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General discussion

6.1 Introduction

The central aim of this thesis was to expand knowledge on the determinants and consequences of procedural justice in the correctional setting. In this thesis, procedural justice included prisoners' perceptions of the fairness of procedures in prison (e.g. rules being applied in a neutral and consistent way), the interpersonal treatment within prison (e.g. being treated with respect and humanity), and positive and constructive officer-prisoner relationships. Procedural justice theory (Leventhal, 1980; Lind & Tyler, 1988; Thibaut & Walker, 1975; Tyler, 1990) proposes that when prisoners feel treated in a procedurally unjust manner by prison authorities they are more likely to misbehave. In addition, prior research has indicated that an unfair and disrespectful treatment is related to prisoners' mental health problems (e.g. Gover et al., 2000; Liebling et al., 2005; Nurse et al., 2003). Because prisoners' perceptions of a procedurally unjust treatment seem to have significant consequences for both prison order and prisoners' psychological well-being, it is important to increase knowledge on factors within the correctional setting that may contribute to a more procedurally just prison climate. Therefore, this thesis had two aims. First, to investigate to what extent contextual factors within prison (i.e. correctional officer composition and prison architecture) contribute to a procedurally just treatment of prisoners. Second, to examine to what extent a procedurally just treatment of prisoners affects prisoners' adjustment (i.e. misconduct and mental health problems).

To accomplish these aims, data from the Prison Project were used. The Prison Project is a panel study among 1,909 adult male prisoners in the Netherlands. This thesis used data of the first and second wave (T1 and T2), which took place approximately three weeks and three months after arrival in pre-trial detention, respectively. Prisoners were questioned on a wide range of topics, such as their background and personal characteristics, their life situation prior to incarceration, and their experiences during and perceptions of life in prison (e.g. procedural justice perceptions, self-reported misconduct, and self-reported mental health). Next to these self-reported data, official prison records of these prisoners were analyzed to collect data on their disciplinary reports. In addition, by means of site visits to all correctional facilities, data were collected on architectural characteristics of the facilities in which these prisoners were held (e.g. overall prison layout, facility size, and year of construction). Finally, information on correctional officer characteristics (e.g. gender, age, tenure, and job-related attitudes) was collected from the Correctional Staff Survey 2011, which was conducted by the Dutch Prison Service.

In this concluding chapter, the main findings of this thesis are summarized and discussed (section 6.2). Subsequently, this chapter discusses theoretical implications (section 6.3), outlines methodological improvements (section 6.4), and addresses

limitations and directions for future research (section 6.5). Finally, this chapter concludes with suggestions for correctional policy and practice (section 6.6).

6.2 Summary of main results

6.2.1 Determinants of procedurally just treatment of prisoners

Chapter 2 and 3 of this thesis provided insight into the determinants of prisoners' perceptions of procedural justice in prison. In Chapter 2, the impact of the composition of correctional officer characteristics on a procedurally just treatment of prisoners was investigated. The aim was to examine to what extent background characteristics of correctional officers (i.e. gender, educational level, age, and tenure), work-related attitudes of correctional officers (i.e. attitude towards prisoners and attitude towards rehabilitation), and the workload of correctional officers (i.e. officer-to-inmate ratio and perceived workload) were related to prisoners' perceptions of fairness, respect, humanity, and relationships with officers.

Using multilevel linear regression analyses, it was shown that three correctional officer characteristics were related to the way prisoners perceived their treatment in prison. First, gender was related to prisoners' perceptions of procedural justice. In units where there were more female officers, prisoners perceived their treatment as more procedurally just. This result aligns with theoretical notions that social behavior is linked to gender. Social role theory and evolution theory both propose that women dispose of more social attitudes and behavior than men, either due to different gender roles or evolved dispositions (Eagly & Wood, 1999). Prior research has indeed shown that women show more empathy and consideration for others, are more willing to listen, and have greater concern for good interpersonal relationships compared to men (e.g. Anderson & Blanchard, 1982; Eagly & Wood, 1991). Therefore, female officers may be better in creating a supportive, humane, and fair prison climate. However, an alternative explanation could also be that perceptions and behavior of male prisoners change. They may like to maintain good relationships with female officers and possibly approach and evaluate female officers differently.

Second, although the results overall provided limited support for the relationship between officers' attitudes and prisoners' procedural justice perceptions, findings did reveal that in units where officers held more positive attitudes towards rehabilitation, prisoners experienced more positive relationships with officers. This is in line with the attitude-behavior literature, which in general proposes that people act towards a certain object in accordance with their attitude towards that object (e.g. Ajzen & Fishbein, 1977; Bohner & Dickel, 2011; Greenwald et al., 2009). Although the attitude-behavior link is sometimes weak or lacking, meta-analyses have demonstrated

that, overall, attitudes predict future behavior (Greenwald et al., 2009; Kraus, 1995). Consequently, it seems that officers with a positive attitude towards rehabilitation are more likely to support prisoners in changing their lives and, subsequently, approach prisoners in a more positive and encouraging way.

Finally, officer-to-inmate ratio was related to how prisoners felt treated within prison. In units where there was a higher officer-to-inmate ratio, prisoners perceived more fairness, respect, and humanity, and evaluated their relationships with officers as more positive. It seems that when more officers are available in a unit, officers will have increased opportunity to interact with prisoners, which results in closer officer-prisoner relationships. This line of reasoning is consistent with prior research in social psychology that showed that both the frequency and the length of interactions have an effect on relationship quality (e.g. Emmers-Sommer, 2004; Kingston & Nock, 1987). In addition, this finding aligns with Casper's et al. (1988) study that demonstrated that defendants who spent more time with their lawyer experienced a higher level of procedural justice. Moreover, Dutch correctional officers recently reported to the Dutch Prison Service that understaffing and continuous changes within the prison system contributed to an increased workload, which negatively affected their relationships with prisoners (Dienst Justitiële Inrichtingen, 2012b).

In Chapter 3, the association between prison architecture and prisoners' perceptions of their relationships with officers was explored. More specifically, the aims of this study were to investigate to what extent (1) the overall prison layout (i.e. panopticon, radial, rectangular, courtyard, high-rise, and campus; see Figure 3.1 in Chapter 3) and (2) specific prison design characteristics (i.e. facility size, unit size, year of construction, sight lines, and level of double bunking) were related to the way prisoners perceived their relationships with correctional officers.

Multilevel linear regression analyses revealed that prison architecture does affect officer-prisoner relationships. Findings showed that, controlled for several prisoner and unit characteristics, prisoners in panopticon layouts evaluated their relationships with officers less positively than prisoners in the other layouts. Prisoners in radial, rectangular, courtyard, and high-rise layouts had an increasingly positive judgment about officer-prisoner relationships, and prisoners in campus layouts were most positive. Furthermore, results indicated that prisoners in radial layouts perceived their relationships with officers more negatively than prisoners in campus layouts. In general, findings are in line with theoretical insights from environmental psychology, which propose that the architecture of a building affects people's behavior and experiences, and, more specifically, affects levels of social interaction between its users (e.g. Gifford, 2007; Sommer, 1969). In addition, results concerning the effects of prison layout largely confirmed our hypotheses. Prisoners housed in prison layouts based on penal philosophies promoting distance between staff and prisoners (like

panopticon and radial facilities) indeed experienced their interactions with officers most negatively, whereas prisoners in prison layouts based on penal philosophies stimulating staff-prisoner interactions (like campus and high-rise facilities) indeed had the most positive judgment of their relations with officers (Dubbed, 2001; H. Franke, 1995; Johnston, 2000). Particularly in panopticon facilities, which were constructed with a focus on prisoner surveillance and are characterized by the large size and the old building, prisoners were less content with officer-prisoner relationships.

Furthermore, several specific prison design characteristics were related to officer-prisoner relationships. When examined bivariately, effects were found for four characteristics: Prisoners perceived their relationships with officers more positive in smaller units, in newer units, in units where officers had a good view on the unit, and in units with fewer double cells. Controlled for other design and prisoner characteristics, two characteristics remained related to officer-prisoner relationships. First, prisoners in older units evaluated their relationships with officers less positive. Although prior research is lacking, it has been suggested that new and modern correctional facilities could have a positive effect on the atmosphere in prison (Molleman, 2011; Shefer & Liebling, 2008). Results of this thesis corroborate this suggestion. Second, prisoners in units with a higher percentage of double bunking were less positive about their relationships with officers. This finding is in line with prior Dutch research, which revealed that double bunking was associated with more distant and less frequent officer-prisoner interactions (Inspectie voor de Sanctietoepassing, 2011). Several explanations have been suggested for this effect. For example, officers working in units with more double cells have less time to interact with prisoners, or double cells reinforce the division between prisoners and officers (i.e. us versus them) (Inspectie voor de Sanctietoepassing, 2011).

6.2.2 Consequences of procedurally just treatment of prisoners

Chapter 4 and 5 of this thesis focused on the relationship between prisoners' perceptions of procedural justice and their adjustment in prison. In Chapter 4, the effect of procedural justice on prisoners' misconduct in prison was tested. The aim was twofold. First, the longitudinal association between prisoners' perceptions of procedural justice and their misconduct was explored. Second, in an attempt to learn more about how procedural justice might affect misconduct, the mediating role of anger in the effect of procedural justice on misconduct was investigated. In this study, both self-reported and registered misconduct were examined.

Cross-lagged structural equation models showed that procedural justice had a significant effect on how prisoners behaved in prison. Prisoners who felt treated procedurally just at T1 were less likely to report engaging in rule-breaking behavior

at T2 and were less likely to have received a disciplinary report at T2. This result was observed even after controlling for prisoners' misconduct at T1. The effect appears rather robust because it was found for both self-reported and registered misconduct. Findings are in line with procedural justice theory (Leventhal, 1980; Lind & Tyler, 1988; Thibaut & Walker, 1975; Tyler, 1990), which proposes that if people feel treated fairly and respectfully by authorities, they will be more likely to obey authorities' laws and decisions. Furthermore, results corroborate previous procedural justice research in the law enforcement setting (e.g. Paternoster et al., 1997; Sunshine & Tyler, 2003; Tyler, 2001), and the limited number of prior studies within the correctional context (e.g. Reisig & Mesko, 2009; Sparks & Bottoms, 1995).

No support was found for a reversed longitudinal effect: Prisoners who misbehaved did not perceive their treatment in prison less procedurally just later on. This is notable, as it is easy to imagine that prisoners who misbehave are treated in a less fair and dignified manner by correctional staff. However, the results of this study do not support this hypothesis. Rule-breaking prisoners and rule-abiding prisoners do not feel treated differently, which suggests a professional and neutral approach by Dutch correctional staff.

Furthermore, findings revealed that anger mediated the effect of perceived justice on prisoners' misconduct. Prisoners who felt treated in a procedurally unfair manner in prison were more likely to experience anger about their treatment, and, subsequently, were more likely to engage in rule violations. Anger fully mediated the procedural justice-misconduct association, as procedural justice was no longer a significant predictor of prisoners' misbehavior when anger was included in the analyses. Again, this effect was observed for both the self-reported and the registered misconduct. This result is in accordance with equity theory (Adams, 1965) and general strain theory (Agnew, 1992), which both suggest that perceptions of injustice will result in noncompliance and deviant/criminal behavior through negative emotions like anger. However, these theories both have a somewhat different focus than procedural justice theory. The results suggest that emotions, and especially anger, should play a role in procedural justice theory as well.

In Chapter 5, the effect of procedural justice on another aspect of prisoners' adjustment was examined, namely prisoners' psychological well-being. More specifically, the purpose was first to examine the longitudinal association between prisoners' perceptions of procedural justice and their mental health problems. In addition, an attempt was made to explore which prisoners were particularly vulnerable for unjust experiences to result in psychological problems. Therefore, the moderating role of coping style in the effect of procedural justice on mental health problems was examined. Three coping styles were studied: problem-focused coping (dealing with the stressor), emotion-focused coping (regulating the emotions that accompany the stressor), and avoidance-focused coping (avoid dealing with the stressor).

Cross-lagged structural equation models revealed a longitudinal effect of procedural justice on prisoners' mental health problems. Findings showed that prisoners who experienced a higher level of procedural justice at T1 reported fewer mental health problems at T2. This effect was observed while controlling for prisoners' mental health at T1 and prior to incarceration. The result is in line with prior cross-sectional studies that showed an association between an unfair and inhumane treatment of prisoners and higher levels of psychological problems (e.g. Gover et al., 2000; Liebling et al., 2005; Slotboom et al., 2011). Findings of the current study support an extension of procedural justice theory: A fair and respectful treatment is a predictor of not only prisoners' compliance but also of their psychological well-being.

No evidence was found for a reversed longitudinal effect: Prisoners who experienced mental health problems at T1 did not perceive their treatment in prison less procedurally just at T2. This is contrary to prior research in psychology that revealed an increased recall of negative information in depressive and anxious patients (e.g. Mathews, 1993). An explanation could be that the present study examined psychological problems instead of psychiatric disorders. Biases in processing information are perhaps more likely to be prevalent in, more serious, psychiatric disorders.

Furthermore, no support was found for a moderating effect of coping in the relationship between prisoners' perceptions of procedural justice and their mental health problems. This result is contrary to the stress-coping model (Lazarus & Folkman, 1984), which suggests that the behavioural and mental health impact of a stressful and difficult situation, like an unfair treatment in prison, depends on a person's coping style. That the current study failed to confirm the stress-coping model may possibly be explained by the way coping style was assessed. In the present study, prisoners were asked how they coped with stressful situations in general, assuming coping strategies to be relatively stable. However, at present it is unclear to what extent coping style is stable, some literature suggests that coping style may be (partly) situation specific (Folkman et al., 1986). Especially in the correctional environment, prisoners might change their coping strategies because coping responses are restricted due to constraints of the environment. For instance, the opportunity to employ avoidance strategies in prison is limited. Therefore, a situation specific measure of coping, in which prisoners were asked how they would cope with specific situations of unfairness and disrespect in prison, would possibly have led to different results.

Although no evidence was found for a moderating role of coping style, findings did reveal a direct effect of coping style on mental health problems. Prisoners high on emotion-focused coping and prisoners high on avoidance-focused coping reported more mental health problems. These results are in line with prior research among prisoners on coping style and psychological well-being (e.g. Gullone et al., 2000; Ireland et al., 2005).

6.3 Theoretical implications

In this thesis, procedural justice theory was used as a starting point. Originally, this theory was developed to explain why people obey or disobey the law. Procedural justice theory postulates that if authorities treat people in a fair and respectful manner, people, in general, will be more likely to cooperate and comply with authorities' rules and decisions (Leventhal, 1980; Lind & Tyler, 1988; Thibaut & Walker, 1975; Tyler, 1990). Conversely, it also suggests that an unfair and degrading treatment by authorities can lead to resistance and noncompliance. Procedural justice theory has been adapted to the correctional setting, since procedural justice appeared equally relevant to order and disorder in prison (Jackson et al., 2010; Sparks & Bottoms, 1995). Although procedural justice theory offers a solid base to explain prisoners' compliance behavior, it does not take into account (a) contextual factors that may contribute to prisoners' perceptions of a procedurally just treatment in prison, (b) the mediating role of emotions, and (c) the effect of procedural justice on prisoners' internalizing behavior (i.e. mental health problems). The current thesis, therefore, extended procedural justice theory in three ways.

First, although the procedural justice literature has examined subjective, psychological and relational antecedents of procedural justice judgments (e.g. Tyler and Lind's (1992) neutrality, trust, and standing), it has largely ignored more objective antecedents. Both objective features of encounters with authorities (e.g. time spent with the authority and gender of the authority) and aspects of the environment in which these encounters take place (e.g. the design of a building) may impact procedural justice perceptions. The current thesis showed that both the composition of officer characteristics (i.e. proportion female officers, average attitude towards rehabilitation among officers, and officer-to-inmate ratio) and prison architecture (i.e. overall prison layout, year of construction, and double bunking) affected the extent to which prisoners felt treated in a procedurally just manner. In addition, prior research within the correctional setting has revealed that facility type and the presence of a hospice in prison impact prisoners' perceptions of procedural justice (D. Franke et al., 2010; Wright & Bronstein, 2007). Furthermore, research among defendants has shown that spending more time with their lawyer increased their feelings of procedural justice (Casper et al., 1988). However, overall, these determinants have received very little attention in procedural justice literature.

In order to provide a more complete picture of procedural justice and to improve theory development, the results of the current thesis lead us to believe that objective and contextual determinants of procedural justice are important and deserve more attention in procedural justice literature, both theoretically and empirically. Especially considering the negative effects of procedural injustice, more interest in its determinants is justified.

Second, results of this thesis showed that emotions, and in particular anger, play a role in the relationship between procedural injustice and noncompliance. Since procedural justice theory currently does not consider mediators like anger, the hypothesis in this thesis on the mediating role of anger in the effect of procedural justice on prisoners' misconduct was based on equity theory (Adams, 1965) and general strain theory (Agnew, 1992, 2001). However, both theories have a somewhat different focus than procedural justice theory. Equity theory focuses on distributive justice, which relates to the fairness of the outcome of the decision, as opposite to procedural justice, which relates to the fairness of the decision-making process and quality of treatment. General strain theory focuses on the broader concept of strain, in which 'unjust treatment' is one of the suggested types of strain. In addition, revengeful and criminal behavior is not directed specific at the unfair authority, as is the case in procedural justice theory. Findings of this thesis lead us to believe that anger should play a role in procedural justice theory as well.

In an attempt to explain why anger mediates the relationship between procedural justice and compliance, Murphy and Tyler (2008) proposed to complement the group-value model (Lind & Tyler, 1988) with appraisal theories of emotions (Mackie et al., 2000). The group-value model assumes that procedural justice is important to people because it provides information about whether or not one is valued as a member of society. If people feel they are treated unfairly and impolitely during their interactions with authorities, they will feel marginalized, disrespected and excluded from the group. This can threaten one's identity as a valued group member and can compromise one's self-worth. Appraisal theories of emotions conceptualize emotions as reactions to a situation or event that includes cognitions. According to this framework, anger generally results "from appraisals that the other has harmed the self" (Mackie et al., 2000, p. 602), which leads to the tendency to retaliate against that other person. Combining both theoretical models would suggest that people who perceive their treatment by an authority as unfair feel that their identity as a valued group member is threatened and harmed. Such an identity threat may provoke feelings of anger, which, subsequently, may provide an impetus for misbehavior and noncompliance. Thus, in the future development of procedural justice theory, and more specific the group-value model, emotions may be an important consideration.

Third, whereas procedural justice theory traditionally focuses on the effects of procedural justice on externalizing behavior, the current study suggests that procedural justice is also related to internalizing behavior. This thesis showed that prisoners who felt treated in an unfair and disrespectful manner within prison were not only more likely to engage in misconduct, but were also more likely to experience mental health problems.

Procedural justice theory proposes that people are not only concerned with the outcomes they receive in encounters with authorities, but that they are also concerned with the procedures and treatment they receive in these encounters (Tyler, 1990; Tyler & Lind, 1992). As outlined above, the group-value model by Lind and Tyler (1988) proposes that an unfair treatment makes people feel disrespected, inferior, and excluded from the group. Procedural justice theory advocates that people will react to this with resistance and noncompliance. However, instead of acting out, some people may be more likely to direct this negative energy toward the self, as externalizing and internalizing behaviors are both ways in which people can react to difficult and stressful situations (e.g. Connor-Smith, Compas, Wadsworth, Thomsen, & Saltzman, 2000; Kim, Conger, Elder, & Lorenz, 2003). Applied to the correctional setting, this means that while some prisoners may deal with an unfair and inhumane treatment by correctional authorities through disobedience, aggressive behavior, or substance use, other prisoners may feel depressed, anxious, or withdrawn. Misconduct and mental health problems in this regard may be two sides of the same coin; both can be the result of an unjust and degrading treatment in prison, and the accompanied feelings of marginalization, disrespect and frustration. The results of this thesis support an extension of procedural justice theory because a fair and respectful treatment is a predictor of not only prisoners' compliance but also of their psychological well-being. Procedural justice theory may therefore be a relevant theoretical framework in trying to improve our understanding of prisoners' adjustment to life in prison, including psychological problems.

6.4 Methodological improvements

This thesis has some methodological strengths, which advanced our knowledge regarding procedural justice theory. First, the association between procedural justice and compliance was examined within the correctional setting. Most prior procedural justice studies in the criminal justice context have been conducted in police and court settings. In those studies, procedural justice perceptions of citizen's and defendants have generally been based on only one or sometimes a few encounters with the police or judge. On a contrary, this thesis focused on the correctional setting, in which contacts with authorities are prolonged and more frequent. Procedural justice perceptions of prisoners in this thesis were based on three weeks and three months of interaction with correctional staff. This provides a richer context to study procedural justice than is the case in police and court studies.

Second, this thesis used a longitudinal design, and, subsequently, revealed a longitudinal effect of prisoners' procedural justice perceptions on their behavior. The limited number of prior procedural justice studies within the correctional setting have

generally been cross-sectional in nature, allowing no definite conclusion regarding the direction of the relationship. An exception is the study of Reising and Mesko (2009), but they were unable to rule out the possibility that the relationship was reciprocal (i.e. that prisoners' misconduct also affected the way prisoners were treated). By using a cross-lagged design (i.e. testing the effect of procedural justice on misconduct as well as testing the effect of misconduct on procedural justice), this thesis advanced current knowledge by showing that the relationship is one-directional: A fair and dignified treatment of prisoners predicts prisoners' misconduct, not the other way around (as well).

Third, the association between procedural justice and prisoners' compliance was tested using data from a large-scale, nationwide study. The few prior procedural justice studies conducted within the correctional context generally have used small samples within one or two correctional facilities. The present study allowed for testing procedural justice theory in a sample that is more representative, as the sample included over 1,900 prisoners from all 32 Dutch pre-trial detention centers. Therefore, this thesis contributed to the generalizability of the procedural justice-prisoner misconduct effect.

Fourth, the association between prisoners' procedural justice perceptions and their misbehavior was tested using both self-report and registered misconduct data. Previous studies have frequently relied on self-report data only. Using a single method to measure independent and dependent variables may generate correlations that are due to the measurement approach itself, not because the variables are really related (Podsakoff et al., 2003). By using multiple methods, this thesis overcomes this single source bias and proves that the effect of procedural justice on prisoners' misconduct is robust and valid because similar results were observed for both outcomes (i.e. self-reported and registered misconduct).

6.5 Limitations & future research

Although the current thesis has several strengths, there are also some limitations that need to be acknowledged. These limitations offer important guidelines for future research. The limitations and directions for future research relate to (a) the measurement of procedural justice, (b) the determinants of procedural justice, (c) the consequences of procedural justice, (d) the theoretical mechanisms, and (e) the generalizability of the results. Below, these will be discussed.

Measurement of procedural justice

Measuring procedural justice is a complex issue. There is no established standard, and researchers have used different subscales/dimensions and items (Murphy & Tyler,

2008; Reisig & Mesko, 2009; Skarlicki & Folger, 1997; Sunshine & Tyler, 2003; VanYperen et al., 2000). This may not be surprising, considering the fact that the exact manner in which a procedurally just treatment can be enacted depends on the setting (Jackson et al., 2010). The correctional setting is clearly a very different context than, for instance, a company or courtroom. Notwithstanding these differences in setting, several scholars have argued that existing literature pays insufficient attention to the reliability and validity of measures of perceived procedural justice and have stressed the importance of examining measurement properties of procedural justice (Henderson et al., 2010; Reisig et al., 2007). This thesis employed a fairly broad definition of procedural justice, including fairness of procedures, interpersonal treatment, and officer-prisoner relationships. Our choice for this broad construct was based on (a) results of prior studies on the concept and measurement of procedural justice in the criminal justice setting (Ahmad, 1996; Henderson et al., 2010; Reisig et al., 2007) and (b) our own measurement properties of procedural justice. Although results of this thesis are generally in line with theory and prior research, of course, other choices with regard to the operationalization of procedural justice could have led to different results.

Determinants

As is often the case in multilevel studies, the contextual variance of procedural justice perceptions was limited in this thesis. Individual characteristics of prisoners contributed to a larger extent to the explanation of differences in perceived procedural justice than the examined contextual determinants (i.e. correctional officer composition and prison architecture). Nevertheless, while taking prisoner characteristics like age, ethnicity and personality into account, several characteristics of officer composition and prison architecture were significantly related to the way prisoners felt treated in prison. Moreover, aspects of the correctional environment are adjustable, whereas individual prisoner characteristics are generally rather fixed. Therefore, it seems a more beneficial approach to focus on contextual factors that may influence prisoners' perceptions of procedural justice. Although this thesis investigated the role of several contextual determinants, there are clearly other factors that may contribute to a more procedurally just prison climate that were not included; for example, other characteristics of the officer composition (e.g. ethnicity), other aspects of prison architecture (e.g. color use and amount of daylight), and other contextual determinants within prisons (e.g. management factors and type of facility). Much more research is needed on contextual factors that may promote a procedurally just treatment of prisoners.

Consequences

The consequences in this thesis, prisoners' misconduct and mental health problems, were each assessed with one overall measure. It would, however, be interesting and informative to differentiate between different types of misconduct and mental health problems. For instance, a procedurally just treatment may possibly have a more pronounced effect on aggressive behavior and disobedience than on substance-related misconduct, as prisoners who are addicted may (try to) use drugs regardless of how they are treated. More insight is needed into the precise effects of procedural justice and the type of problematic behavior it results in. Furthermore, this thesis investigated the effects of procedural justice on prisoners' adjustment to life in prison, but did not examine the effects of procedural justice on prisoners' behavior after release. Based on procedural justice theory it is also predicted that an unfair and degrading treatment within prison will increase an offenders' post-prison delinquent behavior. Although several prison scholars have implied this association (Goetting & Howsen, 1986; Johnson, 1996; Liebling, 2004), up until now, empirical research is lacking. Future research on the effect of procedural justice in prison on re-offending after release is evidently needed.

Theoretical mechanisms

Although this thesis answered some important questions with respect to the determinants and consequences of procedural justice in prison, some unanswered questions regarding potentially explaining mechanisms remain. For instance, with regard to the determinants of procedural justice, this thesis showed that more female officers in a unit resulted in higher levels of perceived procedural justice among prisoners. Is it indeed the case that female officers display more social behavior than male officers, as was assumed based on social role theory and evolution theory (Eagly & Wood, 1999)? Or is it just the mere presence of female officers that changes the atmosphere in prison and possibly the manner in which (male) prisoners approach and evaluate officers? Furthermore, it was assumed that a higher officer-to-inmate ratio increases procedural justice perceptions because officers and prisoners have more time to interact and to bond. However, this mechanism was not directly investigated. With regard to the consequences of procedural justice, this thesis revealed that anger mediated the relationship between procedural justice and prisoner misconduct. Replications of the current study are necessary to see whether this mediating effect of anger is generalizable to other correctional settings and countries. Furthermore, other mediating factors can be important as well. For instance, procedural justice theory as formulated by Tyler (1990, 2003) proposes legitimacy as a mediator between procedural justice and compliance. In addition, it is still unknown what mechanism explains the relationship between procedural justice and prisoners' mental health.

Legitimacy does not seem to be a likely mediator in this association, but investigating the mediating effect of anger in this relationship would be an interesting avenue for future research, since some people may react to stressful situations by directing the provoked negative emotions towards themselves instead of others. In sum, unravelling the underlying mechanisms of the found effects in this thesis is an important task for future research.

Generalizability

Although the current study was large-scale and nationwide, it was conducted among adult male prisoners mainly incarcerated in Dutch pre-trial detention centers (at T1, all prisoners resided in a pre-trial detention center; at T2, 10% of the sample was transferred to a prison). Therefore, findings are not generalizable to the total Dutch correctional population. Besides the fact that female prisoners were excluded from the study, this thesis was largely based on prisoners who were detained in pre-trial detention centers. These prisoners are still awaiting their trial and find themselves in an insecure situation. As a result, they might perceive their treatment by correctional staff differently than convicted prisoners. Moreover, staff-prisoner interactions may objectively differ between prisons and pre-trial detention centers, as prisoners in prisons are allowed to spend more time outside their cells than prisoners in pre-trial detention centers, and therefore, have more opportunities to interact with staff. In addition, findings may not be generalizable to correctional practices in other countries. Despite some changes in the past decades, the Netherlands is still known for having a relatively mild correctional policy compared to many other countries (Dervan, 2011; Kruttschnitt & Dirkzwager, 2011). Dutch correctional facilities, for instance, do not face major overcrowding or understaffing, prisoners wear their own clothes, most prisoners reside in a single cell, and staff-prisoner relationships are usually characterized as informal and supportive. This relatively humane prison climate is supported by the results of this thesis because our sample of prisoners, on average, expressed neutral to slightly positive feelings about their treatment in the correctional facility. Thus, although results of this thesis are generally in line with prior research and theory, findings are solely generalizable to male prisoners in Dutch pre-trial detention centers (which is almost half of the total Dutch correctional population; Linckens & De Looff, 2012). Future studies replicating this study are necessary to conclude whether the results are generalizable to other correctional populations, settings and countries.

6.6 Policy implications

Results of this thesis have several implications for correctional policy and practice. First and foremost, findings stress the importance of a procedurally just prison climate. Results showed that considerations of fairness and respect are central in achieving and maintaining prison order, and are effective in decreasing psychological problems among prisoners. Thus, treating prisoners procedurally just “is not only the humane thing to do, it is the effective thing to do” (Johnson, 1996, p. 2). This thesis indicates that prison authorities can try to reduce prisoners’ misconduct and prisoners’ mental health problems by creating positive and constructive officer-prisoner relationships and treating prisoners with fairness and respect in prison. In general, procedural justice literature suggests that key elements in creating more fair correctional practices are: (a) giving prisoners the opportunity to state their case and highlight their view before decisions are made by staff, (b) staff should act based on rules and should consistently apply those rules without prejudice and bias, and (c) prisoners should be treated with respect and dignity (e.g. Jackson et al., 2010; Thibaut & Walker, 1975; Tyler, 2000; Tyler & Lind, 1992). In staff training, Prison Services and prison management could educate correctional officers on the importance of a procedurally just treatment of prisoners and on these strategies to increase fair and humane correctional practices. It must be highlighted that the finding that prisoners’ misconduct does not affect how prisoners perceive their treatment by correctional staff is encouraging. This suggests a professional and neutral approach by Dutch correctional staff, since they do not seem to treat those who behave well in detention differently than those who misbehave.

Besides these general elements of a procedurally just treatment, the correctional setting - where contacts between correctional authorities and prisoners exist for an extended period and on a daily basis - lends itself for other types of policy. Findings of this thesis revealed a number of contextual determinants of a procedurally just prison climate.

With respect to the composition of correctional officer characteristics, three suggestions can be formulated. First, it seems worthy for prison management to think about the right balance between male and female officers. Findings showed that there are units with only male officers. Especially in those units, it could be beneficial to add a female officer to the team. Second, in staff education and training, Prison Services and prison management could try to encourage officers to adopt a more rehabilitative approach. In the past years, this has been done by the Dutch Prison Service as part of the program ‘Modernization Prison System’. All correctional officers have been educated on the importance of rehabilitation, and have been trained in motivating prisoners to change their lives, in holding up a mirror to prisoners, and in helping prisoners to make plans for a conventional life without crime after release (Kamerstukken II,

vergaderjaar 2009-2010, 24 587, nr. 391; Krabbendam & Nelissen, 2012). Since the results in this thesis demonstrated differences between officers (and units) with respect to their attitude towards rehabilitation, it is important for the Dutch Prison Service to continuously stress and explain the importance of prisoner rehabilitation to their employees. Another strategy for the Dutch Prison Service could be to select and hire new officers who already support a rehabilitative and human service orientation. Third, results of this thesis encourage prison management to think about the right officer-to-inmate ratio and the workload of correctional officers. Findings indicate that officer-to-inmate ratio is positively related to prisoners' procedural justice perceptions. This suggests that it is important that officers have enough time to interact and built (respectful) relationships with prisoners. Unfortunately, recent developments in the Netherlands seem to be in the opposite direction. The announced 'Masterplan Prison Service 2013-2018' by the Dutch government proposes several measures to accomplish a large budget cut within the Dutch Prison Service (Dienst Justitiële Inrichtingen, 2013). One of the implications of this Masterplan is a substantial reduction in correctional staff as a result of reduced capacity by closing correctional facilities and introducing cheaper modalities, like higher levels of double bunking and a more austere regime (e.g. less daily activities and prisoners spending more time in their cells). In the light of the findings of this thesis, this reduction in correctional staff seems a concern as it may negatively affect a procedurally just treatment of prisoners, and, subsequently, may indirectly result in higher levels of misconduct and mental health problems among prisoners.

With respect to prison architecture, results of this thesis suggest two implications. First, the finding that campus and high-rise layouts are preferable to panopticon and radial layouts with regard to officer-prisoner relationships may be helpful to prison construction. Within the recently published Masterplan, the Dutch government revealed their intention to build one, to Dutch standards, rather large correctional facility housing more than 1,000 prisoners (Dienst Justitiële Inrichtingen, 2013). Since campus and high-rise institutions have in common that they are characterized by small units with a direct line of sight, results of this thesis suggest the significance of small units with good visual access within this planned new facility. Second, it seems useful to reconsider the use of double bunking and the scale of this. Although the Netherlands had a long tradition when it comes to single cells, double bunking was introduced in 2004, and, within the recently published Masterplan, the Dutch government announced their intention to drastically increase the number of double cells. At the time of the current study (2010-2011), on average 15% of the total capacity was reserved for double bunking, whereas in the near future this is scheduled to be increased up to 50% (Dienst Justitiële Inrichtingen, 2013; Inspectie voor de Sanctietoepassing, 2011). In light of the findings of the current study, this seems

alarming. Double cells can be counterproductive when it comes to officer-prisoner relationships, while these relationships seem crucial for the manageability of prisons.

Lastly, two remarks on the scope of a procedurally just treatment of prisoners must be made. First, it is important to stress that treating prisoners fairly and respectfully is not about giving prisoners everything they want and pleasing prisoners (Bottoms, 1999; Jackson et al., 2010; Sparks et al., 1996). By no means, it is about providing prisoners luxuries or approving far-fetched requests of prisoners. Instead, it entails the general moral obligation to treat prisoners with respect for their human dignity, which is grounded in the European Prison Rules of 2006 (<https://wcd.coe.int/ViewDoc.jsp?id=955747>) and many mission statements of national Prison Services in North-American and European countries (<http://www.justice.gov.uk/about/hmps>; Dutch Prison Service, 2009; Gaes et al., 2004). As Sparks and Bottoms (1995, p. 60) pointed out, it is about a life in prison without “brutality, racist jokes, demeaning remarks, ignored petitions and complaints, unwarranted bureaucratic delays, and arbitrary decisions to segregate or transfer without giving clear and well founded reasons”.

Second, it must be recognized that, although a procedurally just treatment of prisoners is a core component of a humane and decent prison climate, other aspects of life in prison are important as well. Several authors have suggested that a number of policies can be enacted to create more humane and moral correctional practices (D. Franke et al., 2010; Jackson et al., 2010; Liebling, 2004). For instance, opportunities for personal development, visiting possibilities, a constructive daily program (including work, sports and outdoor recreation), and a safe environment all contribute to a humane prison climate. Consequently, for creating a humane and decent prison climate, one should look beyond procedural justice, and thus beyond the fairness of decision making and the quality of interpersonal treatment.