Crewe, Bennett, & Wahidin, 2008; Kifer, Hemmens, & Stohr, 2003). In addition, it has been suggested that the architectural design of a correctional facility may affect how staff treat and interact with prisoners (Beyens, Gilbert, & Devresse, 2012; Fairweather, 2000; Jewkes & Johnston, 2007; Woolf, 1991). For example, Woolf (1991), when investigating the causes of the major riots and disturbances in several English prisons in the 1990s, argued that the physical state of a prison and the way in which the building is designed significantly affects the atmosphere in prisons, and, subsequently, staff-prisoner relationships.

Despite a growing recognition that a procedurally just treatment of prisoners is important, current knowledge on its determinants and consequences is still very limited. Research on potential determinants of a procedurally just prison climate has been almost absent. Worldwide only a handful of studies examined the effects of contextual factors, like facility type (boot camp versus traditional prison), prison hospice, prison size, and double bunking, on the way prisoners felt they were treated by staff members (D. Franke, Bierie, & MacKenzie, 2010; Inspectie voor de Sanctietoepassing, 2011; Johnsen, Granheim, & Helgesen, 2011; Wright & Bronstein, 2007). At present, studies investigating the consequences of a fair and humane treatment on prisoners' adjustment (e.g. misconduct and mental health problems) are limited in number and hampered by several limitations. First and foremost, existing research generally used cross-sectional designs, which does not allow for causal inferences regarding the relationship between prisoners' perceptions of a procedurally just treatment and prisoners' behavior and well-being. In addition, most existing studies used small samples and were conducted in a (very) small number of prisons. Furthermore, prior studies frequently relied on data acquired from a single source, and, therefore, may suffer from single-source bias. Finally, the majority of the existing studies neglected to investigate possible mediators

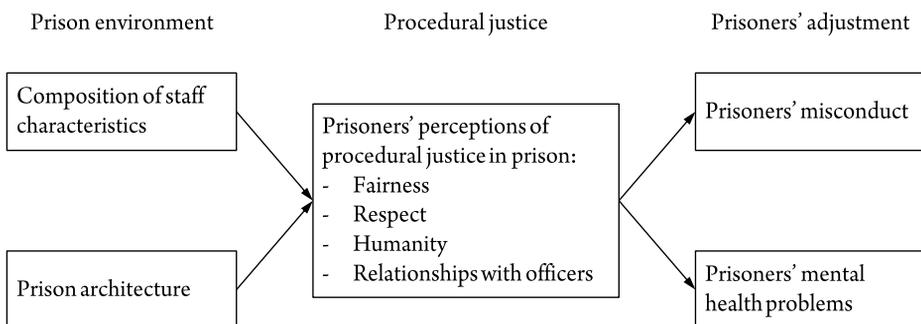
and moderators, and, consequently, little is known about how and when a procedurally unjust treatment results in negative prisoners' outcomes.

This thesis is an effort to better understand determinants and consequences of procedural justice in prison.<sup>1</sup> The aim of this thesis is twofold. The first aim is to test to what extent contextual factors within prison contribute to a procedurally just treatment of prisoners. The second aim is to test to what extent a procedurally just treatment of prisoners affects prisoners' adjustment. More specific, four research questions are investigated:

1. To what extent is the composition of correctional officer characteristics (e.g. gender, work-related attitudes, and officer-to-inmate ratio) related to prisoners' perceptions of procedural justice in prison?
2. To what extent is prison architecture (e.g. prison layout, unit size, and year of construction) related to prisoners' perceptions of procedural justice in prison?
3. To what extent do prisoners' perceptions of procedural justice in prison influence their subsequent misconduct?
4. To what extent do prisoners' perceptions of procedural justice in prison influence their subsequent mental health problems?

A schematic overview of the research questions is presented in Figure 1.1. This thesis will enhance current knowledge on the determinants and consequences of procedural justice within prison, because it examines contextual determinants seldomly explored, and because it improves upon prior procedural justice effect studies by using a longitudinal design, using data from a large-scale and nationwide study, using multiple data sources, and examining factors that may explain effects of procedural justice.

**Figure 1.1** Schematic overview of research questions



<sup>1</sup> Although the term 'prison' is used throughout this thesis, the study was largely conducted among prisoners in pre-trial detention centers. For a full description of the sample see section 1.6 Data.

## 1.2 Dutch correctional context

Imprisonment is the most severe sanction the criminal justice system in the Netherlands can impose. At the time of the current study (2010-2011), the Netherlands had 58 correctional facilities for adult prisoners, of which 32 were employed (partly) as pre-trial detention centers. In 2011, a total of 39,866 adult people were incarcerated in a Dutch correctional facility. On an average day in 2011, almost 12,000 adult people were imprisoned, of which 49% as pre-trial prisoners. Half of all prisoners released were confined for a maximum of a month, 71% for a maximum of three months and 83% for a maximum of six months. The median time incarcerated was one month and the average time was 3.6 months (Linckens & De Looff, 2012).

Imprisonment serves several purposes including retribution, deterrence, incapacitation, and rehabilitation (De Keijser, 2000; Jonkers, 1999). The latter three are part of crime prevention, as deterrence, incapacitation, and rehabilitation are all ways to reduce future criminal behavior. The most important task of the Dutch Prison Service is to execute detentions, in order to ensure that justice is served (both for society at large and the victim) and to enhance safety of society. In addition, the Prison Service is responsible for the day-to-day care of prisoners and the task of preparing prisoners to return to society. In doing this, emphasis is placed on a humane and fair treatment of prisoners (Dutch Prison Service, 2009).

The Netherlands has long been a classic example of humane prison policies. After World War II, there was an urge for penal reform as a result of the experiences during the occupation. Dutch penal policy makers transformed the character of imprisonment from an austere silent system to one based on rehabilitation (Downes & Van Swaaningen, 2007; Jonge, 2007). A period of 'penal welfarism' started (Garland, 2001). Prisoners were kept in communal association during the day, the principle of minimal restrictions was emphasized, prisoners' daily activities were expanded (e.g. work, education, recreation, sports, and religion practice), prisoners were allowed to make formal complaints, half-open and open correctional facilities were introduced, receiving (unsupervised) visits was extended as well as sending and receiving letters, prisoners were permitted to wear their own clothes, and leave possibilities were created (Dirkzwager & Kruttschnitt, 2012; Jonge, 2007; Molleman & Van der Hurk, 2012; Verhagen, 1999). This expansion in humane prison policies continued up until the 1970s. At the same time, incarceration rates decreased to the extreme low point of eighteen per 100,000 of the adult population in 1973 (Downes & Van Swaaningen, 2007).

Since the 1980s, however, budget cuts, a growing punitive climate among society at large, politicians and members of the judiciary system, and a loss of the rehabilitation ideal have resulted in more restricted prison regimes and conditions (Dirkzwager &

Kruttschnitt, 2012; Downes & Van Swaaningen, 2007; Jonge, 2007; Kelk, 2008). More emphasis was being placed on security and incapacitation, and the prison population expanded rapidly. A 'standard regime' was introduced, which was defined as austere but dignified. Prisoners' daily activities were limited (e.g. education programs), the number of hours spent behind bars was increased, prisoners had fewer opportunities to maintain contact with family, double bunking was introduced, and rehabilitative programs (e.g. behavioral interventions) became only available for a small group of motivated prisoners. As a result, prison conditions for most prisoners became harsher.

Nevertheless, in the past years, there were some changes in the opposite direction again. Incarceration rates have declined since 2005, and in 2008, the Dutch Prison Service introduced the program 'Modernization Prison System' (De Staatssecretaris van Justitie, 2008; Dienst Justitiële Inrichtingen, 2009, 2012a; Krabbendam & Nelissen, 2012). The aim of this program is to reduce post-release offending by emphasizing an individual approach, by providing a humane prison climate including constructive and respectful staff-prisoner relationships, and by focusing on rehabilitation programs, education, work, healthcare, and contacts with family. Prisoners' daily activities were extended by the reintroduction of an evening program and the expansion of activities during the weekend. Rehabilitation efforts and facilities are, however, only available for motivated prisoners who are willing to change and take responsibility for their lives. To facilitate this process, the Dutch Prison Service educated in the past years all correctional officers on the importance of rehabilitation and trained them in motivating prisoners to change their lives and to desist from criminal behavior (Kamerstukken II, vergaderjaar 2009-2010, 24 587, nr. 391; Krabbendam & Nelissen, 2012).

Recently, however, these positive changes with regard to Dutch prison conditions seem to reverse yet again. In June 2013, the Dutch government announced 'Masterplan Prison Service 2013-2018'; in which several measures are proposed to accomplish a large budget cut within the Dutch Prison Service (Dienst Justitiële Inrichtingen, 2013). A more austere and restricted regime for certain groups of prisoners<sup>2</sup> will be introduced (e.g. evening and weekends program will be abrogated, hours spent behind bars will be increased up to 20 hours a day, and possibilities to work in prison will be limited). The level of double bunking will be increased drastically from 15% to 50% of the total capacity. Several (closed) correctional facilities will be closed, and one (to Dutch standards) huge new facility will be build. Finally, the gradual return to society will be abolished: half-open and open correctional facilities will be closed, and rehabilitation leaves will be cancelled. This system of gradual return will, however, be replaced by electronic home detention in the last part of the prison sentence.

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<sup>2</sup> These groups are pre-trial prisoners and prisoners who have been incarcerated after arrest by the police due to a penalty that has not been executed (e.g. unpaid fine, not or not fully executed community service, or prison sentence).

Notwithstanding these changes in Dutch penal policy over the past 60 years, overall, prison conditions in the Netherlands have remained relatively liberal and humane compared to many other countries. Up until now, Dutch penitentiary institutions, for example, do not face major overcrowding or understaffing, prisoners do not have to wear a prison uniform, the majority of prisoners reside in a single cell, and unsupervised visits are allowed (Dervan, 2011; Downes, 1988; Kruttschnitt & Dirkzwager, 2011). Especially the way Dutch correctional staff and prisoners interact is generally commended. Comparative research has, for instance, shown that both English and Belgian prisoners held in Dutch correctional facilities perceive Dutch staff as more supportive, approachable, and less authoritarian than English and Belgian staff. Moreover, they feel treated in a more respectful and fair manner (Beyens & Boone, 2013; Dirkzwager & Kruttschnitt, 2012). A study by Moerings, Boone, and Franken (2008) in which prisoners were asked to tell about their experiences in Dutch prison revealed that an equal number of prisoners reported positively (17%) and negatively (16%) about their interactions with correctional officers. Finally, results of the Dutch inmate survey 2011 conducted by the Dutch Prison Service indicated that prisoners in the Netherlands, generally, are relatively positive about their conditions of confinement (Henneken-Hordijk & Van Gemmert, 2012). Although prisoners judge negatively on some aspects of prison life (i.e. rehabilitation, daily program, and opportunities to keep in contact with children), on most topics they display neutral to positive perceptions (e.g. safety, interactions with fellow prisoners, health care, relationships with officers, rules & rights, satisfaction with staff, activities, and autonomy).

### **1.3 The concept of procedural justice**

Above, procedural justice has been described as a fair and respectful treatment of individuals by authorities. This paragraph will focus on the more precise meaning and operationalization of the concept of procedural justice. The central assumption of procedural justice is that people's judgment about justice does not, or not solely, depend on the outcome they receive in an encounter with an authority, but also, or primarily, depend on characteristics of the procedure leading to the outcome. Traditionally, procedural justice is defined as the fairness of the processes that lead to certain outcomes (Thibaut & Walker, 1975). Over time, however, the conceptualization of procedural justice has resulted in some debate among procedural justice researchers, which led to different operationalizations. Some scholars propose a broader concept of procedural justice, and argue that procedural justice includes both formal aspects related to the fairness of the procedures (e.g. consistency, lack of bias, and having voice) and informal aspects related to the interpersonal treatment during these procedures (e.g. politeness and respect) (Tyler, 1990; Tyler & Lind, 1992). On the contrary,

others claim that procedural justice solely relates to the fairness of the procedures (i.e. formal aspects) (Bies & Moag, 1986; Thibaut & Walker, 1975). According to Bies and Moag (1986), the interpersonal treatment an individual receives when decisions are being made (i.e. informal aspects) is a separate component of justice, which they call 'interactional justice'.

Although several authors have criticised the inconsistent use of indicators and measurement instruments to reflect procedural justice, and have stressed the need for a conceptual integration, currently, still different operationalizations of procedural justice are used (e.g. Greenberg, 1990; Henderson, Wells, Maguire, & Gray, 2010; Lind & Tyler, 1988). In general, however, there seems to be a preference among researchers in the organizational setting to differentiate between procedural and interactional justice (e.g. Cohen-Charash & Spector, 2001; Skarlicki & Folger, 1997; VanYperen, Hagedoorn, Zweers, & Postma, 2000), whereas researchers in the criminal justice setting tend to integrate the fairness of procedures and interpersonal treatment, and, thus, use a broader definition of procedural justice (e.g. Henderson et al., 2010; Reisig, Bratton, & Gertz, 2007; Reisig & Mesko, 2009; Sprott & Greene, 2010; Sunshine & Tyler, 2003).

Within the correctional setting, a context in which interactions between authorities and prisoners are prolonged and more involved, it can be argued that even a broader concept of procedural justice should be employed. Several scholars have proposed that prisoners' perceptions of procedural justice are strongly related to their perceptions of officer-prisoners relationships (e.g. Bottoms, 1999; Liebling, 2004; Sparks & Bottoms, 1995). An empirical study among prisoners in English prisons provided support for this notion (Ahmad, 1996). This study showed that relational aspects of staff behavior, like personal contact with prisoners, positive attitudes, and helpfulness, were strongly related to prisoners' judgments about fairness. In the eyes of the prisoners, staff seemed to embody the regime of a prison and its fairness.

Based on the above, procedural justice in this thesis includes the fairness of procedures (e.g. rules being applied in a neutral and consistent way), the interpersonal treatment (e.g. being treated with respect and humanity), and positive officer-prisoner relationships. Moreover, this thesis focuses on prisoners' *perceptions* of procedural justice. Perceptions are by definition subjective. It is assumed that how prisoners are treated influences how they feel treated, but, clearly, personal characteristics influence their perceptions as well. In this thesis, however, perceptions are considered to be particularly important, since people's behavior is generally not so much influenced by their environment itself, but by people's perceptions of their environment (Liebling, 2004).

## **1.4 Theoretical background**

### **1.4.1 Determinants of procedurally just treatment of prisoners**

As prisoners are constantly exposed to the same environment and continuously interact with authorities, certain contextual factors within the correctional setting may contribute to a more procedurally just treatment of prisoners. A review of the literature suggests that both the composition of correctional officer characteristics and prison architecture may influence a fair and humane prison climate.

First, scholars have emphasized the importance of the behavior and characteristics of correctional officers in creating fair and decent correctional practices (Bottoms, 1999; Crewe et al., 2011; Liebling, 2004). Correctional officers play a key role in the lives of prisoners as they interact with prisoners on a daily basis. They are the street level bureaucrats who are responsible for putting criminal justice policies into practice. As a result, they determine or shape, to a large extent, how the system is run and how prisoners are treated (Crewe et al., 2008; Kifer et al., 2003). Characteristics of correctional officers may, consequently, influence how prisoners feel treated within prison. Various theoretical frameworks predict that background characteristics, job-related attitudes, and workload of correctional officers affect the way officers interact with prisoners.

With respect to background characteristics, first, social role theory and evolution theory suggest that women dispose of more social attitudes and social behavior than men (Eagly & Wood, 1999). Applied to the current study, these theories predict that female officers treat prisoners in a more procedurally just way. Second, several theoretical models suggest that a higher level of education is related to more prosocial attitudes, like tolerance for out-groups such as criminal, homosexuals, and homeless people (Phelan, Stueve, Link, & Moore, 1995). Thus with respect to the correctional setting, these models predict that correctional officers with a higher educational level exhibit greater tolerance and understanding of prisoners, and, subsequently, may treat prisoners in a more procedurally just manner. Third, it has been argued that officers 'mellow' with age and that aging may increase officers' interest in a human service approach (Farkas, 1999). Consequently, it is expected that older officers treat prisoners in a more procedurally just way. Fourth, it has been suggested that officers with long tenure become cynical after working in prison for years, and will develop more negative attitudes about prisoners and prisoners' possibilities to successfully reintegrate (Jurik, 1985). Therefore, it is expected that officers who are relatively new to the job have most positive attitudes towards prisoners and approach prisoners in a more procedurally just manner. With regard to work-related attitudes of officers, the attitude-behavior literature proposes that people act towards a certain object

in accordance with their attitude towards that object (e.g. Ajzen & Fishbein, 1977; Allport, 1935; Bohner & Dickel, 2011). Applied to the present study, it is predicted that correctional officers with a more positive attitude towards prisoners and towards rehabilitation will approach prisoners in a more procedurally just manner. With respect to the workload of officers, it has been suggested that 'quantity time' is equally important in relationships compared to quality time (Emmers-Sommer, 2004). It is argued that a higher frequency of contact and prolonged contact results in positive relational outcomes. Applied to the current study, a higher workload among correctional officers most likely reduces the available time officers have to interact with prisoners. Therefore, it is expected that both a higher officer-to-inmate ratio and a lower perceived workload among officers results in a higher level of perceived procedural justice among prisoners.

Second, theoretical insights from environmental psychology suggest that the design and architecture of a building affects levels of social interaction between its users (Gifford, 2007; Sommer, 1969; Ulrich, 1991). For example, floor layouts, the size of a room, and furniture arrangements are expected to influence the degree of interaction between users. This theoretical notion also applies to prisons: Prison architecture is likely to influence the way and the degree to which correctional officers and prisoners interact (Beyens et al., 2012; Fairweather, 2000; Jewkes & Johnston, 2007; Sommer, 1969, 1971). Diverse theoretical frameworks predict that overall prison layout and several specific prison design characteristics affect officer-prisoner relationships.

Dutch correctional facilities can be divided into six layouts: panopticon, radial, rectangular, courtyard, high-rise, and campus (see Figure 3.1 in Chapter 3). Worldwide, prison layout has been influenced by penal philosophies: Specific types of layout have been designed in order to accomplish the goals of imprisonment in a specific era. Whereas some layouts stimulated staff-prisoner relationships, others did not. For example, the panopticon prison was originally designed to facilitate discipline through surveillance and control of prisoners from the 'inspection house' in the center of the building (Bentham, 1995). This physical distance between staff and prisoners discouraged staff-prisoner interactions. Reviewing the six prison layouts and their underlying penal philosophies indicates that panopticon and radial layouts were designed to discourage staff-prisoner interactions, whereas high-rise and campus layouts were constructed with an intention to stimulate staff-prisoner relationships (see for a full description Chapter 3) (e.g. Dubbeld, 2001; Johnston, 2000). As a result, it is expected that prisoners in panopticon and radial layouts perceive their relationships with officers more negatively than prisoners in high-rise and campus layouts. In addition, it is expected that prisoners in panopticon layouts experience their relationships with officers least positive, due to the focus on surveillance, the sheer size of the facility, and the older less up-to-date building.

Besides the overall prison layout, five specific prison design characteristics may affect officer-prisoner interactions. First and second, there is a widespread belief that smaller prisons and smaller units are more desirable than large ones, and that these allow for more personal relationships between prisoners and correctional officers (Fairweather, 2000; Farrington & Nuttall, 1980). Third, it has been suggested that the age of a penitentiary institution negatively affects the prison and working conditions, the atmosphere in prison, and, subsequently, officer-prisoner relationships (Molleman, 2011; Shefer & Liebling, 2008). Fourth, clear sight lines ensure that officers and prisoners are within sight of each other. This may encourage officer-prisoner interactions (Wener, 2000). Finally, double bunking may negatively affect officer-prisoner relationships because double cells may increase the workload of officers and/or may reinforce the division between prisoners and officers (i.e. us versus them) (Inspectie voor de Sanctietoepassing, 2011).

#### **1.4.2 Consequences of procedurally just treatment of prisoners**

The central theory in explaining the consequences of a procedurally just treatment is procedural justice theory (Leventhal, 1980; Lind & Tyler, 1988; Thibaut & Walker, 1975; Tyler, 1990). According to this theory, people will be more likely to cooperate and comply with authorities' rules and decisions, when authorities treat them in a procedurally just manner. Traditionally, ideas on how to maintain order in society and how to secure citizens' compliance with the law have focused on instrumental and deterrence strategies that rely on sanctions and rewards to regulate citizen's behavior (Tyler, 1990). On the contrary, procedural justice theory suggests that people are not only concerned with the outcomes they receive in encounters with authorities, but that they are also concerned with the fairness of procedures in the decision-making process and the interpersonal treatment they receive during these encounters (Lind & Tyler, 1988; Tyler, 1990; Tyler & Bies, 1990). Lind and Tyler (1988) have proposed a relational model of procedural justice that suggests that procedural justice is important because it communicates to people that they have standing in society. It reaffirms their identification and belonging as an important member of the society. Conversely, procedural injustice communicates disrespect and marginality. This may alienate and exclude people from their social group, and may result in resistance and noncompliance.

Procedural justice theory has been applied to different settings, including law enforcement, regulatory, organizational, educational, and political settings (e.g. Murphy, Tyler, & Curtis, 2009; Skarlicki & Folger, 1997; Tyler, 2001; Tyler & Lind, 1992; VanYperen et al., 2000). Applied to the correctional context, procedural justice theory predicts that an unfair, disrespectful and inhumane treatment of prisoners

results in resistance and misconduct among prisoners. In line with this theory, several prison scholars have emphasized the importance of procedural justice and legitimacy in prison, and proposed that considerations of fairness and respect are central in achieving and maintaining social order in prison (e.g. Bottoms, 1999; Jackson, Tyler, Bradford, Taylor, & Shiner, 2010; Liebling, 2011; Sparks & Bottoms, 1995). For instance, Liebling (2004, 2011) argued that humanity, respect, staff-prisoner relationships, and fairness form a core component of the moral climate of a prison and are crucial for prison order. Jackson et al. (2010) also called for procedural justice and legitimacy in prison in order to accomplish prison order. These authors outlined four key issues in creating more fair correctional practices: (a) prisoners should have opportunities to state their case and highlight their view before decisions are made by staff in everyday disagreements and conflicts (i.e. having voice), (b) correctional staff should act based on rules and should consistently apply those rules without prejudice and bias (i.e. neutrality), (c) prisoners should be treated with respect and dignity, and (d) prison authorities should create a feeling of trust among prisoners by acting out of a sincere desire to do what is right. Finally, Bottoms (1999, p. 210) pointed out that “order in prison is to a large extent achieved through the subtle interplay of relationships between prison officers and prisoners”.

Procedural justice theory can, however, be extended beyond externalizing behavior of prisoners because it can be argued that a fair and humane treatment of individuals by authorities is also related to an individual’s internalizing behavior. Interpersonal relationships, being acknowledged and recognized, and being treated with dignity and respect are important matters for human beings (Honneth, 1995; Liebling, 2011). A degrading and neglectful treatment can, therefore, make people feel devalued. It can cause feelings of distress, anxiety, and depression. Moreover, demeaning interpersonal interactions can compromise a person’s self-worth and self-esteem (Butler & Drake, 2007; Liebling et al., 2005). Applied to the correctional context, an extended procedural justice theory predicts that prisoners who feel treated unfairly and disrespectfully experience more mental health problems.

#### *Explaining factors for consequences of procedurally just treatment of prisoners*

While procedural justice theory suggests that a procedurally just treatment of prisoners affects prisoners’ misconduct and their mental health problems, other theories propose how (i.e. mediator) and when (i.e. moderator) a procedurally unjust treatment will result in negative prisoners’ outcomes. This thesis will explore two potentially explaining mechanisms. First, the mediating role of anger in the relationship between perceived procedural justice and prisoners’ misconduct will be tested. Second, the moderating role of coping style in the relationship between perceived procedural justice and prisoners’ mental health problems will be examined.

Two theories emphasize the mediating role of emotions, and especially anger, in the relationship between perceived injustice and deviant/criminal behavior. First, equity theory (Adams, 1965) assumes that perceived injustice in outcomes results in negative emotions, such as anger and resentment. In turn, these emotions may motivate individuals to engage in behaviors that attempt to restore equity, like disrespectful, deviant and noncompliance behavior against authorities' rules. Second, general strain theory (Agnew, 1992) suggests that strain, like an unjust treatment, provokes negative emotions such as anger, which, subsequently, increase the likelihood that individuals will engage in criminal behavior. Agnew argues that strain in the form of an unjust treatment is especially likely to result in delinquency, because this type of strain is more likely to cause emotions conducive to crime, like anger. According to Agnew (1992, p. 60), "anger is the key emotion, because it increases the level of felt injury, creates a desire for retaliation and energizes the individual for action". Applied to the correctional setting, these theories predict that anger mediates the effect of procedural justice on misconduct, as prisoners perceiving their treatment as procedurally unjust are more likely to experience anger, and, subsequently, engage in misconduct.

The stress-coping model (Lazarus & Folkman, 1984) assumes a moderating role of coping style in the association between stress and psychological well-being. Coping refers to the cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of a person (Folkman, Lazarus, Gruen, & DeLongis, 1986; Lazarus, 1993). The stress-coping model suggests that the behavioral and mental health impact of a stressful situation, in the case of this thesis an unfair treatment in prison, depends on how this situation is appraised and dealt with by the individual (i.e. a person's coping style). In the coping literature, several types of coping are distinguished. The most important ones are: problem-focused coping (dealing with the problem or situation that is causing the distress), emotion-focused coping (regulating the emotions that accompany the stressor), and avoidance-focused coping (avoiding to deal with the stressor) (Endler & Parker, 1994; Folkman et al., 1986). Coping efforts may be adaptive or maladaptive. Although the effectiveness of a coping style may depend on characteristics of the stressful situation, in general, problem-focused coping is considered as more beneficial for mental well-being than emotion-focused and avoidance-focused coping (Thoits, 1995). Applied to the current study, the stress-coping model predicts that coping style moderates the effect of procedural justice on prisoners' mental health, as a problem-focused coping strategy reduces the negative effect of procedural injustice on prisoners' mental health, whereas emotion-focused and avoidance-focused coping styles exacerbate any negative effect.

## **1.5 Prior research**

### **1.5.1 Determinants of procedurally just treatment of prisoners**

Empirical research on how to create a fair and humane prison climate is rather sparse. To our knowledge, only four studies have investigated (contextual) factors within the correctional setting that are associated with a procedurally just treatment of prisoners (including officer-prisoner relationships). First, Wright and Bronstein (2007) examined the integration of hospice programs into the correctional setting. The goal of prison hospice programs is to provide the terminally ill prisoner with effective pain management during the dying process, while also meeting the individual's physical, emotional, social, and spiritual needs. Wright and Bronstein interviewed hospice program coordinators in 14 prisons and found that having a hospice in prison contributed to the creation of decent prisons. Hospice programs transformed the prison climate and created more caring, compassion, and respect among both correctional staff and prisoners.

Second, Franke, Bierie and MacKenzie (2010) investigated the influence of facility type on prisoners' perceived legitimacy. Using a randomized experimental design, 202 male prisoners' were randomly assigned to serve a six-month sentence at a traditional prison or correctional boot camp. Findings revealed that prisoners in a traditional prison experienced lower levels of legitimacy than boot camp participants. As an explanation for this result, the authors argued that boot camps employed specific legitimacy-building characteristics, one being the nature of staff-prisoner interactions. Due to the highly structured and strict environment, boot camp staff generally followed facility rules by the book and treated prisoners equally. Furthermore, staff took time to explain decisions to prisoners and these explanations often seemed to imply a genuine concern in the prisoners' future.

The third and fourth study both have examined the effects of (aspects of) prison architecture on officer-prisoner relationships. A study conducted in 32 Norwegian prisons examined the association between prison size and quality of prison life. Results indicated that both officers and prisoners in small prisons experienced their relationships with each other more positively than officers and prisoners in medium-sized and large prisons (Johnsen et al., 2011). Dutch research on double bunking showed that prisoners who shared cells evaluated their contacts with correctional officers more negatively than prisoners in single cells. In addition, findings indicated that officers working in units with a high level of double bunking reported fewer contacts with prisoners (Inspectie voor de Sanctietoepassing, 2011).

To our knowledge, no prior study examined the effect of overall prison layout, year of construction of a prison, and visual access within a prison on officer-prisoner

relationships. Neither was the effect of the composition of officer characteristics on a procedurally just treatment of prisoners previously tested.

### **1.5.2 Consequences of procedurally just treatment of prisoners**

Most empirical research on the effects of procedural justice within the criminal justice context has been conducted in the police and court setting (e.g. Hinds & Murphy, 2007; McGrath, 2009; Sprott & Greene, 2010; Sunshine & Tyler, 2003; Tyler, 2001; Tyler & Fagan, 2008). Empirical research on the consequences of procedural justice in prison is limited. A small number of studies have investigated the effect of procedural justice on prisoners' misconduct. In general, these studies have confirmed that an unjust treatment is related to a higher prevalence of prisoners' misbehavior (Butler & Maruna, 2009; Liebling, 2004; Reisig & Mesko, 2009; Sparks & Bottoms, 1995). For example, Reisig and Mesko (2009) examined the association between procedural justice and prisoners' misconduct in an adult male Slovene prison. Findings showed that prisoners, who evaluated their treatment as procedurally unfair, were more likely to report engaging in misconduct and to have been officially charged with violating institutional rules in the following six months. Furthermore, research in Britain showed that in prisons where prisoners experienced injustice and felt treated disrespectfully, there was generally a higher level of disorder (e.g. disobedience, fighting, riots) (Sparks & Bottoms, 1995; Woolf, 1991). A comprehensive investigation of decency within prisons is found in the work of Liebling (2004). In her study on the moral performance of prisons, Liebling studied 'what matters most' to staff and prisoners in five English prisons. The findings showed that prisons differed significantly in their moral practices and that the differences that mattered most were in the domain of interpersonal relationships and treatment. Furthermore, Liebling observed that fairness was related to order: Prisons with lower scores on fairness were considered more disorderly by prisoners. However, not all prior studies found significant associations, Eichelsheim and Van der Laan (2012), for instance, did not find an effect for perceived justice on registered aggressive misconduct among juveniles in Dutch correctional institutions.

In addition, a limited number of studies examined the effects of procedural justice on prisoners' psychological well-being. In general, this research found support for the association between an unjust treatment and prisoners' mental health problems. Prisoners who evaluated their treatment in prison as unfair, disrespectful and undignified were more likely to experience distress, anxiety, and depressive feelings (Blaauw, Kerkhof, & Vermunt, 1998; Eichelsheim & Van der Laan, 2012; Gover et al., 2000; Liebling, 2004; Liebling et al., 2005; Nurse, Woodcock, & Ormsby, 2003; Slotboom et al., 2011). For instance, Gover et al. (2000) examined determinants of juvenile prisoners' adjustment to prison and found that prisoners who perceived

discipline procedures in prison as unfair were more likely to experience anxiety. In addition, a study of Blaauw, Kerkhof and Vermunt (1998) among prisoners in police custody in the Netherlands revealed that when prisoners perceived the behavior of police officers as unjust they reported more psychological symptoms, like depression and somatization.

*Explaining factors for consequences of procedurally just treatment of prisoners*

Currently, research on the mediating effect of anger in the relationship between procedural justice and misconduct in the correctional context is lacking. A small number of empirical studies in the procedural justice field have, however, tested the mediating role of anger in non-correctional contexts (i.e. tax and bank settings) or examined this association using vignettes. This prior research tends to support the mediating role of anger in the effect of procedural justice on compliance behavior. If people feel treated unfairly by authorities, they experience more negative emotions like anger, resentment, hostility, and irritation. Subsequently, they are less likely to comply and cooperate (Chebat & Slusarczyk, 2003; Gordijn, Yzerbyt, Wigboldus, & Dumont, 2006; Murphy & Tyler, 2008; VanYperen et al., 2000). For instance, Murphy and Tyler (2008) investigated taxpayers' perceptions of the treatment they received from the Australian Taxation Office (i.e. perceived procedural justice), their emotional reactions to this treatment, and their subsequent compliance behavior. Murphy and Tyler found that anger mediated the relationship between taxpayers' procedural justice perceptions and their self-reported tax compliance behavior later on.

Research examining the extent to which coping moderates the effects of procedural justice on prisoners' mental health is also lacking. Prior research has, however, generally confirmed an association between coping and mental health problems among prisoners (Brown & Ireland, 2006; Gullone, Jones, & Cummins, 2000; Ireland, Boustead, & Ireland, 2005; Porporino & Zamble, 1984). For example, Porporino and Zamble's study (1984) revealed that prisoners who were more depressed and anxious at the follow-up study tended to have a poor repertoire of coping responses at the beginning of their sentence. In addition, prior research showed that emotion-focused coping among prisoners was related to a higher level of psychological distress, more depressive feelings, and a higher level of anxiety (Brown & Ireland, 2006; Gullone et al., 2000; Ireland et al., 2005). Furthermore, problem-focused coping has been associated with less distress among young prisoners (Ireland et al., 2005). Thus, although prior research clearly reveals a direct effect of coping style on prisoners' psychological well-being, knowledge on the moderating role of coping style in the relationship between procedural justice and prisoners' mental health is still lacking.

### 1.5.3 Limitations of prior research

Despite the fact that the procedural justice literature has been well developed over the past decades, the number of studies within the correctional setting is limited. Most empirical studies on procedural justice in the criminal justice context have been conducted in the police and court setting. As contacts with authorities are more involved and prolonged in a correctional setting, this might provide a richer context to study procedural justice effects than police and court settings, where interactions are less frequent and shorter. Furthermore, this setting, in which prisoners experience for a certain period no other environment than this one, might offer additional opportunities to create more procedurally just practices.

With regard to the determinants of a procedurally just treatment of prisoners, empirical research on contextual factors within the correctional setting that may contribute to a more procedurally just prison climate has been almost absent, although there are some exceptions (D. Franke et al., 2010; Inspectie voor de Sanctietoepassing, 2011; Johnsen et al., 2011; Wright & Bronstein, 2007). As Wright and Bronstein (2007, p. 4) aptly described: “Beyond general calls for humane treatment, one finds the literature on how to create decent prisons to be rather sparse”.

With regard to the consequences of a procedurally just treatment of prisoners, the limited number of studies show several shortcomings. First, procedural justice effect studies within the correctional setting have generally used a cross-sectional design (but see: Reisig & Mesko, 2009). Such a design does not allow for definite conclusions regarding the direction of the relationship between procedural justice and prisoners’ adjustment. For instance, procedural justice might predict prisoners’ misconduct, but prisoners who misbehave might also be treated less procedurally just by staff. Longitudinal studies are needed to make causal inferences and to accurately test procedural justice theory in prison. Second, existing studies have frequently used a small sample of prisoners and have been conducted within a small number of correctional facilities. Although Gover et al. (2000) is an exception (i.e. 3,986 prisoners in 48 facilities), other studies have usually been conducted within only one or a few correctional institutions. This limits the generalizability of the results. Third, existing research has relied on data acquired from a single source, most often self-reported information. For example, prisoners were asked about the treatment they receive in prison and about their rule-breaking behavior. As a consequence, prior studies may suffer from single-source bias, in which the relationship found may partly be attributed to the method of research (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Fourth, most prior studies have not investigated possible mediators and moderators, and, therefore, little is known about how and when a procedurally unjust treatment results in negative prisoner outcomes. To gain profound knowledge about the effects of

procedural justice in prison, it is, however, important to assess (a) the mechanisms via which unjust experiences lead to adjustment problems and (b) which prisoners are particularly vulnerable for unjust experiences to result in adjustment problems.

## 1.6 Data

This thesis aimed to overcome the above mentioned limitations of prior studies by using data from the Prison Project, a longitudinal, nationwide study on the effects of imprisonment in the Netherlands (Dirkzwager & Nieuwbeerta, 2014). The next section offers a description of the different datasets which are used in this thesis.

### *Prison Project: Prisoners' panel data*

In the Prison Project, a representative sample of 1,909 prisoners in the Netherlands is followed for several years, both during and after their incarceration. The sample of the Prison Project consists of all adult male prisoners aged 18-65 years, who were born in the Netherlands, who had no significant psychiatric problems, who entered one of the 32 Dutch pre-trial detention centers between October 2010 and April 2011, and who were held in pre-trial detention for at least three weeks. In this thesis, data of the first and second wave (T1 and T2) of the Prison Project are used, which took place approximately three weeks and three months after arrival in pre-trial detention, respectively.

The data collection of the Prison Project started in October 2010, but it was preceded by an extensive period of preparation. After the Dutch Prison Service gave permission for the study, the project was introduced and explained to all Dutch prison governors and they were asked for their cooperation as well. All governors responded positively and, therefore, all Dutch correctional facilities participated in the study. PhD students of the Prison Project were assigned to specific correctional facilities. They contacted the management of 'their' correctional facilities, made agreements about the procedures of the data collection in these facilities, and were responsible for the implementation of the data collection in these facilities. Next, the structured interview and questionnaire for T1 were developed and each PhD student conducted a pilot in one of 'their' correctional facilities. Furthermore, bachelor and master students of social sciences were hired as interviewers and were each assigned to one of the correctional facilities. All interviewers were trained prior to the data collection by the PhD students, and, subsequently, were trained and guided in the correctional facility at the start of the data collection by the responsible PhD student. Moreover, interviewers regularly participated in joint training and supervision meetings.

In October 2010 the data collection of T1 started. For half a year, the Dutch Prison Service informed the Prison Project on a weekly basis about newly admitted pre-trial

prisoners. The PhD students informed the correctional facilities and interviewers about the new prisoners meeting the selection criteria of the Prison Project. Subsequently, the interviewers approached and informed all eligible prisoners approximately in their third week of pre-trial detention. Participation was voluntary, and prisoners were ensured confidentiality. All participants signed an informed consent declaration. Between October 2010 and April 2011, 2,945 prisoners meeting the selection criteria entered one of the 32 pre-trial detention centers in the Netherlands. Of this group, 170 prisoners could not be approached, in most cases because they were already released or were not allowed contact with others during the police investigation. Of the 2,775 prisoners who were approached, 1,909 prisoners (69%) participated in the interview of T1 and 1,764 prisoners (64%) also completed the questionnaire of T1. The structured interview – which lasted for about one to one and a half hour - was conducted by the interviewer using a laptop, and was held in a private visiting room. The self-administered questionnaire was filled out by prisoners in their own cells. In case prisoners reported reading problems, the questionnaire was administered face-to-face by the interviewer in a private visiting room.

In January 2011 the data collection of T2 started. Interviewers approached the prisoners who were still incarcerated three months after arrival in pre-trial detention and asked them whether they were willing to participate again. At that time, 1,206 prisoners were still incarcerated in a pre-trial detention center or prison. Of these prisoners, 196 prisoners were not contacted, in most cases because they had been released before we were able to approach them. Of the 1,010 prisoners who could be approached, 824 prisoners (82%) participated in T2 and filled out a self-administered questionnaire in their cells. Again, the questionnaire was administered face-to-face by the interviewer when the prisoner had reading problems. At T2, most prisoners (90%) were still housed in a pre-trial detention center; a small group (10%) was already convicted and transferred to a prison (wing).

At T1 and T2, prisoners were questioned on a wide range of topics. First, several background and personal characteristics were asked, like age, ethnicity, criminal history, personality, self-control, and coping style. In addition, prisoners were extensively asked about their situation prior to incarceration (e.g. education, employment, marriage, children, living accommodation, social network, mental and physical health, and addictions), and how these life domains developed. Furthermore, prisoners were questioned about their time in prison, including their misconduct, mental health problems, and perceptions of procedural justice.

Prisoners' perceptions of procedural justice were measured using four scales: fairness, respect, humanity, and relationships with officers. These four scales and items were based on two existing instruments measuring prisoners' perceptions of their conditions of confinement: the Measurement of Quality of Prison Life (Liebling,

2004) and the Dutch Inmate Survey (Mol & Henneken-Hordijk, 2008). Items used were, for example, “Staff in this correctional facility is consistent in their interpretation of the rules” (fairness, six items), “I feel that I am treated with respect by staff in this correctional facility” (respect, three items), “Some of the treatment I receive in this correctional facility is degrading” (humanity, three items), and “The correctional officers help me if I have problems” (relationships with officers, five items). The first three scales relate to the general treatment in the correctional facility and, therefore, focus on the interaction with all staff members. The latter scale (i.e. relationships with officers) focuses specifically on the interaction with correctional officers.

*Prison Project: Official prison records*

As part of the Prison Project, official prison records were analyzed of the 1,909 prisoners to collect data on their documented rule infractions in prison. For 30 prisoners it was unclear during which period they were held in which facility. This information was necessary to analyze the prison records; therefore, registered misconduct data were available for 1,877 prisoners. Since a couple of years, all Dutch prison records are fully electronic. They contain, for instance, verdicts, decisions on selection and classification of prisoners, reports of prison officers, disciplinary reports, official complaints made by prisoners, and information on participation in special penitentiary programs. The author of this thesis and two interns analyzed the information on disciplinary reports within the official prison records. For every prisoner, it was documented whether he had received a disciplinary report since his arrival in detention. Subsequently, for every disciplinary report, it was documented (a) in which facility and unit the prisoner was housed at the time of the misconduct, (b) the date of the misconduct, (c) the type of misconduct, and (d) the type of sanction. The prison records were analyzed between March and June 2012, thus, information was collected on prisoners’ rule infractions for the period October 2010 until February 2012. These data allow for an investigation of the effect of procedural justice on prisoners’ registered misconduct. Combined with prisoner survey data, these data provide an opportunity to examine differences in findings between analyses on self-reported versus registered misconduct.

*Prison Project: Characteristics of correctional facilities and their units*

As part of the Prison Project, data were collected on characteristics of the Dutch correctional facilities itself and their units. Two scoring instruments were developed for this purpose. One scoring instrument focused on characteristics of the facility, including items on type of facility (i.e. pre-trial detention center, closed prison, half-open prison or open prison), accessibility of the facility by public transport, overall prison layout, facility size, and types of available prison labor. The other scoring instrument concentrated on characteristics of the separate units within the facility,

including items on type of unit, unit size, year of construction of the unit, number of gallery levels within the unit, level of double bunking within the unit, and the availability of facilities within the unit (e.g. showers in cell, kitchen, and washer). During T1 of the Prison Project, interviewers filled out these questionnaires for every pre-trial detention center and for all the units within these pre-trial detention centers. These data allow for an examination of the effect of prison architecture on officer-prisoner relationships.

#### *Correctional Staff Survey 2011*

Besides these three datasets from the Prison Project, data from the Dutch Correctional Staff Survey 2011 are used in this thesis. The Dutch Prison Service regularly conducts a survey among their correctional staff, and, for the present study, data were used from the survey administered in April 2011 (Van der Broek & Molleman, 2012). All 3,740 correctional officers working in Dutch correctional facilities (i.e. both pre-trial detention centers and prisons) were asked to participate in the study. Participation in the survey was voluntary and staff were allowed to fill out the questionnaires during working hours. To guarantee anonymity, staff members could send their completed questionnaire to an independent research institute. In total, 2,277 officers (61%) participated in the survey. The Correctional Staff Survey contains, for instance, questions related to background characteristics, job content, attitudes, workload, leadership, and relationships with colleagues. These data allow for an examination of the effect of the composition of correctional officer characteristics on procedural justice.

## **1.7 Societal relevance of thesis**

As described above, this thesis will contribute to more knowledge on the determinants and consequences of procedural justice in prison. Improving knowledge on procedural justice in prison is relevant for the correctional practice and for society at large for several reasons. First, violence and other forms of misconduct are a significant problem in prisons. This is the case in correctional facilities worldwide, including the Netherlands. In 2011, approximately 1,500 incidents of physical violence have been registered in Dutch correctional facilities. Of these incidents, about 950 were related to violence among prisoners, and in 550 instances correctional officers were assaulted by prisoners (Dutch Prison Service, personal communication in 2013). Misconduct compromises the manageability of prisons. It damages the effective operation of correctional facilities, it creates an unsafe and fearful environment for both staff and prisoners, and it increases the costs of penitentiary institutions (Goetting & Howsen, 1986). Therefore, it is important to increase knowledge on how to prevent and reduce

prisoner misconduct. As a limited number of prior studies have suggested (e.g. Reisig & Mesko, 2009; Sparks & Bottoms, 1995) and as this thesis will investigate, treating prisoners with fairness and respect is possibly a way to enhance prison order.

Second, mental health problems among prisoners are likewise a concern. It has been widely reported that prisoners are more likely to suffer from psychiatric disorders (e.g. major depression and psychosis) and display higher levels of psychological problems (e.g. distress and depressive feelings) than the general population (Fazel & Seewald, 2012; Schneider et al., 2011; Zamble & Porporino, 1990). In the Netherlands, research among adult male prisoners indicated that more than 50% suffered from a psychiatric disorder (including substance addiction) (Bulten & Nijman, 2009). Mental health problems increase the likelihood of suicide and self-harm (Fazel & Seewald, 2012), as well as misconduct (Houser, Belenko, & Brennan, 2012; O'Keefe & Schnell, 2007), thereby, affecting the manageability of prisons. Furthermore, prisoners with mental health problems have an increased risk of re-offending after release (Baillargeon, Binswanger, Penn, Williams, & Murray, 2009; O'Keefe & Schnell, 2007). Consequently, it is important to get a better understanding of what factors may attenuate psychological problems among prisoners. As prior cross-sectional research has suggested (e.g. Gover et al., 2000; Liebling et al., 2005) and as this thesis will examine longitudinally, treating prisoners in a procedurally just manner is possibly a way to decrease prisoners' mental health problems.

Third, recidivism rates are a major problem in Western societies. In the Netherlands, for instance, around 50% of the adult ex-prisoners are reconvicted within two years after release (Wartna et al., 2012). Crime can have a devastating impact on the lives of victims. It creates feelings of insecurity among citizens and the financial costs of re-offending by ex-prisoners to society as a whole are huge. What happens inside prison is likely to affect how ex-prisoners behave on the outside (Gaes et al., 2004). Several prison scholars have suggested that treating prisoners well and decent increases the likelihood of their success upon release because it promotes rehabilitation (Johnson, 1996; Liebling, 2004). The Dutch Prison Service underlines this, and postulates in their program 'Modernization Prison System' that a humane correctional environment, in which respect, humanity, trust, support, and positive staff-prisoner relationships are central, makes prisoners receptive to behavioral change (Krabbendam & Nelissen, 2012).

Thus, prisoners' misconduct, mental health problems and re-offending all have substantial costs and negative consequences for those who work and live in prison, and for society at large. These problems may be reduced when a procedurally just prison climate is created, in which prisoners feel treated with fairness, respect and humanity. By focusing on possible determinants of a procedurally just treatment of prisoners, findings of this thesis may provide knowledge on how to create a more procedurally

just prison climate, and, ultimately, how to decrease prisoners' misconduct, mental health problems, and, possibly, re-offending after release. Findings of this thesis may have implications for prison policy in three ways. First and foremost, findings may underline the importance of a procedurally just treatment of prisoners, as it may demonstrate effects on prison order and prisoners' psychological well-being. Second, results may suggest that certain officer characteristics are related to whether or not prisoners perceive their treatment in prison as procedurally just. This knowledge is relevant for correctional practice, as Prison Services and prison management can – when desirable – make adjustments in their staff policy, staff selection, and staff training in order to enhance a procedurally just prison climate. Finally, findings may indicate that aspects of prison architecture are related to how prisoners and officers interact. Such knowledge may be helpful to prison construction and prison remodeling.

## 1.8 Outline thesis

This thesis examines (1) to what extent contextual factors contribute to a procedurally just treatment of prisoners, and (2) to what extent a procedurally just treatment of prisoners affects prisoners' adjustment. Chapter 2 and 3 focus on possible determinants of procedural justice in prison, whereas Chapter 4 and 5 deal with possible consequences of procedural justice in prison. An outline of the empirical chapters in this thesis is displayed in Table 1.1.

Chapter 2 investigates to what extent the composition of correctional officer characteristics is related to prisoners' perceptions of procedural justice in prison. Using a unique dataset in which prisoner and officer data are combined, the impact of background characteristics of officers (e.g. gender and tenure), work-related attitudes of officers (e.g. attitude towards rehabilitation), and the workload of officers (e.g. officer-to-inmate ratio) on prisoners' perceptions of fairness, respect, humanity, and relationships with officers is examined. Multilevel linear regression analyses are performed to account for the hierarchical structure of the data, as prisoners are housed within prison units.

Chapter 3 explores the relationship between prison architecture and prisoners' perceptions of their relationships with officers. Using multilevel linear regression analyses, the impact of the overall prison layout (e.g. panopticum, radial, and campus) is examined. In addition, the effects of specific prison design characteristics (e.g. unit size, line of sight, and year of construction) on officer-prisoner relationships are analyzed.

Chapter 4 focuses on the longitudinal relationship between prisoners' perceptions of procedural justice (including fairness, respect, humanity, and relationships with officers) and their misconduct. Furthermore, the mediating role of anger in the effect

of procedural justice on misconduct is investigated. Using two waves of prisoner survey data and registered data on disciplinary reports, cross-lagged structural equation models are employed for self-reported misconduct and for registered misconduct.

Chapter 5 examines the longitudinal association between prisoners' perceptions of procedural justice (including fairness, respect, humanity, and relationships with officers) and their mental health problems. In addition, the moderating role of coping style in the relationship between procedural justice and mental health is tested. Using two waves of prisoner survey data, a cross-lagged structural equation model is utilized.

Chapter 6 presents the general discussion. It summarizes the main findings of this thesis and discusses them in the context of theory and prior research. It furthermore discusses the strengths and limitations of the present study, and provides suggestions for future research. In addition, this chapter addresses practical implications of the results.

Table 1.1 Outline of thesis

	Chapter 2	Chapter 3	Chapter 4	Chapter 5
<b>Research question(s)</b>	To what extent are background characteristics, work-related attitudes, and workload of correctional officers related to prisoners' perceptions of fairness, respect, humanity, and relationships with officers?	To what extent is prison layout related to prisoners' perceptions of their relationships with officers? To what extent are specific prison design characteristics related to prisoners' perceptions of their relationships with officers?	To what extent do prisoners' perceptions of procedural justice influence their misconduct? To what extent does anger mediate this relationship?	To what extent do prisoners' perceptions of procedural justice influence their mental health problems? To what extent does coping style moderate this relationship?
<b>Independent variable(s)</b>	Proportion female officers in unit Officers' average educational level in unit Officers' average age in unit Officers' average tenure in unit Officers' attitude to prisoners in unit Officers' attitude to rehabilitation in unit Officer-to-inmate ratio in unit Officers' average perceived workload in unit	Overall prison layout Facility size Unit size Year of construction of unit Line of sight in unit Percentage double cells in unit	Prisoners' perceptions of procedural justice (including fairness, respect, humanity, and relationships with officers)	Prisoners' perceptions of procedural justice (including fairness, respect, humanity, and relationships with officers)
<b>Mediator(s)</b>			Prisoners' anger	
<b>Moderator(s)</b>				Prisoners' coping style
<b>Dependent variable(s)</b>	Prisoners' perceptions of: Fairness Respect Humanity Relationships with officers	Prisoners' perceptions of relationships with officers	Prisoners' self-reported misconduct Prisoners' registered misconduct	Prisoners' self-reported mental health problems
<b>Data</b>	Prisoner panel data T1	Prisoner panel data T1 Correctional Staff Survey	Prisoner panel data T1 Prisoner panel data T2 Official prison records	Prisoner panel data T1 Prisoner panel data T2
<b>Statistical technique</b>	Multilevel regression analysis	Multilevel regression analysis	Structural equation modeling	Structural equation modeling