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Reward systems in prison

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2.1 INTRODUCTION

Around 31,000 persons pass through Dutch prisons annually (Dutch Custodial Institutions Agency (DJI), 2020). In recent decades, these incarcerated individuals have increasingly been made co-responsible for the content and course of their prison sentence. As early as the 1990s, it was introduced that desirable behaviour in Dutch prisons could be rewarded with additional recreational activities, education and psychosocial help (House of Representatives, 1993/1994). In the early 2000s, it was decided to ration these rewards: rewards had to be reserved for compliant and motivated individuals (House of Representatives, 2005/2006; 2007/2008). In 2008, the Dutch policy programme Modernising the Prison Service (*Moderniserend Gevangeniswezen* (MGW)) put this into practice (House of Representatives, 2007/2008). MGW aimed to disrupt antisocial behaviour patterns by redesigning the daily programme in prison so it would optimally encourage personal responsibility for resocialisation (Ministry of Justice, 2009). This ‘responsabilisation’ of incarcerated individuals was in line with the social and political trend in the Netherlands of increasingly activating citizens to participate in the execution of (security) policy (Drosterij & Peeters, 2011; Schinkel & Van Houdt, 2010). Moreover, only investing financial resources in suitable and benevolent individuals also served as an opportunity to realise necessary cutbacks (De Jong et al., 2016). The redesign of the daily programme took shape in the policy programme Tailor-Made Daily Programme, Security and Supervision (*Dagprogramma, Beveiliging en Toezicht op maat* (DBT)), which is the direct predecessor of the system of Promotion and Demotion, which was implemented in 2014 (Government Gazette, 2014). This reward system ultimately placed the responsibility for the content and course of prison sentences entirely on incarcerated individuals – which was presented as an individualised, tailor-made approach. Within this system, (un)desirable behaviour was to be systematically observed, assessed, rewarded, and punished.

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Criminological and legal scholars have argued that the system of Promotion and Demotion is inconsistent with the principle of resocialisation because the activities that can be 'lost' by behaving undesirably partly serve resocialisation purposes (Boone & Van Hattum, 2014). Besides normative criticism, these scholars have countered that the system is inconsistent with prevailing criminological theories on successful offender rehabilitation (Boone & Uit Beijerse, 2018). Finally, it has been questioned to what degree individuals with poor self-governance ability are responsive to this system (Council for the Administration of Criminal Justice and Youth Protection (RSJ), 2013a; Kelk, 2015; Van Ginneken, 2018). However, 'no proper evaluation' of the programme theory or the effects of the system of Promotion and Demotion has ever been conducted (RSJ, 2020, p. 3).

In this contribution, we therefore focus on the following research question: *What is the programme theory of the system of Promotion and Demotion as introduced in 2014?*

Although some adjustments were made after the introduction of the Dutch reward system in prison in 2014, this contribution focuses on the system as it was introduced in 2014. This contribution is part of a dissertation project. In the following, we first describe the system of Promotion and Demotion. We then discuss the theoretical framework of, and previous research on, behavioural management systems in prisons. We then explain the methodology used and the importance of reconstructing programme theory. The results are presented using the components of programme theory: the intended target group, means, (intermediate) goals and assumptions on causal mechanisms. Next, we test how well the most prominent and fundamental causal assumptions align with relevant theory and research. In the discussion, we conclude by reflecting on our findings and limitations of this evaluation and make recommendations for future research.

2.1.1 The system of Promotion and Demotion

The system of Promotion and Demotion in Dutch prisons aims to reward (motivation for) desirable behaviour using internal and external freedoms (Government Gazette, 2014). Undesirable behaviour and lack of motivation can be punished with (permanent) removal of those freedoms. The system has a Basic and a Plus programme. The Basic programme includes 43 hours of activities per week (House of Representatives, 2018/2019), of which 20 hours consist of work assignments. The remaining activities are receiving visits, spiritual care, yard time, education, recreational activities, sports, rehabilitation activities and aftercare activities focused on housing, income, debt and (health) care. The Plus programme includes 48 hours of activities per week. Additional opportunities to receive visits are granted, as well as more freedoms and responsibilities when completing work assignments (such as greenkeeping, or a job as unit cleaner). Work in the Plus pro-

gramme may also be better paid, involve better (vocational) training and/or be of a higher level (House of Representatives, 2013/2014). In addition, this programme offers weekly activities on two evenings and on weekends. In total, individuals residing in a Plus programme spend 11 additional hours outside their cells compared to those in a Basic programme.

Incarcerated individuals in a Basic programme can be promoted to the Plus programme if they show desirable behaviour and motivation for change (Government Gazette, 2014). A multidisciplinary team (*Multidisciplinair Overlegorgaan* (MDO)) assesses every six weeks whether these two requirements have been met unless there is reason to do so more frequently. Based on that assessment, the prison governor decides on promotion, demotion, or retention (art. 1d Regulation on Selection, Placement and Transfer of Prisoners (RSPOG)). In the RSPOG (2014), desirable behaviour is defined in more or less specific behavioural demands (green behaviour), as is defined which behaviour leads to retention or demotion to the Basic programme (red behaviour). An orange (this-could-be-better) behaviour category also existed until October 2020. Orange behaviours are not necessarily punished with demotion but are discouraged. Examples of green behaviour include cooperating in the daily programme and being willing to quit crime. Orange (this-can-be-better) behaviours include having a short fuse and not taking responsibility for one's own behaviour. Examples of red behaviour include knowingly causing stench and pollution and physical aggression towards others. Incarcerated individuals must also show motivation to change, to get to and stay in the Plus programme. This change is operationalised as participation in two motivational courses (Reflector and Choose for Change (*Kies voor Verandering*)). Not participating in these courses is interpreted as a lack of motivation and punished with allocation to the Basic programme (Government Gazette, 2014). Not being able to participate in the Choosing for Change course because of poor language skills is an invalid reason to deny individuals access to the Plus Programme (House of Representatives, 2017/2018; Van Gent, 2013).

2.1.2 Contingency Management

The system of Promotion and Demotion is a type of Contingency Management (CM) system. These behaviour management systems are based on operant conditioning theory (Spiegler & Guevremont, 1993). The principles of this theory assume that desirable behaviour increases when it is systematically rewarded. The same applies to the decrease of undesirable behaviour through punishment (Burdon et al., 2001). The use of CM systems in corrections was especially popular in the 1950s to 1970s (see Gendreau et al., 2014). In the following years, these systems were criticised by scientists because of the limited role they attributed to cognition, which conflicted with new insights from cognitive behavioural science (Woolredge & Smith, 2018). Today, CM systems are applied in prisons in Canada, England and

Wales, the Netherlands, Romania, and the United States (Crewe & Ievins, 2020; Michigan Department of Corrections, 2020; Mitchell, 2010; Morar et al., 2019; The Guardian, 2019; Serin & Hanby, 2009; Van Gent, 2013). Rewards used in CM systems in detention are often material (such as shopping items, money), social (such as compliments, phone cards, extra visiting opportunities) and/or involve more time for activities (such as leisure or yard time) (Gendreau & Listwan, 2018). Punishments, in addition to adding negative consequences (such as spending time in isolation), can also consist of removing positive consequences (rewards), as in the system of Promotion and Demotion.

CM systems can differ in many ways: their intended target group, prison environment, definitions of (un)desirable behaviour, the selection and application of rewards and punishments, as well as their goals. Historically, CM systems were applied in corrections for two purposes: to promote rule compliance and, in turn, maintain safety and order in the institution, and to support incarcerated individuals in recovering from addictive behaviour (Kratcoski, 2017). To our knowledge, these systems have not previously been deployed among (non-addicted) incarcerated individuals in regular regimes to promote rehabilitation in the broader sense of the term (sustainable psychological change). Some researchers do ascribe CM systems such rehabilitative value (Gendreau et al., 2018), even though scientific evidence for that claim is not readily available.

2.1.3 Prior Research

There has been little empirical research on CM systems implemented in regular prison populations. Serin and Hanby (2009) conducted a literature review and found five studies. These studies do not provide an accurate overview of the working mechanisms of reward systems in prison. The studies are dated (1973-2003), very small-scale ($N < 10$), or involved studies on specific target groups, such as female incarcerated individuals on segregated wards, or in a high-security facility. The five studies involved three impact evaluations, one process evaluation and one reconstruction of a programme theory. Serin and Hanby (2009) concluded from the impact evaluations that the evidence indicating that CM systems can effectively promote rule compliance in prison is – at best – mixed. Among other things, this finding raises the question of exactly how these systems apply operant conditioning principles and when one can speak of effective goal achievement. A question central to reconstructions of programme theory. The only reconstruction of programme theory found by the Canadian researchers concerned the British *Incentives and Earned Privileges* (IEP) scheme (Bosworth & Liebling, 1995).

Reconstructions of programme theory of CM systems applied among regular prison populations are rare. Even a decade after Serin and Hanby's (2009) review, Bosworth and Liebling's (1995) study appears to be the only

exception (known to the authors). The evaluators examined the means, goals, and assumed causal mechanisms of the (still operational) IEP scheme. This scheme involves rewarding and punishing incarcerated individuals based on their behaviour and motivation. Among other things, the scheme aims to encourage incarcerated individuals to take responsibility for their behaviour and promote safety and order in the institution. Thus, in addition to the two historical objectives distinguished by Kratcoski (2017), encouraging responsibility-taking can also be identified as a contemporary objective of CM systems in prison. Rewards used include extra visits, availability of television on cell and more time out of cell. The evaluators found that English policymakers at the time relied on simplistic assumptions about the scheme's underlying causal mechanisms. For example, policymakers initially assumed that individuals make rational behavioural choices, and that the selected rewards were sufficiently attractive to promote rule compliance and reduce recidivism post-release (Khan, 2016; Liebling, 2008), without supporting those claims with scientific evidence or empirically validating them.

The added value of reconstructing a system's programme theory is that, by unfolding programme theory, insight into how effects of (criminal justice) interventions may have come about can be provided (Donaldson & Lipsey, 2006). This is achieved by uncovering 'mechanisms'. Policy evaluators define mechanisms in different ways (Lemire et al., 2020), but generally assume that they consist of hidden cognitive, social and behavioural mechanisms (Astbury & Leeuw, 2010). Understanding working mechanisms provides a good basis for formulating informed and focused research questions for impact research, interpreting (un)intended intervention effects, and adjust the system in specific areas (Donaldson, 2007; Van der Knaap, 2010). Although reconstructions of programme theory in the security domain are not often conducted *ex ante*, an *ex-post* reconstruction of a programme theory offers the same advantages as outlined above (Astbury & Leeuw, 2010).

2.2 METHODS

2.2.1 Reconstruction of Programme Theory

To answer the research question, a reconstruction of the programme theory of the system of Promotion and Demotion was conducted. This form of evaluation is used to assess how policies achieve their objectives (Rossi et al., 2004). This requires reconstructing and evaluating the assumed causal (social and behavioural) mechanisms, goals, and expected effects in relation to the intended target group (Leeuw, 2008). Designating mechanisms as 'causal' may incorrectly suggest that they cause an objective in isolation, and in a linear manner (e.g., Mayne, 2012). We therefore refer in this plan evaluation to the extent to which mechanisms can *contribute* to a

particular (intermediate) goal. However, in line with previous evaluations (Bosma, 2017; Van Noiye & Wittebrood, 2008) and the language used in the documents studied, we do use the term ‘causal’ assumptions to refer to the hypothesised mechanisms.

Reconstructing and evaluating the programme theory of criminal justice interventions is becoming increasingly common in the Netherlands (see, e.g., Bosma, 2017; Van Noiye & Wittebrood, 2008). Leeuw (2003) developed a policy scientific method to perform this reconstruction (also see Ehren et al., 2005; Klein Haarhuis & Leeuw, 2004;). This method systematically exposes the objectives and assumed causal mechanisms of an intervention and allows for an assessment of the extent to which they are based on scientific knowledge (Van der Knaap & Schilder, 2004). The chronological steps of this approach are: (1) identify means; (2) link means to identified goals; (3) rewrite mean-goal relationships into ‘if, then’ statements; (4) identify causal mechanisms underpinning these relationships; (5) integrate means and goals and hypothesised underlying causal mechanisms into a (logical) theoretical model; and (6) determine the plausibility of the theoretical model. This approach was followed in this review because it is well suited to policies for which written information is available (Leeuw, 2003). Plausibility was determined by assessing the congruence of the programme theory with relevant empirical research and theory. The central research question of this contribution is: What is the programme theory of the system of Promotion and Demotion as introduced in 2014? Using the policy scientific approach, this overarching question is broken down into the following five sub-questions:

1. What is the target group of the system of Promotion and Demotion?
2. What are the (intermediate) goals and means of the system of Promotion and Demotion?
3. What are causal assumptions of the system of Promotion and Demotion?
4. Is the programme theory of the system of Promotion and Demotion in line with scientific research?
5. To what extent is the programme theory of the system of Promotion and Demotion consistent and coherent?

2.2.2 Data Collection

For mapping the programme theory, documents were searched through the academic search engines Web of Science and Google Scholar, as well as various (Dutch) websites: search.officiëlebekeendmakingen.nl, tweedekamer.nl, eerstekamer.nl, commissievantoezicht.nl, inspectie-jenv.nl and puc.overheid.nl/rsj. The Dutch search terms used are: ‘promo*’, ‘degrad*’, ‘stimuleren’, ‘ontmoedigen’, ‘dagprogramma’, ‘straf*’, ‘belon*’ and a combination of these terms. Documents were collected from January to March 2020. No

date or language restrictions were applied. This yielded many hits. The results were screened using pre-established inclusion criteria:

- containing relevant information on the intended target group, means, (intermediate) goals and/or (the rationale for) causal assumptions of the system; and
- dating from before 1 March 2014.

Only pre-implementation documents were selected because the programme theory of the original system was the subject of study. Finally, 98 documents met the first inclusion criterion. These documents can be categorised as (explanatory notes to) laws and regulations (2), parliamentary letters and reports of political meetings of the Senate (2) and House of Representatives (41), reports of the Inspectorate of Justice and Security (IJV) (5), the Dutch Custodial Institutions Agency (DJI) (3), the Scientific Research and Documentation Centre (WODC) (3) scientific articles (11), student theses (4), prison house rules (1), research reports by independent research agencies (2), government policy opinions such as those by the Council for the Administration of Criminal Justice and Protection of Juveniles (RSJ) and the Council of State (RvS) (9), and case law (15). Of these documents, 12 met the inclusion criteria: the (explanatory notes to the) Regulation on the Selection, Placement and Transfer of Prisoners (RSPOG) in which the system of Promotion and Demotion is described, the behaviour assessment manual for the system, and ten Parliamentary letters and reports of political meetings of the House of Representatives (see Appendix A). The remaining 86 documents were not used to reconstruct the programme theory. If they contained references to relevant scientific research, those references were checked for the benefit of the scientific test conducted (research question 4). However, the scientific test is primarily based on international literature from a systematic literature review on reward systems in detention; a study that is also part of the current dissertation project (see Chapter 3). To this end, the databases Web of Science, PsychInfo, Criminal Justice Abstracts, ProQuest and Google Scholar were consulted in March 2021. The search terms used in that literature review are: ('contingency management' OR 'response cost*' OR 'positiv* reinforc*' OR 'negativ* reinforc*' OR 'incentiv*' OR 'privilege*' OR 'reward*' OR 'operant* condition*' OR 'radical behav*' OR 'behav* modif*') AND ('correctional institution*' OR 'correctional facilit*' OR 'penitentiary*' OR '*prison*' OR 'jail*' OR 'incarc*') NOT ('prisoner's dilemma*' OR 'prisoners' dilemma*' OR 'prisoner's dilemma*' OR 'prisoners' dilemma*').

When the system was being designed, independent advisory reports were issued regarding the system design (Plaisier & Van Ditzhuijzen, 2009; RSJ, 2012; 2013a; 2013b). According to its own writing (Van Gent, 2013), the system of Promotion and Demotion is largely based on an independent advisory report titled *Encouraging and Deterring (Stimuleren en Ontmoedigen)*, which contains an extensive literature analysis (Plaisier & Van Ditzhuijzen, 2009). However, it is not entirely clear to what extent the programme theory is indeed based on this report. For this reason, the analysis indicates where the programme theory differs from the report, whenever possible.

In line with prior Dutch evaluations of safety and security policies (Van Noijs & Wittebrood, 2008), in identifying the means, goals and presumed causal mechanisms of the system of Promotion and Demotion, statements about target group, means, (intermediate) goals and causal relationships were carefully mapped, by searching for specific words such as 'aim', 'pillar', 'aimed at ...', 'intended', 'through which', 'leads to' etc. Goals, means and mechanisms were coded using qualitative analysis software Atlas.ti. Often, assumed causal mechanisms are only implicitly described in policy documents (Van Noijs & Wittebrood, 2008). This study aimed to identify both implicit and explicit means, goals and assumed causal mechanisms. Implicit assumptions from the documents were only included if the surrounding text contained sufficient information to logically arrive at this conclusion.¹ If a statement about one of the components of the programme theory was mentioned in one document, but not repeated in documents of later date, an inconsistency was observed. If a statement was contradicted in other documents, refuted, or their interrelationship was unclear, an inconsistency was noted.

2.3 RESULTS

2.3.1 Target Group

The first question we answer is: what is the target group of the system of Promotion and Demotion? The answer to this question is shown schematically in Figure 2.1. This figure shows that the aim is that most persons are automatically placed in the Basic programme upon entering prison, in which they spend at least six weeks. Convicted persons who voluntarily report to the judiciary to serve their prison sentence ('self-reporters') should, however, start in the Plus programme (Government Gazette, 2014). Decisions to promote or demote are taken once every six weeks. Thus, if incarcerated individuals are detained for less than six weeks, they will generally have to stay in one and the same programme, for their entire time in prison.

The programme theory envisages that the Plus programme is only offered in regular prison regimes, meaning that other regimes by default offer a Basic programme or an adapted daily programme (see Figure 2.1). In addition, it is envisaged that arrestees and persons in pre-trial detention also participate in the system of Promotion and Demotion, but because all pre-trial detention does not offer a Plus programme, if their behaviour is desirable (green), they will receive rewards only when they – if convicted –

1 To check whether the conclusions drawn are correct, additional interviews were held with a former policy advisor at the Ministry of Security and Justice and a scientific policy researcher involved in the development of the system. The purpose of these interviews was to retrieve (missed) relevant documentation, as well as to gain insight into the development of the system.

transfer to a regular prison regime. Foreign nationals detained under criminal law (both in pre-trial detention and those sentenced) should also be able to participate in the system, although the rules they must abide by are not aimed at rehabilitation but to return to country of origin (Government Gazette, 2014). Nor can they de facto be promoted while in pre-trial detention.

Moreover, the system aims for some groups of incarcerated individuals to remain permanently in the Basic Programme, because more freedom is not in keeping with the nature of their imprisonment. This applies to incarcerated individuals at an Extended Security Facility or Unit (UBI), Extra Secure Facility (EBI) and Terrorist Unit (TA) (art. 1e RSPOG opening words and under c). In addition, it is envisaged that certain groups of incarcerated individuals will be permanently excluded from system participation (see Figure 2.1). They are ought to follow their own daily programme. One of the reasons for excluding these groups of ‘incapable’ persons (*‘niet-kunners’*) is the assumption that they do not possess sufficient psychological capacity to participate. The programme theory assumes that incarcerated individuals placed in forensic hospitals or in psychiatric regimes are incapable of exhibiting green behaviour due to disorders, such as intellectual disability or severe mental illness (including severe addiction problems). Individuals requiring extra care, but for whom care and support in regular regimes are adequate, should be able to participate in the system (Van Gent, 2013). It is envisaged that the behaviour of these ‘incapable’ persons will be assessed less strict. If they are motivated to change (i.e., participate in the Reflector and Choose for Change courses), they can qualify for the Plus programme, even with exhibiting orange behaviour on the Care and Support component (art. 1d paragraph 4 RSPOG; Government Gazette, 2014).

2.3.2 Means and (Intermediate) Goals

The second research question we answer in reconstructing the programme theory is: what are the (intermediate) goals and means of the system of Promotion and Demotion? Analysis of the 12 policy documents illustrates that three means can be used to achieve the goals, namely: punishments, rewards, and motivational interviewing. The punishments and rewards of the system of Promotion and Demotion have already been described in the introduction. Punishments and rewards are identical since punishment equates to removing rewards. Rewards are usually granted or removed as a set, not individually. At its core, motivational interviewing is a counselling method based on respect, humanity, trust, support, and interaction, and aims to help individuals reflect on their behaviour and encourage their motivation to change (Van Gent, 2013).

Ten (intermediate) goals could be identified in the policy documents, which can be distinguished at three levels: micro, meso and macro. At the micro or individual level, the goals are to increase motivation to change (extrinsic and intrinsic) (Government Gazette, 2014; House of Representa-

tives, 2013/2014), promote desirable behaviour (Government Gazette, 2014; Van Gent, 2013), encourage responsibility-taking (responsabilisation), reduce detention damage and to reduce recidivism. However, reducing recidivism has only been described as an indirect objective, never as a direct objective (Van Gent, 2013). Responsabilisation of incarcerated individuals here implies that they themselves are held responsible for the course of their time in prison, rather than the government or prison authorities. Incarcerated individuals are to some extent allowed to choose whether they behave 'responsibly' (green) or not (red) but must also suffer the consequences of those choices. If they behave desirably and show motivation, they are rewarded. If not, they are denied or lose those rewards.

At the meso or organisational/political level, three goals could be identified: promoting safety and order in prison (Van Gent, 2013), efficient use of financial resources (Van Gent, 2013; House of Representatives, 2010/2011) and helping to decide on detention phasing (House of Representatives, 2011/2012; Van Gent, 2013). We would like to provide further explanation on two points. First, the programme theory showed that maintaining safety and order within prisons has a higher priority than providing (additional) opportunities to incarcerated individuals to act responsibly (Van Gent, 2013). Safety and order are considered important for providing a safe working and living environment. Second, the efficient use of financial resources is apparent in the principle 'don't invest, unless ...' (Government Gazette, 2014). This principle means that financial resources are only invested into (i.e., rewards are granted to) incarcerated individuals who are motivated to change, and likely to improve, their behaviour (House of Representatives, 2010/2011) and *therefore* are deemed deserving of that investment (Van Gent, 2013). In the policy documents studied, no argument was found for this distinction other than this financial one. Finally, the system aims to lead incarcerated individuals to electronic detention and early release, partly based on their behaviour and motivation in prison. At the macro or societal level, increasing societal safety has been described as goal (House of Representatives, 2011/2012).

2.3.3 Causal Assumptions

Next, we unravelled the assumed mean-goal relationships. Underlying these are also causal assumptions, which we now identify. In doing so, we answer the third research question: what are the causal assumptions of the system of Promotion and Demotion? Examination of the 12 policy documents shows that 24 assumed causal mechanisms are mentioned. These mechanisms are indicated by arrows in Figure 2.2. In the documents studied, three causal chains are most frequently and extensively discussed. They cover all means, six out of ten (intermediate) goals, and seem to contain the most prominent and fundamental causal assumptions, at, mainly, micro-level. For these reasons, they are discussed below. The first chain touches on

the principles of operant conditioning. The second chain addresses the role of individuals' encouraging incarcerated individuals to take responsibility for their behaviour. The third chain focuses on motivational interviewing, which was thought to be indispensable for the functioning of the system (Van Gent, 2013). As the system would be largely based on the advice of Plaisier and Van Ditzhuijzen (2009), underpinnings of the causal assumptions indicated in this advisory report are also presented.

1. *Causal chain 1: Rewards (arrow 2) + Punishments (arrow 6) → Desirable behaviour (arrow 17) → Prison safety and order*

The first assumption in this chain is that rewards and punishments contribute to desirable behaviour in prison. Rewards and punishments are mentioned in the same breath in many policy documents, including when it comes to intended effects (Van Gent, 2013). For this reason, they are combined in this causal chain. The assumption that a combination of rewards and (mild) punishments has a positive and sustainable effect on behaviour change is described in the manual accompanying the system (Van Gent, 2013). In doing so, the manual explicitly relies on a literature review included in the advisory report of Plaisier and Van Ditzhuijzen (2009) but does not substantiate why the rewards and punishments selected in the system would contribute to compliance with the behavioural demands. The literature review cited in the manual includes insights from general learning theories and empirical research on operant conditioning (Anderson & Skinner, 1995; Skinner, 1938), enforcement and rule compliance in the public domain (Kazdin, 2001; Van der Pligt et al., 2007), Token Economies² (Kazdin, 1982), as well as expert meetings held for the benefit of developing the manual. According to the manual (Van Gent, 2013), it also follows from these sources that merely punishing undesirable behaviour will not contribute to compliance in the long term. When the system of rewards and punishments is eliminated, as in the case of release, the effects could quickly diminish.

The second assumption in this chain is that desirable behaviour contributes to safety and order in prison. Safety and order in prison is understood as compliance with rules and agreements, creating an open and respectful climate (House of Representatives, 2013/2014). Compliance with rules, honouring rules, and agreements, as well as respectful treatment of staff are included in behavioural demands for incarcerated individuals (see RSPOG). However, the expected core of this assumption seems to be minimising misconduct (Plaisier & Van Ditzhuijzen, 2009). Decreasing misconduct also removes a primary reason for transfers, according to programme theory (Van Gent, 2013). Thus, desirable behaviour is theorised to directly contribute to safety and order in the institution.

2 A *Token Economy* is a Contingency Management system where participants can earn tokens, which they can redeem for rewards of their liking.

2. *Causal chain 2: Rewards (arrow 1) → Encouraging taking personal responsibility (arrow 12) → Limiting detention damage*

First, the second chain assumes that rewards contribute to encouraging taking responsibility for behaviour. The policy documents do not mention what inspired the choice of specific rewards. The rewards seem to be implicitly derived from disciplinary measures and behavioural norms that have been used in Dutch prisons for decades (see Plaisier & Van Ditzhuijzen, 2009). However, it is unclear why the programme theory assumes that precisely these selected rewards will encourage incarcerated individuals to take responsibility for their behaviour. The manual argues that the value of a punishment or reward may differ from one individual to another, and therefore individualisation is important to some extent (Van Gent, 2013). That claim is substantiated with a reference to correspondence with remedial educationalists knowledgeable about incarcerated individuals with mild intellectual disability (*Licht Verstandelijke Beperking*, LVB). Behavioural experts indicated in the development phase of the system that individualising rewards and punishments is important (especially for individuals deemed ‘incapable’), because the rewarding value of a punishment or reward may differ from one individual to another (Van Gent, 2013). Moreover, the policy documents do not mention why and what form and degree of individualisation might contribute to encouraging self-responsibility.

The second chain then assumes that encouraging responsibility-taking contributes to reducing detention damage (House of Representatives, 2007/2008). The policy documents do not explicitly explain what is to be understood by ‘encouraging’ incarcerated individuals to ‘take responsibility’ (see also RSJ, 2012). Implicitly, responsibility-taking is more than once equated to gaining access to Plus activities and possibly conditional release by displaying desirable behaviour – as opposed to by default (House of Representatives, 2012/2013; 2013/2014). According to the advisory report of Plaisier and Van Ditzhuijzen (2009, p. 8), detention damage can be caused by a prison climate which is characterised by indifference, anomie, and free of obligations, but ‘(...) independence of prisoners and the possibility to take initiatives themselves’ can prevent this. However, this part of the opinion is not explicitly referred to in the policy documents, where no substantiation of this assumption was found.

3. *Causal chain 3: Motivational interviewing (arrow 5) → Intrinsic motivation (arrow 22) → Reductions in recidivism*

First, the third chain assumes that motivational interviewing contributes to intrinsic motivation to comply. The programme theory assumes that motivational interviewing reinforces positive self-esteem and gives hope, by applying principles of respect, humanity, trust, support, and interaction in the treatment of incarcerated individuals. This would increase individuals’

intrinsic motivation to change their behaviour (Van Gent, 2013). That outcome is stated to be in line with Self-Determination Theory (Deci & Ryan, 1995; Ryan & Deci, 2000b).

The third chain then assumes that intrinsic motivation contributes to recidivism reduction. This assumption is put forward indirectly and mostly implicitly in the documents studied. Intrinsic motivation is said to lead to behavioural change, by encouraging more participation in rehabilitation activities and behavioural interventions, and thus indirectly to recidivism reduction. It is also assumed that individuals with an intellectual disability are unlikely to be and become intrinsically motivated. Rather, they are ought to become extrinsically motivated, at best (Van Gent, 2013).

2.3.4 Scientific Test

Finally, we study the extent to which the assumptions underlying the system are in line with results of empirical studies. In other words, we answer the fourth research question: is the programme theory of the system of Promotion and Demotion in line with scientific research? To answer this question, we first reviewed all empirical studies mentioned in the policy documents studied, and assessed whether these sources support the causal assumptions (ex tunc test). In addition, we also included relevant empirical studies published after implementation of the system in 2014 in assessing the scientific evidence (ex-nunc test). In particular, in recent years, knowledge on the responsivity and treatment of incarcerated individuals with intellectual disability has advanced, and there are additional (qualitative) insights into the effects of the IEP scheme in England and Wales. Below, we indicate for each causal chain (see above) whether the policy assumptions are adequately substantiated.

Causal Assumptions

1. *Causal chain 1: Rewards (arrow 2) + Punishments (arrow 6) → Desirable behaviour (arrow 17) → Prison safety and order*

There is a lack of convincing empirical evidence that this assumption holds true for convicted persons. Empirical research shows that people differ in their experience and appreciation of rewards. Some incarcerated individuals who participated in the IEP scheme attached great importance to visitation (Booth, 2020), but incarcerated individuals without a social network did not (Khan, 2022). Which rewards incarcerated individuals value most requires more empirical research (Gendreau et al., 2014). Individual differences may explain why scarce studies on behavioural incentives in mixed prison populations show mixed effects on rule compliance (Liebling, 2008; Serin & Hanby, 2009). Qualitative research among IEP participants additionally shows that arbitrary implementation and application of such a system can contribute to

feelings of anxiety, helplessness (Crewe, 2011b) and unfair treatment among incarcerated individuals (Liebling, 2008), potentially further frustrating rule compliance. Moreover, the policy documents do not refer to (research on) the IEP scheme at all. The advisory report of Plaisier and Van Ditzhuijzen (2009) offers general starting points for the effects of (not necessarily systematic) use of rewards and punishments, in non-prison target groups. Literature focusing specifically on systematically rewarding and punishing in prisons is under largely lacking from their literature review. Studies dating back to after the introduction of the system suggest that these general insights translate poorly to the Dutch prison population, given its special characteristics, such as limited intellectual capacity and addiction problems (De Jong et al., 2016; Den Bak et al., 2018), which are accompanied by exceptional environmental characteristics (coercion, closed group setting).

Desirable behaviour contributes to safety and order in prison. It is plausible that misconduct by one individual spurs misconduct of another, thus de facto disrupting safety and order. For example, Ellis and colleagues (1974) found that individuals placed in a prison where there are many violent offenders are more likely to engage in misconduct themselves. It is also plausible that transfers can give rise to turmoil and (violent) incidents. Kigerl and Hamilton (2016) examined transfers of nearly 6.000 incarcerated individuals in the United States and found that several factors contribute to misconduct following transfers. Examples of such factors include mental health problems, overcrowding and population instability in the destination unit, as well as characteristics of the old unit environment. Reducing transfers might thus benefit safety and order in the prison, yet to what extent transfers relate to a higher likelihood of misconduct has not been empirically studied. Based on these empirical insights, it is plausible that desirable behaviour contributes to safety and order in prison, although empirical evidence for the Dutch context is lacking.

2. *Causal chain 2: Rewards (arrow 1) → Encouraging responsibility-taking (arrow 12) → Limiting detention damage*

Rewards contribute to encouraging responsibility-taking. From prison research, no convincing evidence emerges to support the assumption that the selected rewards under the given conditions encourage responsibility-taking. In some respects, this assumption even contradicts empirical findings that follow from research in non-prison populations. Studies on rule compliance in non-prison populations have often shown that rewards are effective if they are proportional (Cipani, 1990; Hodos & Kalman, 1963) and appropriate to the individual and the environment in which they are granted (Anderson & Skinner, 1995; Van der Pligt et al., 2007). In addition, rewards are effective when they are attractive to the individual (Kazdin & Bootzin, 1972). However, it has not been made explicit whether and how individualisation of punishments and rewards is implemented in prison practice, in a system that aims to standardise behavioural assessment (House of Representa-

tives, 2013/2014). Moreover, it follows from the aforementioned literature on animal conditioning and human compliance that a short interval between behaviour and consequence is most effective in influencing future behaviour (Anderson & Skinner, 1995; Van der Pligt et al., 2007). Empirical research among offenders also suggests that the longer the time between the display of desirable behaviour and the reward, the more likely offenders are to turn to undesirable behaviour (*delay gratification*) (Cipani, 1990; Pierce et al., 1972), and possibly chose the rewards inherent to non-compliance – even if those rewards are less attractive than rewards of compliance (Arantes et al., 2013; Hanoch et al., 2013). That effect seems even larger for individuals with addictions (MacKillop et al., 2011), although it is unclear whether addiction or personal characteristics (or a combination) causes that effect. For punishment, however, the opposite is true: people generally prefer a small short-term loss of rewards to an anticipated larger long-term loss (Holt et al., 2008). One possible explanation for delay gratification is inadequate impulse control that characterises the prison population (Meijers et al., 2015). This suggests that the immediacy of rewarding may mediate behavioural effects. The six-week period after which individuals receive a promotion, demotion or retention of their reward status does not meet the qualification of immediacy. Additional empirical research on effective rewards and punishments among incarcerated individuals is necessary to find out whether these findings also hold in the Dutch context.

Encouraging responsibility-taking reduces detention damage. As described, policymakers leave the interpretation of these concepts to the reader. If it is assumed that ‘encouraging responsibility-taking’ means motivating people to display desirable behaviour, this assumption can be partially supported by empirical and theoretical insights, depending on the intended target group. The assumption holds true for incarcerated individuals who successfully reach the Plus programme, because that programme offers (rehabilitation) activities that have been empirically proven to contribute to reducing detention damage by finding and maintaining housing, employment and social relationships during and post-release (Boone & Van Hattum, 2014). This knowledge was available at the time that the system was developed. Convincing empirical evidence that this assumption holds true for incarcerated individuals in a Basic programme was not available at the time the system was introduced. Because the Basic programme offers fewer rehabilitation activities, it can be argued that the detention damage of Basic incarcerated individuals does not decrease. The qualitative research on the IEP scheme (which is similar to the Dutch system) even indicates that their detention damage may *increase*, as feelings of anxiety, helplessness and unfair treatment may frustrate engagement in or effects of other (reintegrative) interventions. Feelings of anxiety, helplessness and powerlessness seem to be associated with an increase in relative autonomy within prison walls (Crewe, 2011b; Shammass, 2014). Indeed, prevailing models for effective correctional interventions pose that poor therapeutic relationships, lack of external resources, and cognitive limitations, among others, can

interfere with the effectiveness of criminal justice interventions (Bonta & Andrews, 2010; Chambers et al., 2008). Research from the United Kingdom suggests that a limited group of convicted individuals seems to benefit from a system that generates a relative increase in autonomy and responsibility: those inmates who are already largely capable of self-governance (Crewe & Levins, 2020). However, it is unclear whether and how rewards and punishments contribute to this.

3. *Causal chain 3: Motivational interviewing (arrow 5) → Intrinsic motivation (arrow 22) → Reductions in recidivism*

Motivational interviewing contributes to intrinsic motivation. There is some empirical and theoretical evidence supporting this assumption, but more empirical research is needed. The purpose of motivational interviewing is to promote readiness to change (Miller & Rose, 2009). This counselling technique was considered promising for offenders even before the development of the system (Ginsburg et al., 2002). Recent research underlines this promise (Stinson & Clark, 2017). Indeed, the principles of motivational interviewing are congruent with both general learning and motivation theories, and models for effective correctional interventions. For instance, the general Self-Determination Theory (Ryan & Deci, 2000b) states that autonomy, relatedness, and competence lead to intrinsic motivation for (change of) behaviour and psychological growth. According to this theory, it is plausible that motivational interviewing contributes to intrinsic motivation by promoting self-efficacy (Ryan & Deci, 2000b). Thus, the claim that this assumption is consistent with the tenets of Self-Determination Theory (Van Gent, 2013) is plausible. Unfortunately, this theory has hardly been validated in prison populations (Van der Kaap-Deeder et al., 2017). Thus, at the time of its introduction, and to this day, this assumption needs empirical validation. Another indication of the validity of this assumption can be found in prevailing criminological rehabilitation models. Promoting self-efficacy is also in line with the Good Lives Model (Chambers et al., 2008). On the other hand, motivational interviewing could also increase the general responsivity to interventions, a key success factor for behaviour change according to the RNR model (Bonta & Andrews, 2010).

Unfortunately, at the time of its introduction, there was (and still is) a lack of convincing empirical evidence that motivational interviewing has a positive effect on incarcerated individuals' intrinsic motivation (McMurrin, 2009). This is also true for individuals low on self-governance ability, such as those struggling with intellectual disabilities (Panting et al., 2018). The scarce available studies mainly concern case studies (Mann & Rollnick, 1996) and use small samples (e.g., Anstiss et al., 2011; Austin et al., 2011; Ginsburg et al., 2002). The small-scale studies do provide evidence that motivational interviewing can promote incarcerated individuals' self-reported readiness to change (Austin et al., 2011; Anstiss et al., 2011). Additional empirical research in prison populations is required to validate this effect.

Intrinsic motivation contributes to reductions in recidivism. Several theories support this assumption, but unequivocal empirical evidence is not available. In general learning theories (Bandura, 1989), motivation theories (Ryan & Deci, 2000b), as well as in prevailing rehabilitation models (Bonta & Andrews, 2010; Chambers et al., 2008), intrinsic motivation is considered essential for lasting behavioural change. Empirical research in the prison population on the relationship between intrinsic motivation and recidivism reduction in the context of motivational interviewing is limited. One small-scale study of motivational interviewing targeting several criminogenic factors showed a 21 percent recidivism reduction compared to a control group (Anstiss et al., 2011). The use of motivational interviewing among probationers also shows promising effects on recidivism (Lin, 2018). There are mixed results regarding the relationship between motivational interviewing and a reduction in substance use (Clair-Michaud et al., 2016; McMurrin, 2009). Empirical psychological research in non-prison populations shows that motivation (intrinsic or extrinsic) is not sufficient to achieve behavioural change independently, when cognitive constraints or a behaviourally restrictive environment prevent this (Zimmerman & Schunk, 2008). Thus, 'motivation' does not equal 'behaviour': individual and environmental characteristics must also be favourable for behaviour change to occur.

2.3.5 Policy Consistency and Coherence

Finally, this section outlines how consistent and coherent the programme theory is. Three points stand out regarding the consistency of the programme theory. One incoherence stands out in relation to the independent advisory report on which the system is allegedly largely based (Plaisier & Van Ditzhuijzen, 2009).

First, in the final system guidelines, promoting safety and order in prison is described as an expected side effect, but not as a primary goal (Van Gent, 2013). Previous policy documents did describe this as an intended goal of the system (House of Representatives, 2012/2013).

Second, it appeared that reducing detention damage was only explicitly described as a system goal in older documents dating from the development phase of the system (House of Representatives, 2008/2009), but not in more recent policy documents. It is therefore unclear whether reducing detention damage was (still) an objective at the time of the system's implementation.

Third, the drafters of the advisory report argue that the causal assumptions of a new behavioural management system, which have no or limited empirical evidence in prison contexts, should be tested on a small scale among incarcerated individuals before applying the system on a large scale (Plaisier & Van Ditzhuijzen, 2009). The policy documents do not show that this has been followed.

Fourth, based on literature research, the advisory report argues that rewarding desirable behaviour works more effectively in changing behav-

our than punishing undesirable behaviour. Therefore, a mix of rewards and mild punishments is suggested in the approach to incarcerated individuals, where undesirable behaviour should be primarily ignored (Plaisier & Van Ditzhuijzen, 2009). In contrast, in the final manual, punishment for undesirable behaviour (demotion) is always looming for incarcerated individuals in a Plus programme (Van Gent, 2013). The recent elimination of the orange behaviour category could potentially reinforce that focus on punishment. Reward and punishment are sides of the same coin. Possibly for that reason, they are often mentioned as one intervention in policy documents, also regarding their expected effectiveness. For that large role of punishment in the behavioural change of – incarcerated individuals – compared to the advisory report -, scientific support is lacking in the programme theory. No justification was found for the deviations from the advisory report and its scientific basis.

2.4 CONCLUSION AND DISCUSSION

The central question of this evaluation was: what is the programme theory of the system of Promotion and Demotion as introduced in 2014? To answer this question, by answering separate sub-questions, the system's target group, resources, (intermediate) goals and causal assumptions were identified, using a policy scientific approach (Ehren et al., 2005; Leeuw, 2003). Three main conclusions follow from the findings of this plan evaluation.

First, the intended target group of the system of Promotion and Demotion includes the regular prison population. This is similar to the IEP scheme (Liebling, 2008), but contrasts with the mostly specific subpopulations included in other studies of CM systems in prisons (Serin & Hanby, 2009). Based on current empirical knowledge, this reconstruction suggests that the system of Promotion and Demotion is likely to fail to adequately account for the heterogeneity of its intended target population. Exploratory research suggests that up to 45 percent of incarcerated individuals in Dutch prisons deal with intellectual disabilities (Kaal, 2016). While the programme theory accounts for the limitations of some groups of incarcerated individuals, it is not sufficiently clear how these are considered. There is a risk that persons with intellectual disabilities are only partially responsive to a generic system of rewards, punishments, and motivational interviewing. Previous impact studies show that CM systems in prison are not all successful (Serin & Hanby, 2009). A discrepancy between what the system demands and the capacity of part of the target group could undermine the potential effectiveness of the system, or possibly even have aversive effects. Examples of such effects include reducing (intrinsic) motivation for behavioural change, non-compliance with rules and deteriorating contact with staff and practitioners due to perceived lack of procedural justice (e.g., Crewe, 2011a; 2011b; Liebling, 2008). Recent research shows this discrepancy, between autonomous functioning and the capacities of incarcerated individuals

with intellectual disabilities, even after release, and contributes to problems in many areas of life and an increased risk of recidivism (Teeuwen et al., 2020). It is to be expected that this discrepancy will receive attention in the coming years. For instance, there is already increasing research on the self-governing capacities of incarcerated individuals with intellectual disabilities (e.g., Kaal et al., 2011; Molleman, 2014), how these individuals can be identified within prison (Kaal, 2013), and how prison officers can deal with their disabilities and behaviour (Vrij & Kaal, 2015). Finally, it is plausible that a part of the prison population (more capable of self-governance) does not experience this discrepancy and may benefit from this system, as was found in the IEP scheme (Crewe & Ievins, 2020).

Furthermore, it follows from the programme theory that the system of Promotion and Demotion uses three means (punishments, rewards, and motivational interviewing) to achieve ten (intermediate) goals. The rewards are largely similar to the material and social rewards and activities typically used in CM systems, such as increased wages, additional opportunities to receive visits, and more rehabilitation activities (Gendreau & Listwan, 2018). The emphasis on punishments and rewards illustrates the principles of operant conditioning by which CM systems operate (Gendreau et al., 2014). The tension scholars expected between the system and the principle of resocialisation is made even more explicit by this contribution. Resocialisation is made largely dependent 'n individuals' behaviour and motivation (Boone & Van Hattum, 2014), meaning that rewards indeed often seem to serve rehabilitative purposes, such as participation in specific rehabilitation activities, behavioural interventions, and activities (in life domains important for resocialisation, such as education and social network). Some of the (intermediate) goals of the system of Promotion and Demotion are like the goals of the IEP scheme, such as individual responsabilisation, rule compliance and recidivism reduction (Liebling, 2008). It is notable that responsabilisation is a primary goal of this system, alongside the more historical goals of maintaining safety and order, and unlearning addictive behaviour (Kratcoski, 2017).

Finally, this contribution illustrates that the scientific plausibility of the main causal chains (how means lead to goals) in the programme theory of the system of Promotion and Demotion is highly variable. Out of 24 causal assumptions, seven were examined in the form of three causal chains. Several assumptions lacked convincing empirical evidence at the time the system was introduced (and still do), such as regarding the assumption that rewards encourage self-responsibility. The assumptions on those points are too premature and seldomly substantiated in policy documents, similar to the conclusions on the IEP scheme (Bosworth & Liebling, 1995). On other aspects, there is theoretical evidence that the assumptions are tenable, such as the assumption that intrinsic motivation to comply can lead to reductions in recidivism. Unfortunately, empirical research demonstrating that these assumptions hold true for individuals in a prison environment is mostly lacking. Regarding these aspects, it can therefore be argued that at the

time of implementation, they were provided with an evidence base which was too general and theoretical. That said, the Dutch government has for years been committed to anchoring prison policy in scientific knowledge, and specifically the system of Promotion and Demotion (House of Representatives, 2007/2008). The absence of practically applicable knowledge on effects of systematic rewarding in prison may also be blamed on the criminological research field. Yet the lack of convincing empirical and/or theoretical evidence need not be a reason for policymakers to throw out the baby with the bathwater. However, the starting point in that case should not be large-scale application, but small-scale steps through the empirical cycle and testing specific assumptions. However, the policy documents do not demonstrate such a phased approach.

In conclusion, the policy documents were not consistent or coherent on four counts. Changing resources and to some extent (intermediate) goals over time can affect the programme theory and thus affect the expected effects. However, little account has been taken of this. The use of motivational interviewing in prison, whether accompanied by a system of rewards and punishments, when properly implemented, seems likely to do justice to the overarching policy goal of a tailor-made, individual approach. Although more empirical research on motivational interviewing in prison is required, there are initial, promising indications that this instrument can contribute to readiness to change.

2.4.1 Methodological Remarks and Implications

This reconstruction of programme theory was the first systematic evaluation of the system of Promotion and Demotion in Dutch prisons as implemented in 2014. Some comments are in order. Public documents were used to reconstruct the programme theory. It is possible that certain (policy) documents were not public and thus remained under the radar (*publication bias*). However, there is no concrete indication that fundamental means, goals, or assumptions have been missed. A second observation concerns the selection of documentation. As the aim of this contribution was to map the original programme theory, no documents published after 1 March 2014 were included. In the years following its implementation, the system was modified in certain respects, such as the deletion of the orange behaviour category, and the generalisation of the remaining behavioural demands. However, the causal chains discussed appear unchanged. A third observation is that the scientific test was only applied to some fundamental causal chains of the programme theory. This leaves the scientific plausibility of the remaining causal chains uncertain. This reconstruction does provide clear starting points for a comprehensive test. Finally, the scientific plausibility of the causal chains examined is based primarily on a systematic literature review of reward systems in prison. In doing so, rewards and punishments, were treated as categories. No mechanisms were identified for the relation-

ship between individual rewards or punishments and (intermediate) goals based on broader behavioural literature. Policy evaluators do advocate this broader and even more in-depth approach when evaluating complex systems in which multiple mechanisms, often non-linear and at multiple levels, appear to interact (e.g., Pawson, 2013; Westhorp, 2012; 2013). This limitation may mean that (indirectly) relevant mechanisms that could explain the identified assumptions have not been identified. Moreover, this alternative approach could specifically further clarify the operation of mechanisms in the prison context, which includes, for example, the prison setting, interpersonal relationships between incarcerated individuals (and staff) and individual capacities of incarcerated individuals (Pawson, 2013). This also applies to differentiation of working mechanisms according to different target groups. For example, this review has provided limited clarity on the extent to which procedural justice might have a mediating effect on the behavioural outcomes of different target groups in reward systems in prison. Other behavioural literature may be able to provide useful hypotheses for this. Herein lies a concrete starting point for follow-up research.

Several findings point to recommendations. A logical first recommendation for follow-up research concerns testing the other causal chains. In addition, a process and impact evaluation of the entire system is recommended. This evaluation has provided insight into the set of assumptions underpinning the system. This provides a good basis for formulating informed and focused research questions on effects, interpreting (un)intended effects, and specific guidance for revision of programme theory (Van der Knaap, 2010). A process evaluation can provide more insight into the extent to which the system has been implemented in accordance with programme theory and implementation theory, which partly depends on the implementing organisation, implementers, and political influences (Coolsma, 2008). Moreover, it also allows to examine the extent to which the realisation of any (un)intended effects can be traced to deviations in or from the implementation theory. The Ministry of Justice and Security did announce an impact evaluation of the system (House of Representatives, 2013/2014), but it is unclear what outcomes this internal evaluation produced. Both evaluations could contribute to a debate on the normative assumptions of the system, for instance regarding what can be expected from (detained) citizens. Future evaluations of the system should be mindful of two concerns.

First, the specific responsivity of incarcerated individuals struggling to self-govern behaviour, especially those with intellectual disabilities. Although an individualised approach is advocated on paper, after reconstructing the programme theory, it is still unclear how the system of Promotion and Demotion tailors its means and (intermediate) goals. Criminologists and criminal justice scholars have previously been critical of the normative assumptions of the system, such as the high degree of self-governance it demands from incarcerated individuals (e.g., Kelk, 2015; Van Ginneken, 2018). Incarcerated individuals low on self-governance in particular might not be able to meet behavioural demands, and therefore

enjoy few rewards and lack helpful tools for rehabilitation (Boone & Uit Beijerse, 2018). It is advisable to investigate this (im)possibility further, with the growing scientific knowledge about the size, characteristics, and responsiveness of this group of offenders in mind. A process evaluation could remove this ambiguity. The identification of individuals with intellectual disabilities in prison proves difficult (Kaal & De Jong, 2017). Consequently, they are unlikely to receive the extra care and attention they need. Therefore, it is also advisable to pay more attention in practice to the identification of incarcerated individuals low on self-governance ability, and the tailoring of appropriate interventions (such as rewards, mild punishments, and motivational interviewing) by practitioners. Better identification first requires overarching prison policies that prioritise this target group, and arrange time, resources, and training of prison officers. In contrast, the Inspectorate of Healthcare and Youth (2020) found that in most prisons, such identification is not yet systematically addressed.

Second, follow-up research on effects should be mindful of unintended aversive effects of a system of punishments and rewards. For instance, recent qualitative research among individuals participating in the IEP scheme shows that (poor implementation of) such a system can also lead to feelings of powerlessness, anxiety, helplessness, and unfair treatment. Possibly, those feelings are related to the manner and degree of behavioural assessment by prison officers (Crewe, 2011a). A process evaluation could also provide more insight into the functioning and quality of this assessment process. Finally, the results of this contribution show that the programme theory of the system of Promotion and Demotion is too premature in some respects. This applies in particular to the connection of the generic system to incarcerated individuals. In this context, it is also relevant to further investigate the impact of eliminating the orange behaviour category on incarcerated individuals low on self-governance ability in particular, who may be more likely to fall into this category due to their limited mental capacity. Future research may shed more light on the (unintended) effects of this reward system on different target groups.

APPENDIX A

Documents used to reconstruct the programme theory of the Dutch reward system in prison

Government Gazette (2014), no. 4617.

House of representatives, *Parliamentary papers*, 2005/06, 30300 VI, no. 147.

House of representatives, *Parliamentary papers*, 2008/09, 24587, no. 299.

House of representatives, *Parliamentary papers*, 2008/09, 24587, no. 310.

House of representatives, *Parliamentary papers*, 2008/09, 24587, no. 310, appendix 1.

House of representatives, *Parliamentary papers*, 2009/10, 24587, no. 367.

House of representatives, *Parliamentary papers*, 2010/11, 29270, no. 52.

House of representatives, *Parliamentary papers*, 2010/11, 29270, no. 61.

House of representatives, *Parliamentary papers*, 2012/13, 24587, no. 490.

House of representatives, *Parliamentary papers*, 2013/14, 33745, no. 7.

Ministry of Justice (2009). *Programma Modernisering Gevangeniswezen. Tweede voortgangsrapportage*. Den Haag.

