Reward systems in prison

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6 General Discussion

6.1 Introduction

In 2014, the Netherlands implemented a reward system throughout its entire prison system: The system of Promotion and Demotion (*Promoveren en Degraderen*) (Van Gent, 2013). Reward systems in prisons (RSPs) aim to change behaviour of incarcerated individuals by systematically rewarding compliant behaviour and punishing non-compliance. This Dutch system was the object of the current dissertation. Even though the Dutch reward system has been in operation for nearly ten years, its working mechanisms, application and effects remain unclear (RSJ, 2020). This is unfortunate, as both criminological scholars and national advisory bodies have expressed serious concerns regarding all three of these system elements.

First, scholars have questioned the degree to which criminological theory can support the assumption that extrinsic motivation is an adequate source of behaviour change (Boone, 2012; 2013; Van Ginneken, 2018). A poorly designed programme theory can result in ineffective policy or even adverse outcomes (Donaldson & Lipsey, 2006). Second, national reports have indicated that the application of the Dutch system poorly corresponded to its policy framework (Dutch Inspectorate of Justice and Security, (IJV), 2018; the Dutch advisory Council for the Administration of Criminal Justice and Youth Protection, (RSJ), 2019; 2020). Poor programme delivery, however, can also frustrate reaching programme objectives (Andrews & Bonta, 2010). Third, the degree to which all incarcerated individuals can equally benefit from the system has been questioned. Many incarcerated individuals experience difficulties with self-governance (e.g., Den Bak et al., 2018; García-Largo et al., 2020; Kaal, 2016; Kaal et al., 2011). These incarcerated individuals could be less successful in meeting behavioural demands (Crewe, 2011b; Hutton, 2017; Van Ginneken, 2018), frustrating their ability to obtain a reward status and engage in courses on, for instance, rehabilitation. These concerns are especially pressing considering the increasing importance which is attached to reward status in Dutch prisons. For instance, following the enactment of the Punishment and Protection Act (*Wet Straffen en Beschermen*) in 2021, reward status over the course one's imprisonment is a prerequisite for being allowed to go on leave and for conditional release.

Considering the widespread use of rewards in prison contexts, the fact that reward systems in prison are invasive, yet understudied, and no empirical studies to date have been conducted on the Dutch reward system,

this dissertation on the (supposed) functioning of the system of the Dutch reward system in prison was therefore very timely and necessary. The aim of this study was to answer the following question: *What are the programme theory, application and effects of the Dutch reward system in prison?* This question was divided into four research questions, which were addressed by conducting a plan evaluation, a systematic literature review, a process evaluation, and an impact evaluation:

1. What is the programme theory of the Dutch reward system in prison, as it was implemented in 2014?
2. What is known about the effects of reward systems in prison on the behaviour and attitudes of incarcerated individuals?
3. To what extent is reward status predicted by (a) behaviour, (b) self-governance ability, and (c) motivation?
4. 1. To what extent do incarcerated individuals with a reward status also receive rewards (objective autonomy)?
   2. To what extent do rewards increase a sense of autonomy (that is, both an increase in subjective autonomy satisfaction and a decrease in autonomy frustration)?
   3. To what extent do the relationships mentioned in research questions 4.1 and 4.2 depend on incarcerated individuals' self-governance ability?

6.2 Summary of Main Findings

6.2.1 Main Conclusions

Findings from Chapter 2 indicate that causal assumptions central to programme theory of the Dutch reward system in prison are only partially supported by scientific literature. Moreover, individual and contextual factors theorised to be influence reward system in prison effectiveness were overlooked. Findings from Chapter 3 indicate that the available research on reward systems in prison suggested that both individual factors (e.g., self-governance ability) and contextual factors (e.g., type of reward, legitimate application) can influence the effects of reward systems. Unfortunately, these studies are limited in quantity and methodological quality. Findings from Chapter 4 indicate that the strongest predictor of obtaining a reward status was misconduct – despite system policy dictating that compliance should be leading in granting rewards. Moreover, intrinsic motivation was shown to predict an increase in compliance, whilst extrinsic motivation was found to increase misconduct. Moreover, the Dutch system appears to be applied (or experienced) differently than policymakers had intended, as not all rewards are available to incarcerated individuals with a reward status and that they are also not exclusive to this group. Perhaps most important, the system appears to disadvantage incarcerated individuals low on self-

governance ability, as these individuals are less likely to obtain a reward status. Finally, findings from Chapter 5 indicate that obtaining the rewards of the Plus programme is associated with a subjective sense of autonomy, irrespective of incarcerated individuals' level of self-governance ability. However, analyses also revealed that rewards were not exclusively and systematically reported by incarcerated individuals with a reward status. Instead, incarcerated individuals with and without a reward status reported equal (low) prevalence of four rewards. The main findings of each chapter are described below in more detail.

6.2.2 Plan Evaluation (Chapter 2)

This chapter addressed the research question: *What is the programme theory of the Dutch reward system in prison, as it was implemented in 2014?* This research question was answered by reconstructing the programme theory of the system of Promotion and Demotion, through collecting and systematically analysing policy documents (N = 12). Results indicated that the target audience of the Dutch system comprised of all sentenced incarcerated individuals residing on regular units – who make up a large part of the Dutch prison population. According to policy documents, the means which can be used to affect behaviour of incarcerated individuals were reward (removal) and motivational interviewing. In total, 24 assumptions on causal relationships between means and goals were found, ten of which were assessed on the degree to which they are supported by scientific evidence.

Three main conclusions were drawn from this reconstruction and appraisal. First, it was a hardship to deduct assumptions on causal relationships from policy documents, as key concepts were ill-defined, and documents did not articulate a clear (visual nor textual) programme theory. Second, prominent assumed causal relationships were overly simplistic and/or lacked empirical support. For instance, empirical studies indicate that individual and contextual factors, on multiple dimensions, and in concert, determine the degree to which rewards can effectively promote behaviour change (e.g., Liebling, 2008). Examples of such factors are the time interval between behaviour and reward reception, attractiveness of rewards and procedurally legitimate system application. These factors were partially discarded in policy documents, potentially frustrating the likelihood and extent to which rewards can influence behaviour of incarcerated individuals. Third, how the system aimed to consider the self-governance ability of incarcerated individuals was largely unclear. Based on these implications, it was concluded that the system of Promotion and Demotion is likely to fail to adequately account for the heterogeneity of its intended target population, especially incarcerated individuals low on self-governance ability.

6.2.3 Systematic Literature Review (Chapter 3)

This chapter aimed to answer the second research question: *What is known about the effects of reward systems in prison on incarcerated individuals' behaviour and attitudes?* To answer this research question, an extensive systematic literature review was conducted. The database search resulted in 2415 hits, which were narrowed down to 21 studies. The results of a synthesis and critical appraisal of these 21 studies indicated that three types of studies could be distinguished. Type-1 studies (N = 9) included studies on experimental token economies conducted in the 1960s-1970s. Type-2 studies (N = 8) included studies on contemporary, non-experimental reward systems in prison. Type-3 studies (N = 4) were all qualitative studies on contemporary reward systems in prison.

The primary conclusion of this systematic literature review was that the empirical body of literature on these reward systems in prison is limited in both quantity and methodological quality. Indicative of this is the small number of studies found, and the fact that they were often dated. Critical appraisal of methodological quality using validated instruments (Cook & Campbell, 1979; Critical Appraisal Skills Programme, 2018) revealed that overall study quality was low for quantitative studies, yet high for qualitative studies. These qualitative studies indicated that several individual and contextual factors can impact compliance of incarcerated individuals and behavioural change among participants, such as a pain of self-government, perceived legitimacy of system application, and reward attractiveness. As incarcerated individuals can differ in these respects, heterogeneous effects are to be expected when applying reward systems in prison on a large scale. Considering their widespread use and invasive nature, additional research on the application and effects of reward systems in prison was warranted. To that end, subsequent studies empirically examined predictors or progression in the Dutch reward system in prison (Chapter 4) and effects of obtaining a reward status on autonomy, whilst accounting for self-governance of incarcerated individuals (Chapter 5).

6.2.4 Process Evaluation (Chapter 4)

This chapter concerned the third research question: *What is the relationship between reward status and (a) behaviour, (b) self-governance ability, and (c) motivation?* This question was answered by conducting a process evaluation. This process evaluation empirically tested to what extent the application of the Dutch reward system in prison corresponds to its programme theory, especially regarding the extent to which behaviour, self-governance ability and motivation predict obtaining reward status. This research question was answered using survey data (N = 1011) of the large-scale Dutch Life in Custody study (wave 2022) (Van Ginneken et al., 2018). Novel was the

use of a self-report instrument aimed to measure incarcerated individuals' self-governance ability: the Leiden Self-Governance Ability Scale (LSGAS).

Three main conclusions were drawn regarding the relationship between reward status, behaviour, self-governance ability, and motivation. First, the Dutch reward system in prison appeared generally effective in awarding reward statuses to compliant incarcerated individuals, whilst withholding reward status from non-compliant incarcerated individuals, as the 81% of our sample reported to have a reward status reported significantly less misconduct and more compliance. Misconduct was the primary predictor of reward status. Second, incarcerated individuals low on self-governance ability appeared to be disadvantaged by the Dutch system, as they were less likely to comply and thus obtain a reward status. This also held true for incarcerated individuals who were less intrinsically motivated. Third, intrinsic motivation to comply seems to be the strongest predictor of compliance, whilst extrinsic motivation (operationalised as coercion, punishment, and anxiety of reward loss) is associated with aversive effects (i.e., misconduct). These findings cast serious doubts on the efficacy of extrinsic motivation to promote compliance of incarcerated individuals and put forward intrinsic motivation as an overlooked asset to achieve compliance.

6.2.5 Impact Evaluation (Chapter 5)

This chapter addressed the fourth and final research question, which was subdivided into three coherent questions: *1. To what extent do incarcerated individuals with a reward status also receive rewards (objective autonomy)? 2. To what extent do rewards increase a sense of autonomy (that is, both an increase in subjective autonomy satisfaction and a decrease in autonomy frustration)? 3. To what extent do the relationships mentioned in research questions 4.1 and 4.2 depend on incarcerated individuals' self-governance ability?* The goal of this study was to assess the extent to which rewards were associated with an increase in incarcerated individuals' (subjective) autonomy, and the degree to which this effect varied between incarcerated individuals with self-reported high and low levels of self-governance ability. To answer these questions, the same survey data and sample was used, as was used to answer the research question in the previous chapter.

Three main conclusions were drawn from this final study. First, there appeared to be a disparity between the programme theory and system application. Incarcerated individuals with and without a reward status significantly differed with respect to only three rewards (freedom during work assignments, free movement between activities, and evening programme twice a week). This could either be explained by the perception and experiences of incarcerated individuals, or flawed system application. Second, the rewards used in the Dutch reward system in prison were associated with an increase incarcerated individuals' subjective autonomy, which has been repeatedly theorised and empirically found to predict intrinsic motivation

to change behaviour. As rewards were not found to frustrate subjective autonomy, these findings also seem to suggest that extrinsic and intrinsic motives of incarcerated individuals to comply, can co-occur instead of being mutually exclusive. Finally, findings suggest that incarcerated individuals who are low on self-governance ability, and successfully obtain a reward status, can also benefit from more objective autonomy. However, this effect is possibly overestimated due to the nature of rewards measured, which – at face value – require few skills (e.g., being allowed to leave the cell for two evenings). It remained unclear to what extent these incarcerated individuals also possess the necessary self-governance ability to employ other rewards, such as pursuing a (vocational) education, without support or adjustments of such activities. Finally, it should also be kept in mind that the prior study (Chapter 4) indicated that incarcerated individuals low on self-governance ability were less likely to obtain reward status in the first place.

6.3 Implications for Theory on Reward Systems in Prison

Above all, this dissertation illustrated reward systems in prison are under theorised. Due to their limited explanatory power, go-to models for effective correctional interventions could not generate useful hypotheses on potential causal mechanisms between motivation, abilities and behaviour (Ward, 2019; Ward & Durrant, 2021). Even explanatory theories underpinning these models could not adequately explain how systems in prison operate. For instance, principles of operant conditioning are 'atheoretical' (Gendreau & Listwan, 2018, p. 37) and disregard cognitive factors to a large extent. Considering the impact reward systems in prisons have on behaviour of incarcerated individuals and society at large, there is a need to advance theory on this topic. By doing so, mixed effects of reward systems in prison (see Chapter 3) might be explained, and policymakers can be informed on how to design programme theories for reward system in prison. In the current dissertation, theoretical advancement on reward systems in prison was aimed for by (1) consulting the Self-Determination Theory (Ryan & Deci, 2000a; 2017), (2) refining the programme theory of the Dutch reward system in prison, and (3) developing the concept of self-governance ability, in relation to reward systems in prison. In the following paragraphs, all three aspects are addressed in more detail.

6.3.1 Contribution of Self-Determination Theory

Even though models for effective correctional interventions stress the importance of both extrinsic and intrinsic motivation in behaviour change, they do not explain *how* extrinsic and intrinsic motives to change behaviour relate to one another in a prison context (Ward, 2019). Therefore, this study adopted the framework of the Self-Determination Theory (Ryan & Deci,

2017) to answer research questions on the relationship between rewards (extrinsic source of motivation) and subjective autonomy (intrinsic source of motivation) (Chapter 5). Although this theory is seldomly used in prison research (for exceptions see Petrich, 2020; Van-der-Kaap-Deeder et al., 2017; 2019), it purports to be universal and can thus be applied to prison settings (Ryan & Deci, 2017). According to this theory, intrinsic motivation can be promoted when the basic psychosocial human needs of autonomy, competence and connectedness are satisfied. In addition, the theory argues that the satisfaction of basic psychosocial human needs, and thus intrinsic motivation, can be frustrated by extrinsic sources of motivation, such as rewards, punishments, and deadlines (Deci et al., 1999; Ryan & Deci, 2000a). It was hypothesised, therefore, that the system of Promotion and Demotion would frustrate the satisfaction of incarcerated individuals' need for autonomy.

The current study did not confirm the hypothesis that anxiety of reward loss frustrates subjective autonomy of incarcerated individuals. Instead, incarcerated individuals who reported more rewards also reported an increase in autonomy satisfaction and a decrease in autonomy frustration (Chapter 5). Rewards, as used in the Dutch system, thus seem to be able to contribute to incarcerated individuals' subjective autonomy. Several explanations for this finding were provided in Chapter 5. In addition to those explanations, it must be noted that demotions to the Basic programme are not frequent (IJV, 2018; RSJ, 2019). This could affect the extent to which incarcerated individuals experience anxiety. When demotion would be more frequent, anxiety could be greater and, in turn, its potential mediating effect on the relationship between rewards and subjective autonomy too. The provided explanations all require further research.

In conclusion, the Self-Determination Theory was able to provide hypotheses on the relationship between rewards, basic psychosocial human need satisfaction and behaviour, which dominant rehabilitation models could not. Therefore, future research on reward systems in prison is advised to keep consulting explanatory theories of behaviour change of incarcerated individuals, instead of abstract theories. One such theory could be Self-Determination Theory, which presents an adequate multidisciplinary framework to categorise and explain relationships between typologies of motives for compliance in (reward systems in) prison (Bottoms, 2002; 2012; Crewe, 2013; 2022; Crewe & Ievins, 2020; Khan, 2022; Liebling et al., 1997; Sparks et al., 1996; Sykes, 1958).

6.3.2 Refining the Programme Theory

As the Dutch reward system in prison lacked a clear programme theory, we started by reconstructing an initial rough programme theory (see Figure 2.2). After conducting this dissertational study, this model can now be refined. The refined model (1) incorporates the theoretical and empirical support for the most prominent causal assumptions, and (2) contains

additional variables that could affect the program's mechanisms. In Figure 6.1[1], it is indicated which causal assumptions of policymakers are well-supported by empirical research and theory (green arrows), which hypotheses require additional theoretical and/or empirical support (orange arrows), and which causal assumptions are not supported or are found to be ineffective (red arrow). We discuss three important advancements compared to the initial rough programme theory.

First, we found that extrinsic motivation (i.e., coercion and anxiety) was unrelated to compliance, yet predicted increases in misconduct (arrow 9; see Chapter 4). This result echoes prior findings suggesting that psychological pressure to comply can lead to resistance (Liebling et al., 1997), but not in all individuals (Crewe, 2011b; 2022; Crewe & Ievins, 2020). Finding that experiences of coercion and anxiety predict non-compliance and misconduct can be explained by Self-Determination Theory (Ryan & Deci, 2000a). This theory posits that feeling externally pressured to comply diminishes intrinsic motivation to comply, through suppressing basic psychosocial human needs.

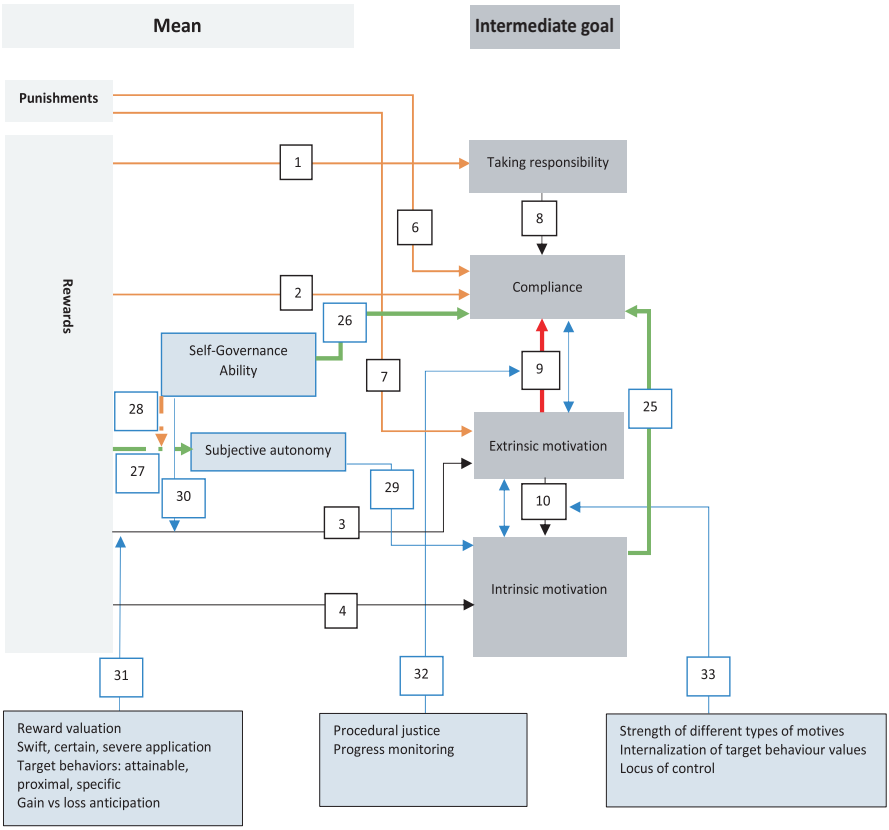
Second, it was hypothesised based on Self-Determination Theory that incarcerated individuals' experience of autonomy underlies the assumed relationship between rewards and intrinsic motivation (Ryan & Deci, 2000a; 2017). This hypothesis was not part of the initial rough programme theory. Findings from the impact evaluation illustrated that, indeed, rewards can contribute to incarcerated individuals' subjective autonomy (Chapter 5). In turn, autonomy satisfaction and frustration were found to predict intrinsic motivation in additional, unreported analyses. This is in line with theorising of the Good Lives Model (Purvis et al., 2011) and research based on Self-Determination Theory in non-prison populations, repeatedly finding a strong relationship between autonomy and intrinsic motivation (Ryan & Deci, 2017).

Third, it was hypothesised that incarcerated individuals require certain skills to be able to meet behavioural demands and rationally outweigh rewards and costs. This hypothesis was based on prior research on incarcerated individuals with an intellectual disability in Dutch and English prisons (Kaal et al., 2011; Talbot, 2010), social (cognitive) learning theories (Bandura, 1977; 1986), descriptive principles of effective correctional interventions (Risk-Need-Responsivity (RNR); Good Lives Model (GLM)), and indications from prior research (Crewe, 2011b; Hutton, 2017). Therefore, the refined model of the programme theory of the Dutch reward system additionally included self-governance ability of incarcerated individuals. This hypothesis was confirmed in Chapter 4, as greater self-governance ability was found to be related to greater compliance and less misconduct. This finding underscores the importance of responsivity: matching correctional interventions and target groups. Mixed findings from prior studies on

1 Figure 6.1 does not include the complete rough programme theory presented in Figure 2.2 in Chapter 2. This refined model of the programme theory only includes tested hypothesised assumptions and newly emerged hypotheses.

reward systems in prison (see Chapter 2) already suggested that differential system effects could be caused in part by target group heterogeneity (e.g., Liebling et al., 1997).

Figure 6.1
Refined programme theory



However, studying how personal characteristics influence system outcomes was largely uncharted territory (Gendreau et al., 2014).

Finally, over the course of this dissertation, new hypotheses on variables that could hypothetically mediate, or moderate causal assumptions also emerged (blue arrows 25-33). These new hypotheses are by no means exhaustive and call for empirical validation. For instance, it is hypothesised based on Self-Determination Theory that extrinsic motivation can evolve into intrinsic motivation, by internalising the norms and values inherent to the behaviour which is demanded of incarcerated individuals (Ryan & Deci, 2000a; 2017). When incarcerated individuals begin to understand that compliance with behavioural demands is in their best interest, they might develop intrinsic motives to comply. This is, however, not a mind game. Understanding that compliance is in one's interest also entails reshaping

behavioural demands in such a way that they truly are (also see Paragraph 6.5.3). How extrinsic and intrinsic motivation in the prison context exactly relate, is a topic for future inquiry.

In conclusion, by refining the programme theory, it was aimed to primarily contribute to theorising about the *Dutch* reward system in prison. Additionally, this effort aimed to inspire developing and testing programme theories of reward systems in prison in other jurisdictions. This is meaningful, as previous accounts of (re)constructing and testing programme theories on reward systems in prison in other jurisdictions are extremely scarce (Liebling et al., 1997). The benefit of this contribution hopefully also extends to prison policy. Policymakers may use the hypothesised working mechanisms of the Dutch reward system in prison to develop a theory of change for their own system – whilst accounting for differences in context, system elements, and intended target group. The very construction of a programme theory can potentially help policymakers to a priori become aware of and differentiate between causes of non-compliance. These insights, in turn, can help to navigate policy decisions towards addressing and facilitating modifiable causes of behaviour change, and set priorities for the allocation of financial resources (Mears, 2016; Sampson, 2013). For instance, policymakers can decide to screen for motivation and lack of self-governance ability, starting with non-compliant incarcerated individuals. Next, practitioners could tailor approaches to the identified sources of non-compliance, such as identifying what *would* motivate change or directing incarcerated individuals to courses aimed at enhancing their self-governance ability.

6.3.3 Conceptual Analysis of Self-Governance Ability

A final theoretical contribution of this dissertation is developing the concept of self-governance ability. Self-governance ability can be understood as all personal skills required to initiate, manage, and monitor behaviour. It was relevant to operationalise and analyse this concept because a large proportion of the (Dutch) prison population experiences difficulties in self-governing their behaviour (Den Bak et al., 2018; García-Largo et al., 2020; Kaal, 2016) and a reward system in prison demands of incarcerated individuals to self-regulate their conduct (Crewe, 2022). It is therefore plausible that self-governance ability plays a role in the effectiveness of reward systems in prison. This hypothesis is seemingly in line with rehabilitation models that prescribe that interventions should match personal characteristics of incarcerated individuals ('specific responsivity' (Andrews & Bonta, 2010, p. 507); 'internal capacity' (Purvis et al., 2011, p. 8)). Yet these latent constructs are general: it is not possible to infer from them for whom and how an intervention should be adapted (Ward & Durrant, 2021). Unsurprisingly then, customising interventions to the characteristics of individual offenders is perceived as difficult by practitioners (Viglione, 2018). In a sense, self-governance ability could be seen as a specification of these constructs.

To operationalise self-governance ability, the Leiden Self-Governance Ability Scale (LSGAS) was developed specifically for this study. The face validity of this instrument is good, as it is rooted in theory on cognition, intelligence, definitions of mild intellectual disability and self-governance ability, and existing instruments used to measure cognition and social adaptive ability, among others (Chapter 4). The added value of the LSGAS over existing instruments is that this scale is suitable for large-scale survey research among incarcerated individuals. The scale is compact (14 items) and reliable ($\alpha = .81$). Moreover, the scale proved suitable for incarcerated individuals who experience difficulty with self-governance ability. As such, the LSGAS can potentially be a valuable tool for prison researchers. Further psychometric research is needed, however, to better assess the scale's validity and applicability in other prison contexts.

Conceptualising, measuring and addressing the role of self-governance ability in prison is timely, as one of the urgent issues in correctional rehabilitation is to identify what works *for whom* and individualise treatment (Sampson et al., 2013). Failing to address the role of self-governance ability in prison policy '[…] can be extraordinarily demoralizing for those who come to believe that no matter how hard they try, ultimately their efforts will have little bearing on their progress through the system' (Ward et al., 2022, p. 116).

6.4 Limitations and Future Research

6.4.1 Limitations

This study has generated important new insights in how reward systems in prison operate, by closely examining a Dutch reward system in prison. Nevertheless, this study has several limitations, three of which are outlined below.

First, a cross-sectional research design was used for studies reported in Chapters 4 and 5. The choice for this design was motivated by the exploratory nature of the studies, the targeted sample size, available financial resources, and practical feasibility in the aftermath of the Covid-19 pandemic. Despite being the most prevalent design in criminology (Weisburd & Piquero, 2008), cross-sectional research designs have inherent limitations. The most important one is that no temporal (and thus causal) inferences can be drawn from data collected at the same time. The extent to which, for instance, compliance was truly *caused* by extrinsic and/or intrinsic motives (Chapter 4) is therefore difficult to assess. This common methodological limitation is important to note here because relationships between personal characteristics and attitudes on the one hand, and behaviour on the other, are theorised to be reciprocal (Bandura, 1986). For example, extrinsic motives for compliance can in theory be replaced by intrinsic motives (Frey, 1997), intrinsic motives can frustrate and be replaced by extrinsic motives

(Ryan & Deci, 2017), or extrinsic motives can co-exist with and even spur intrinsic motives (Woolley & Fisbach, 2018; Fisbach & Woolley, 2022). Those attitudinal changes can be spurred by behaviour. For instance, performing compliant behaviour could function as a facilitator of getting acquainted with the norms that underly such behaviour, coming to terms with them (identification), and perhaps even accepting them (integration) (Ryan & Deci, 2017; also see Bottoms, 2002).

Second, the degree to which the results of the current study can be generalised to different target groups and prison contexts can be questioned. First of all, on the upside, the large sample (N = 1011) mentioned in Chapters 4 and 5 is likely to be representative of all incarcerated individuals housed on general Dutch prison units to a large extent. Contributing to this, is that the prisons selected for these studies were diverse in size (small, medium, large) and geographical location (six Dutch provinces). On the downside, the average time served of this sample was, however, much longer than the average prison sentence. This limits the generalisability of findings towards short-sentenced incarcerated individuals. Moreover, this sample did not include female incarcerated individuals. From the studies included in our systematic review, there is no clear indication that there were differential effects for male and female offenders (Chapter 3). However, those studies were small-scale, methodologically flawed, and only few included female offenders. Moreover, there is some reason to believe that the causal mechanisms that underly reward systems in prison, however, might work out different for male and female offenders (e.g., rewards are extrinsically motivating). There is some empirical evidence from small-scale, qualitative probation studies that male offenders are motivated relatively more by extrinsic motives, whilst female offenders more frequently report intrinsic (normative) reasons to comply with probationary rules (Gelsthorpe, 2013). Whether this difference would also emerge among offenders participating in reward systems *in prison*, however, is unclear.

Another possible limitation on generality relates to context. For instance, our systematic literature review found that some empirical studies suggest that the degree to which incarcerated individuals comply and successfully obtain a reward status, could be influenced by procedural legitimacy (see Chapter 3). Arbitrary system application (Liebling, 2008; Liebling et al., 1997) could severely frustrate incarcerated individuals' perception of staff legitimacy, which could frustrate normative motives to comply (Bottoms, 2001; Tyler, 2006). Simultaneously, not receiving anticipated rewards (of which we found glimpses in Chapter 4) could frustrate incarcerated individuals that comply out of instrumental motives. This suggests that when prison staff deviate from the policy guidelines, which has also previously been found regarding the Dutch reward system in prison (IJV, 2018; RSJ, 2019), this could frustrate the systems' working mechanisms by affecting motives to comply.

This reservation on generality also extends to the seemingly similar *Incentives and Earned Privileges scheme*, operational in England and Wales.

The Dutch system and the Incentives and Earned Privileges (IEP) scheme use seemingly similar rewards, but there are important contextual differences. We turn back to the example of legitimacy. Staff-incarcerated individual relationships in England have been characterised by being unresponsive, detached, and inclined to punish, whilst prison staff in the Netherlands have been characterised by incarcerated individuals as fair, helpful, informal, and less authoritarian (Dirkzwager & Kruttschnitt, 2012). Such differences might in part relate to the partial privatisation of prisons in the United Kingdom, which is unknown to the Netherlands. Such relational differences are likely to be associated with differences in incarcerated individuals' perceptions of staff legitimacy, which boil down to respect, neutrality, voice and trustworthiness (Tyler, 1990; 1997). In turn, lack of perceived legitimacy has been found to frustrate compliance in Australian prisons (Barkworth, 2018), whilst perceived legitimacy was found to reduce resistance of incarcerated individuals, disengagement and game-playing (Barkworth & Murphy, 2019). These studies did not concern a reward system in prison. However, lack of perceived legitimacy was one of the explanations opted to explain increases in misconduct and lack of increases in compliance upon introduction of the IEP scheme (Liebling, 2008; Liebling et al., 1997).

Third, data used to answer research questions 3 and 4 were quantitative. The answers to those research questions, however, also call for qualitative follow-up research. Here, I consider the two questions relating to reward system application and the relationship between self-governance ability and compliance. We started off holding the presumption that, overall, incarcerated individuals who had obtained a reward status were also, in fact, provided rewards they have the right to receive. However, as reported in Chapter 5, it was found that incarcerated individuals with and without a reward status reported only few differences in the number of rewards they were provided. We can think of multiple reasons to explain this finding. For instance, incarcerated individuals could be ill-informed about their reward status or about how to access certain rewards, prison staff could (un)intentionally differentiate in allocation of specific rewards, or some incarcerated individuals might obstruct other incarcerated individuals in employing their rewards, among other hypotheses.

Furthermore, we can draw on theory and prior empirical studies to try to explain why self-governance ability was predictive of compliance (Chapter 4). For instance, drawing on prior qualitative research in Dutch prisons, we could hypothesise that incarcerated individuals low on self-governance ability have a greater tendency to withdraw from social situations because they distrust prison staff and are generally hesitant to tell them about their needs (Kaal et al., 2016). Withdrawal, in turn, could make it even more difficult for prison staff to notice and reward incarcerated individuals' possibly compliant yet covert behaviour – as was mentioned in interviews with 16 male incarcerated individuals participating in the IEP scheme (Khan, 2022). These hypotheses call for future empirical research.

6.4.2 Future Research

Future research could overcome the limitations in multiple ways. Limitations inherent to cross-sectional research designs can be addressed by using randomised controlled trials (RCTs). Measuring change within persons over time could allow for more robust conclusions on the degree to which, for instance, compliance is *caused* by extrinsic and/or intrinsic motives, and how those motives relate (Chapter 4). Such an empirical test is advised, as the relationship between motives to comply and compliance is likely to be more intricate than the cross-sectional data collected for this dissertation is able capture. For instance, due to a lack of pre-measurement, we were unable to measure baseline levels of intrinsic and extrinsic motivation.

Furthermore, such a comprehensive research design could also account for frequency, timing and reasons for promotions and demotions, therewith mapping how formal decisions affect changes in motives. On a practical note, it will be difficult to establish neutral motivation baselines. A pre-measurement of motivation would have to be conducted before incarcerated individuals are allocated to a regular prison unit (i.e., following arrest or in pre-trial detention). However, the days after an arrest are usually characterised by uncertainty and stress, which can influence motivation baseline levels. Moreover, incarcerated individuals in pre-trial detention are not sentenced (yet), but when they are, their behaviour determines whether they start off on a regular unit with or without a reward status. It is clear, then, that such a baseline level is not neutral, and that using pre-trial detention incarcerated individuals as a comparison group has unique challenges.

To address limits on generalisation, future research could replicate the current study in other jurisdictions. It is advised to account for differences in system, target group and context during sampling and analysing. Similarities and differences in reward system design (e.g., immediacy of rewarding, type of reward, legitimate application), characteristics of the target groups (e.g., sex, ability to self-govern behaviour), and important contextual factors (e.g., staff-incarcerated individual relationships) should, therefore, be mapped. This is important, not only because different system designs might draw upon different social, cognitive and behavioural mechanisms (e.g., punishment versus reward), but also because individual and contextual factors can interfere with the activation of such mechanisms (Pawson & Tilley, 1997).

Future qualitative research could advance the current dissertation by mapping explanations for finding that (i) some rewards appear to be granted to incarcerated individuals only marginally, and (ii) incarcerated individuals with a reward status only receive some rewards significantly more often than incarcerated individuals without a reward status (Chapter 5). One question to explore is the degree to which the current system is doable. A good programme theory should be plausible, testable, and doable (Connell & Kubisch, 1998). Doable refers to allocating sufficient economic, technical, political, institutional, and human resources to the programme to

carry it out according to plan. The degree to which the system of Promotion and Demotion is currently doable can be questioned. National reports have indicated that staff shortages and lack of staff training are highly prevalent in Dutch prisons, contributing to a lack of supervision, observation and adequate reporting on behaviour of incarcerated individuals (IJV, 2018; RSJ, 2019).

The current study also found indications that prison staff deviate from policy (see (i) and (ii)). Moreover, unreported analyses show large differences between prisons, and even units, in how rewards are distributed among incarcerated individuals with and without a reward status. This suggests that local, institutional context could play a role in programme delivery. The degree to which this difference is directly related to in shortages in time, staff, and training, is unclear. Future qualitative research could examine how previously indicated institutional challenges (shortages in time, staff, and training) affect programme application, 'activation' of mechanisms, and outcomes (see Figure 6.1). Also, alternative explanations for deviations should be examined. For instance, perhaps policy is bent or broken by prison staff to build rapport and maintain 'good' staff-incarcerated individual relationships, or to prevent incarcerated individuals low on self-governance ability to be disadvantaged even more then they currently are.

6.5 Implications for Policy and Practice

6.5.1 Increase System Responsivity

Above all, this dissertation indicates that motivation alone is insufficient to change behaviour and to succeed in a reward system in prison. Illustrative of this is finding that self-governance ability predicts compliance, misconduct and reward status (Chapter 4). This means that incarcerated individuals who experience difficulty reading and planning, and other personal skills necessary to self-govern behaviour, are less likely to obtain rewards. The concerns scholars in the recent past have voiced about the Dutch system being ill-suited for incarcerated individuals low on self-governance ability thus seem to be valid (Boone, 2012; 2013; Van Ginneken, 2018). If low self-governance ability is truly contributing to non-compliance, then it is unlikely that punishing their non-compliance enables these individuals to learn how to act instead. In fact, their problems can even be exacerbated, as experiences of repeated goal attainment failure can demoralise (Schunk, 1990; Ward et al., 2022) and decrease self-efficacy (Bandura, 1989; Ryan & Deci, 2017). Recommendations should therefore also focus on altering the system to match the self-governance ability of incarcerated individuals. Three possible ways to achieve this is by experimenting with reducing the number of stressors, tailor behavioural demands and reward procedures, and adequately train staff to focus on motivation and ability rather than behaviour.

Only few studies examined what works in treating incarcerated individuals low on self-governance ability, none of which explicitly concerned reward systems in prison (Snoyman et al., 2019). However, there are some specific vantage points to improve reward systems in prison for this target group, such as alleviating stress, as stress can lead to conflict and non-compliance (Kaal et al., 2011). Reducing stress in reward systems in prison can generally be achieved by increasing predictability and legitimacy of decisions on reward allocation (Crewe, 2009; 2011; Gendreau et al., 2014; Shammas, 2014; 2018), and by (unconditionally) promoting autonomy (Vollaard et al., 2019). As incarcerated individuals low on self-governance ability are likely to be clustered in the Basic programme (Chapter 4), and incarcerated individuals in that programme report higher levels of stress (Zaalberg et al., 2020), reducing stress in that programme is a suitable and effective starting point.

Moreover, tailoring behavioural demands to characteristics of incarcerated individuals should be piloted. The degree to which demands are currently tailored to personal characteristics of incarcerated individuals, for instance in individual sentence planning, is unclear. Specifically for incarcerated individuals low on self-governance ability, however, the number of behavioural demands should be small and comprehensible (Marlowe, 2006). Behavioural demands should also be formulated specific, simple and factual, as complex wording may create uncertainty and frustrate participants (Crewe, 2011b; Liebling, 2008; Schunk, 1990), especially for incarcerated individuals low on self-governance ability (Gonçalves et al., 2014). Tailoring behavioural demands to personal characteristics should also aim to contribute to setting attainable goals, which can in turn minimise experiencing failure and demoralisation (Ward, 2022), and increase self-efficacy (Bandura, 1989; Ryan & Deci, 2017; Schunk, 1990). Accordingly, reward procedures are advised to be adjusted. Pilots could experiment with deviating from general behavioural demands in case of low self-governance ability. This could mean that behavioural thresholds for these incarcerated individuals could be lowered, but still rewarded. To build self-efficacy and prevent unequal treatment of incarcerated individuals, those rewards could be verbal, such as compliments and praise (Plaisier & Van Ditzhuijzen, 2009). By doing so, the focus will constantly lie on rewarding desirable behaviour, instead of punishing undesirable behaviour. This proposal hints at reinstating an orange behaviour category (see Paragraph 1.3), but with even more flexibility in tailoring goals to personal characteristics of incarcerated individuals. By doing so, incarcerated individuals can incrementally learn which behaviour is expected of them (Meijer, 2020).

Finally, it is recommended that prison officers receive additional training in interpreting behaviour and examine its underlying causes. Looking beyond observable behaviour is detrimental in effectively distributing means that support durable behaviour change of incarcerated individuals, as (non-) compliance can obscure motivation and self-governance abilities – both prerequisites of long-term behavioural change (Andrews

& Bonta, 2010; Bandura, 1986; Schunk & Zimmerman, 2012; Ward et al., 2007). This perspective broadening begins with successfully identifying the level of self-governance ability of incarcerated individuals – which is being advocated by researchers for over a decade (e.g., Kaal, 2010; 2013; Kaal et al., 2011; Kaal et al., 2016), and for which manuals (Vrij & Kaal, 2015) and screening instruments have been developed (Nijman et al., 2016). Recognising differences in self-governance ability levels, however, does not suffice. Staff should also be trained in understanding how to treat incarcerated individuals low on self-governance ability. Such treatment includes repeatedly explaining rules and consequences in a very clear and consistent way, check whether incarcerated individuals have understood what staff has said, supporting these individuals in planning, and helping them fill out forms, to name a few examples (Vrij & Kaal, 2015).

It will be clear by now that assessing behavioural change by looking beyond *behavioural* compliance can be demanding of prison staff, in terms of time and skills. Currently, part of the prison staff is insufficiently trained in supporting incarcerated individuals low on self-governance ability (IJV, 2018; RSJ, 2019; 2020; Molleman, 2021). Therefore, enhancing system responsivity is not an easy task. Still, doing so can be worthwhile. Not least because it presents an opportunity to contribute to minimising the – relatively high – risk of incarcerated individuals low on self-governance ability to reoffend post-release (Teeuwen et al., 2020).

6.5.2 Limit External Pressures to Comply

As has become clear from Chapters 2 and 3, both the theoretical and empirical evidence in favour of reward systems in prison is limited and mixed. Next, chapter 4 illustrated that extrinsic motivation is associated with a decrease in compliance and an increase in misconduct, whilst the opposite was found for intrinsic motivation. Approaches that aim at promoting intrinsic motivation to change behaviour in prison populations, however, show promising effects on compliance and rehabilitation. It is therefore warranted to experiment with facilitating intrinsic motivation to change to a greater extent. To that end, it is recommended to reduce external pressures to comply by limiting and focusing the use of behavioural demands. In other words, as the current reward system is plagued by application issues and has aversive effects for individuals low on self-governance ability, its large impact on the lives of incarcerated individuals is not warranted. Following the empirical cycle, the design and application of the current system should be optimized and empirically tested on a small-scale.

Reducing external pressures to comply can be expected to be effective in promoting compliance to a certain degree. Prior small-scaled qualitative studies in Dutch prisons indicated that feelings of coercion and anxiety of reward loss can be a reason to comply (De Jong et al., 2015; 2016; Farahi & Van de Rijt, 2016). This dissertation found that external pressure to comply

is associated with an increase in misconduct in a large sample of incarcerated individuals (see Chapter 4). This is in line with prior findings from studies on the IEP scheme, which indicated that some incarcerated individuals resisted the system, in part due to feeling coerced (Crewe, 2009; Liebling et al., 1997). Moreover, anxiety of reward loss was also found to limit effectiveness of rehabilitation courses in Dutch prisons, by restricting openness, self-reflection, and commitment to rehabilitation courses (Barendregt & Wits, 2014; Ljujic et al., 2021). Limiting the use of behavioural demands by untying rewards that promote basic psychosocial human needs available to all incarcerated individuals from the reward system in prison, could retain the beneficial effect subjective autonomy is theorised to have on intrinsic motivation (Ryan & Deci, 2017), whilst mitigating external pressures. An example of such a limitation, is opening up participation in rehabilitation courses to all incarcerated individuals, regardless of their behaviour.

Additionally, perceptions of external pressure could be mitigated by truly acting in the best interest of incarcerated individuals. By exchanging *imposed* goals of compliance by goals that contribute to *personal* life goals, a new promising balance between extrinsic and intrinsic motivation can be struck (Prescott & Willis, 2022). As Day and his colleagues (2004, p. 264) state: 'only when clients believe that the treatment is not likely to fulfil personal goals, and when they perceive external pressure to attend that feelings of coercion become an issue'. However, 'reframing' imposed goals as personal goals, an instrumental way to maintain current policy, is not what is implied here. Goals to be rewarded will need to be in line with incarcerated individuals' personal goals as much as possible and incarcerated individuals should be supported in adopting that believe.

To be able to explain to incarcerated individuals that compliance supports their personal life goals, the link between behavioural demands and their goals should be substantiated and clearly communicated. Unfortunately, the connection between current – general – behavioural demands and incarcerated individuals' interest is largely unclear (see Table 1.1; Van Ginneken, 2018). This has been found to contribute to feelings of paternalism, degradation and resistance (Beckmann, 2016; Crewe, 2009). One way of minimising resistance and increasing the link between compliance and personal goals of incarcerated individuals, is to limit behavioural demands to those demands that target dynamic criminogenic needs (Andrews & Bonta, 2010). Translated to practice, this recommendation would mean not rewarding (nor punishing) personal hygiene maintenance, but rather pursuing meaningful employment.

Next, explaining to incarcerated individuals how tackling criminogenic needs supports their personal life goals could be put to practice by enriching prison intakes and sentence planning by identifying incarcerated individuals' personal life goals and obstacles that stand in their way by using Good Lives Plans (Ward et al., 2007). Such plans aim to identify personal goals, obstacles in their way (e.g., criminogenic needs), and internal and

external capacities required to reach those goals in legal ways (Ward et al., 2012). In turn, capacities need to be strengthened by tailoring interventions to build incarcerated individuals' internal and external capacities to change. For instance, assigning an individual to welding classes can teach him or her patience and concentration, simultaneously countering impulsive decision-making, which is considered a criminogenic need (Andrews & Bonta, 2010).

6.5.3 Facilitate Intrinsic Motivation

Even an optimal reward system in prison, however, is not believed to have durable effects on the behaviour of incarcerated individuals. Policymakers are therefore advised to promote intrinsic instead of extrinsic motives to change, by applying procedural justice and autonomy support. First, it is advised to promote positive perceptions by incarcerated individuals of staff legitimacy. Procedural justice theory (Tyler, 1990; 2006) proposes that the degree to which individuals comply with legal rules is predominantly dependent on how much legitimacy they accredit to the authorities enforcing those rules, rather than the outcome of that enforcement (distributive justice). Procedural justice is focused on providing voice, respect, neutrality, and trust to subordinates. Subordinates need to be provided opportunities to state their perspective (voice) and need to feel that their perspective is taken seriously (respect). Authorities such as prison staff should act neutral, consistent and transparent in how they reach decisions (neutrality), and act trusted, sincere and caring (trust) (Tyler, 1990; 2006). Prior studies have shown that procedurally fair treatment can increase compliance and decrease misconduct in the Dutch prison population (Beijersbergen et al., 2015). Contrarily, lack of staff legitimacy was coined to be a mediator of reward system in prison effectiveness in Chapter 2 (see Liebling, 2008; Liebling et al., 1997).

A possible causal mechanism of procedural justice is emphasising shared group membership, essentially expressing that the individual matters to the authorities and is considered an integral part of the social group (Tyler & Lind, 1992). Such an approach might work well in a prison setting, where it is simply impossible to align all rules with incarcerated individuals' personal goals. Some rules serve other purposes, such as order and safety. To enable prison staff to act according to the principles of procedural justice, it is required that they are approachable and able to make consistent and transparent decisions. Current application and design issues such as staff shortages, general definitions of behavioural demands and, in its slipstream, inconsistent decisions on reward status (Beckmann, 2016; IJV, 2018; RSJ, 2019; 2020), can thus hamper the application of procedural justice principles in prisons.

Third, it is advised to provide incarcerated individuals with autonomy support. Although procedural justice and autonomy support are conceptu-

ally 'closely linked' (Ryan & Deci, 2017, p. 596), they are likely to activate different mechanisms of change and have different effects. Complying with behavioural demands to gain social approval, as procedural justice proposes, is – in self-determination terms – still largely external (i.e., introjective regulation, see Figure 1.1). Other examples of introjective regulation in relation to compliance with behavioural demands in reward systems in prisons are feelings of guilt and shame (Crewe, 2023). Autonomy support, at the other hand, facilitates intrinsic motivation to a greater extent. It is aimed at identification with the values underlying behavioural demands (i.e., introjective regulation, see Figure 1.1), promoting personal endorsement of those values and behaviours (Van Petegem et al., 2021).

Autonomy support is a concept derived from Self-Determination Theory (Ryan & Deci, 2017), and refers to a communication style directed at promoting individuals' subjective autonomy through offering meaningful choices, explaining the goals and values of those choices, and respect incarcerated individuals' choices. As both procedural justice and autonomy support focus on interpersonal communication, they are argued to be congruent (Van Petegem et al., 2021). Although the evidence base is small, autonomy support has been found to promote both intrinsic motivation to change behaviour and compliance with prison rules in a prior Belgian study (Van der Kaap-Deeder et al., 2019). In accordance, subjective autonomy was also found to contribute to intrinsic motives to change behaviour in complementary (yet unreported) analyses of survey data used in Chapters 4 and 5. Autonomy support has also been found to work well with persons low on self-governance ability, as long as professionals are responsive to their needs (Carey et al., 2022; Frielink et al., 2018).

6.5.4 Reconsider Criteria for External Freedoms

A concluding remark can be made on the use of behavioural compliance as a criterium to grant external freedoms. As has become clear from this dissertation's findings and adjoining literature, behaviour *can* be an inadequate reflection of substantive and long-term change. For some incarcerated individuals, compliant behaviour will reflect a genuine and substantive commitment to desistance from crime. Others 'play the game' and their 'desirable' behaviour can at best be fa reliable indication of successfully going on leave and conditional release (Bottoms, 2002; Bottoms & Tankebe, 2012; Crewe, 2011b; Crewe & Ievins, 2020; Liebling et al., 1997; Sparks et al., 1996). Based on behavioural assessments, prison staff will not be able to distinguish between those two types of incarcerated individuals. Therefore, intermediate outcomes that focus on explanations of behaviour, such as motivation and self-governance ability, might prove better predictors of successfully coping with external freedoms (e.g., Maguire et al., 2019). Even then, however, it should be noted that motivation to change is ambivalent and likely to fluctuate over time (Boone, 2012; Ryan & Deci, 2017; Weaver, 2019).

To conclude, this dissertation has started to fill a void in the literature on the effectiveness of reward systems in prison, by focusing on the Dutch reward system in prison – which had not previously been evaluated in its ten-year existence (RSJ, 2020). Findings largely support the critiques scholars have voiced for years regarding the Dutch reward system in prison. First of all, causal mechanisms were only partially supported by theory and research. Second, incarcerated individuals reported that system application deviates from policy guidelines, further jeopardizing its possibly already limited effectiveness. Finally, incarcerated individuals low on self-governance ability have been found to be disadvantaged by this system. Therefore, important recommendations were made to improve the system, and move beyond it. Even though this dissertation can be considered a step towards better understanding the mechanisms of reward systems in prison, much work is still to be conducted to advance reward systems in prison, by criminologists, policymakers, and prison staff. Hopefully, this work will be conducted collaboratively, therewith strengthening ties between academia, policy, and practice.