Reward systems in prison

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5 Effects of Reward Status on Autonomy■

5.1 Introduction

The system of Promotion and Demotion was introduced in all Dutch prisons in 2014. This reward system includes a Basic programme and a Plus programme. We will refer to incarcerated individuals on a Basic programme as incarcerated individuals without a reward status, and incarcerated individuals on a Plus programme as incarcerated individuals with a reward status. Incarcerated individuals can obtain a reward status if they comply with several behavioural demands. The daily programme for incarcerated individuals without a reward status is designed in accordance with the minimum criteria set by law. In contrast, incarcerated individuals with a reward status can be rewarded with additional activities that increase their objective autonomy, which is defined as: freedom left to incarcerated individuals to make independent choices about daily living activities (Boone et al., 2016; Van der Laan & Eichelsheim, 2013). Examples of such rewards include the amount of time incarcerated individuals are allowed to spend outside their cell, the freedom of movement they are allowed and the access they have to additional rehabilitation activities, education and work assignments characterised by relatively more freedom (such as unit cleaner). Although Dutch policymakers expect these rewards to promote behavioural change (Chapter 2), this assumption has not been scientifically tested. This chapter therefore answers three related questions that address the allocation of rewards (research question 1) and the effects of these rewards on how incarcerated individuals experience autonomy (research questions 2 and 3).

First, the extent to which incarcerated individuals with and without reward status differ in the number of rewards they receive is examined. Rewards are, according to policy, reserved for incarcerated individuals who have obtained a reward status. However, there are some indications that this policy guideline is not strictly adhered to in practice. It is repeatedly found by advisory bodies that there is a serious shortage of prison staff, minimising opportunities to observe and assess behaviour of incarcerated individuals. Moreover, available prison officers are found to be inclined to promote incarcerated individuals, even when they do not comply with behavioural demands, as demotion requires additional administrative work (Inspectorate of Justice and Security (IJV), 2018; Council for the Administration of Criminal Justice and Youth (RSJ), 2019; 2020). These organisational

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challenges could facilitate arbitrariness in allocating reward statuses, and thus create uncertainty among incarcerated individuals regarding how rewards can be earned. Unfortunately, arbitrariness and uncertainty can lead incarcerated individuals to disengage from the system (e.g., Liebling et al., 1997; Crewe, 2011b).

In addition, a relevant and fundamental question is to what extent objective autonomy contributes to the subjective autonomy of incarcerated individuals. Subjective autonomy can be understood as the perception that an individual can make and implement independent, self-determined choices (Niemiec et al., 2010). Policymakers expect rewards to intrinsically motivate incarcerated individuals to comply with behavioural demands (Chapter 2). Subjective autonomy is an important source of intrinsic motivation and, ultimately, behaviour change in incarcerated individuals (Bourgon & Bonta, 2014; Deci & Ryan, 2001; Ward & Maruna, 2007). If rewards were to contribute to that subjective autonomy, intrinsic motivation could potentially be promoted. However, the *Self-Determination theory (SDT)* (Ryan & Deci, 2000a; 2000b; 2017) suggests conflicting expectations about the extent to which objective autonomy can contribute to subjective autonomy, in the context of a reward system in prison. While an environment characterised by freedom and autonomy can theoretically promote subjective autonomy, that effect may be frustrated by experiences of external control, such as rewards, supervision, and deadlines (Vansteenkiste & Ryan, 2013). This article tests both hypotheses. As desirable behaviour has recently also become a condition for leave and conditional release, the political relevance of that empirical test has only grown.

Finally, an important debate within the Dutch prison system revolves around whether the relatively large number of incarcerated individuals experiencing difficulties with self-governing their behaviour can keep up in a reward system (Boone, 2013; Van Ginneken, 2018). Up to 45 percent of the Dutch prison population may have an intellectual disability (Kaal, 2013; Den Bak et al., 2018), meaning they experiences difficulties such as anticipating outcomes, connecting causes and effects, and communicating (Talbot, 2010; Kaal et al., 2011). In other words, they experience difficulties in self-governing their behaviour. These incarcerated individuals regularly struggle to make good use of freedom and independence, as was found in studies in the English Incentives and Earned Privileges scheme (Crewe, 2011b; Hutton, 2017), as well as in Dutch pilot studies on self-governing regimes (De Jong et al., 2015; 2016; Farahi & Van de Rijt, 2016). Finally, findings from Chapter 4 illustrate that incarcerated individuals who are relatively low on self-governance ability also struggle with obtaining a reward status in the Dutch system of Promotion and Demotion. Self-governance ability consists of abilities facilitating thinking and acting (Bovens et al., 2018). Ability to think encompasses skills to collect and weigh up information and, based on this, make a plan of action. Ability to act can be translated with being able to implement, monitor and adjust that plan as needed (Bovens et al., 2018). Those skills, according to social learning

theories, are prerequisites of making and executing choices independently (Bandura, 1991; Zimmerman & Schunk, 2012). In theory, limitations in the ability to think and act could very well explain why some incarcerated individuals struggle to comply with behavioural demands and obtain a reward status. The degree to which self-governance ability also plays a role in reward allocation and, subsequently, experiencing greater autonomy because of employing those rewards, is unclear. Nevertheless, this question is relevant to the prison system, as Dutch offenders low on self-governance ability were found have a high risk of recidivism (Teeuwen et al., 2017), and preventing recidivism is the ultimate aim of imprisonment. In case incarcerated individuals low on self-governance are not intensively supporting in their rehabilitation process, this may set them back even further compared to incarcerated individuals who have few difficulties self-governing their behaviour (Van Ginneken, 2018). In summary, in this chapter we aim to answer three related research questions on the allocation and effects of rewards:

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 (1) and (2) depend on incarcerated individuals' self-governance ability?

Before turning to theory and prior research related to these research questions, we first briefly describe the system of Promotion and Demotion.

5.1.1 The Dutch Reward System in Prison

The policy of the Dutch reward system has been adjusted over time. We describe these adjustments in this section, as well as what is known about the application of the system.

The original system (2014)

A reconstruction of the programme theory of the system of Promotion and Demotion illustrates that when obtaining reward status (i.e., being allocated to a Plus program), the following rewards can be granted that enhance objective autonomy: more responsibility and freedom during work assignments, courses on skills and behavioural change, more rehabilitation activities, better paid work assignments, higher-level work assignments and/or work assignments coupled with (vocational) training, participation in behavioural interventions, evening and weekend program, more visits, education and sports activities, requesting when to receive visitors, and

eligibility for conditional release (Chapter 2). In total, incarcerated individuals with a reward status can spend 11 hours longer per week outside their cells than incarcerated individuals without such a status – provided that the aforementioned rewards are all granted and practised. It is plausible for several reasons that this theoretical distinction between programmes is not so clear-cut in practice. Because adequate supervision of incarcerated individuals is frustrated by shortages of staff, time, and poor visibility of incarcerated individuals (IJV, 2018; RSJ, 2019; 2020), there may also be little control over which incarcerated individual receives which reward. In addition, such shortages of staff and time may make it practically unfeasible to offer (work assignments-intensive) rewards.

Incarcerated individuals without a reward status can obtain a reward status, in line with the system introduced in 2014, when they demonstrate desirable behaviour for a minimum of six weeks. The policy requires a Multidisciplinary Consultative Body (MDO; *Multidisciplinair Overleg*) to decide whether that condition is met, based on their behavioural observations. They must then make a reasoned recommendation to the prison governor. The governor must then decide on promotion, demotion or retention and substantiate that decision. Yet here too, practice proves deviant. The RSJ (2019; 2020) repeatedly found that incarcerated individuals who displayed desirable behaviour to a limited extent, were nevertheless allocated to a Plus programme. This was prompted by shortages of time, staff, and adequate training (IJV, 2018).

Examples of desirable behaviour are cooperating in the daily programme and work assignments, as well as going through the necessary screening, selection and possibly diagnostics. Examples of undesirable behaviour are not cooperating in the daily programme and not being approachable on behaviour. In practice, desirable behaviour is often referred to as green behaviour and undesirable behaviour as red behaviour. A 'this-could-be-better' (orange) behaviour category was also introduced in 2014. Examples of that behaviour included having a short fuse and not taking responsibility for behaviour. Incarcerated individuals who displayed partly orange behaviour due to mental or addiction problems could still be promoted under the old policy (Chapter 2). Moreover, staff can – within the framework of the general behavioural demands – tailor certain behavioural demands to the capacities of incarcerated individuals. To what extent this possibility of differentiation also applies to the allocation of rewards is unclear.

The current system (2020)

In October 2020, the system was revised for the benefit of better and more consistent behavioural assessments, uniformity, legal equivalence, and ease of applicability (Ministry of Justice and Security, 2020). We mention four relevant changes here. First, the definitions of (un)desirable behaviour have been strongly generalised (RSJ, 2020). In the old system, those definitions

were specific and factual (e.g., doing homework when asked). Nowadays, they are a lot more general and abstract (e.g., an incarcerated individual keeps appointments). When incarcerated individuals display partly desirable and partly undesirable behaviour, the overall picture of behaviour and its development over the course of prison will be assessed. Second, the 'this-can-be-better' behaviour category was abolished in 2020. However, there is said to be room under the new policy to consider incarcerated individuals' thinking and doing abilities when setting personal behavioural goals. Also, if desirable, an incarcerated individual could receive more targeted counselling support in developing desirable behaviour (Ministry of Justice & Security, 2020). Third, a category of 'inadmissible' behaviour has been added (e.g., an incarcerated individual reacts physically aggressively or refuses a urine test). Inadmissible behaviour must always be followed by a decision to demote to a Basic programme. Fourth, the period in which desirable behaviour must be displayed has been broadened from a maximum to a minimum of six weeks. This means that after six weeks of displaying desirable behaviour, an incarcerated individuals not automatically eligible for obtaining a reward status.

5.1.2 Theory

Theory on which reward systems are based is unclear about the relationship between objective and subjective autonomy. The system of Promotion and Demotion is based on behavioural principles of operant conditioning (Chapter 2). Those principles assume that linking rewards to behaviour can motivate people to display that behaviour in the future (Murphy & Lupfer, 2014). But what role (subjective) autonomy plays in that process is unclear. Self-determination theory is more explicit about this. Self-Determination Theory (Deci & Ryan, 2000b) is a direct inspiration of the Dutch reward system (Van Gent, 2013) and provides explanations for general principles of the Good Lives Model (Ward & Maruna, 2007). This theory explains human motivation based on interactions between the (social) environment and the individual (Deci & Ryan, 2000b). Roughly speaking, the theory distinguishes two forms of motivation. Extrinsic motivation comes from sources external to the individual, such as rewards or punishments. Intrinsic motivation is promoted by (subjective) satisfaction of psychological needs for autonomy, competence, and connectedness (Ryan & Deci, 2000b). The theory then distinguishes two dimensions of subjective autonomy. Autonomy satisfaction involves experiencing behaviour as self-wanted and self-chosen. Autonomy frustration is the experience that (external) obstacles stand in the way of choices consistent with one's own will. These dimensions also differ in their impact on individuals' behaviour and attitudes. Autonomy frustration can lead to more resistance and psychological suffering faster than an unsatisfied need for autonomy (Vansteenkiste & Ryan, 2013).

Based on Self-Determination Theory, rewards can be expected to evoke autonomy frustration in incarcerated individuals if rewards are perceived as external control (Ryan & Deci, 2017; Vansteenkiste et al., 2020) (research question 2). Indeed, such control may instinctively appear at odds with the idea that behaviour is self-chosen. This theory assumes that a sense of autonomy is promoted when (incarcerated) individuals perceive that the environment provides meaningful choices, the goals and values of those choices are explained to them, the environment provides possibility and opportunity to initiate choices themselves, and/or the social environment respects their choices (Niemiec et al., 2010; Vansteenkiste & Ryan, 2013). The rewards used by the system of Promotion and Demotion seem to partly meet those qualifications. Nevertheless, the satisfying effect of that objective autonomy is likely to be frustrated, according to Self-Determination Theory, because that freedom is highly regulated through external rewards and possibly supervision (Vansteenkiste et al., 2020) (research question 2). First, rewards and behavioural targets are prescribed and not self-determined. Moreover, rewards are also only conditionally available. Although incarcerated individuals can choose not to comply with behavioural demands, there are far-reaching consequences to that choice (e.g., limited access to rehabilitation courses). For this reason, the rewards of the Plus programme can be expected to evoke autonomy frustration. However, Self-Determination Theory also argues that this frustration effect is unlikely to occur when individuals are intrinsically motivated to perform the behaviour being rewarded, because in that case they do not perceive rewards as a form of external control (Ryan & Deci, 2017).

Finally, there is some theoretical evidence that the relationship between incarcerated individuals' objective and subjective autonomy may depend on their self-governance ability (research question 3). Multiple theories (Bandura, 1991; Zimmerman & Schunk, 2011) and models for effective correctional intervention (Bourgon & Bonta, 2014; Ward & Maruna, 2007) imply that thinking and doing skills are necessary to initiate and modify behaviour. This is probably also true for rewards that require initiation, monitoring and reflection, such as attending education or a rehabilitation course. If a reward does not match the incarcerated individual's skill level, it is unlikely to make that individual feel more autonomous because of that reward. This is no different for incarcerated individuals low on self-governance ability; improving these skills is considered conditional for their exercise, and thus possibly perception, of autonomy (Wehmeyer, 2004).

5.1.3 Prior Research

There is also some empirical evidence that an increase in objective autonomy in prison is associated with an increase in subjective autonomy. Research on prison experiences has repeatedly indicated that a deprivation of objective autonomy is perceived as profound (see Woodall et al., 2014).

In contrast, effects of an increase in objective autonomy on incarcerated individuals' subjective autonomy have been much less extensively studied. However, participants in Dutch pilot studies of self-governing prison units did report an increase in their subjective autonomy, which they attributed to the freedoms unique to that unit (Vollaard et al., 2019). Among other things, incarcerated individuals on those units were given a movement card, key to the (outside) cell door and were allowed to cook for themselves. These freedoms were conditional: in case of undesirable behaviour, a transfer back to a regular regime could follow. Incarcerated individuals in (semi-) open prisons in other countries also reported more subjective autonomy and well-being as a result of a relative increase in freedom to choose independently – although they felt far from fully autonomous (Reiter et al., 2018; Talay & Pali, 2020). Although incarcerated individuals in these 'freer' regimes also described anxiety about being returned to regular regimes, stress and frustration (pains of freedom; Shammas, 2014), it is unclear to what extent these pains stemmed from a sense of external control over their behaviour. The (perceived) arbitrariness and unaccountability regarding decisions about (re)location is the most reported explanation for these negative experiences (Reiter et al., 2018; Shammas, 2014; Talay & Pali, 2020).

Research focusing specifically on reward systems in prison is very scarce, so there is also little empirical knowledge about the relationship between objective and subjective autonomy in that context (Chapter 4). In an ethnographic study among participants of the English equivalent of the Promotion and Demotion scheme (the Incentives and Earned Privileges scheme), incarcerated individuals reported that being rewarded, including more visiting opportunities and television on cell, increased their subjective autonomy (Crewe, 2011b). Nevertheless, incarcerated individuals reported feeling strongly controlled, due to monitoring and normative judgements about their choices (Crewe, 2011b). Again, this study suggests that an increase in objective autonomy can be associated with an increase in subjective autonomy, and that external control does not (entirely) frustrate that relationship. Possibly this can be explained by a correspondence between external and internal motivation of incarcerated individuals to display desirable behaviour (Ryan & Deci, 2017); a correspondence that has also been found among participants of the system of Promotion and Demotion (Chapter 4). Based on theory and prior research, we expect, on the one hand, that objective autonomy is associated with greater satisfaction of the need for autonomy. On the other hand, we expect that rewards may be perceived as external control and thus frustrate autonomy needs (research question 2).

A previous study illustrated that incarcerated individuals low on self-governance ability were less able to comply with behavioural demands, making them more likely not to progress to a Plus programme (Chapter 4). Yet, no previous research has been conducted on receiving rewards in the Dutch system in relation to incarcerated individuals' self-governance ability. Within the system of Promotion and Demotion, it is not formal policy to exclude incarcerated individuals low on self-governance ability

from rewards (see sections 2.1 and 2.2). However, the aforementioned pilot studies on self-governing prison units do indicate that prison officers experienced that incarcerated individuals struggling to self-govern behaviour were also unable to benefit from the freedom offered to make their own choices; although it is unclear what staff exactly meant by this (De Jong et al., 2015; 2016; Farahi & Van de Rijt, 2016). A possible example is being allowed to request additional visitation via a form when an incarcerated individual does not understand the language and concepts on the form (Talbot, 2010). Research among non-incarcerated individuals low on self-governance ability also illustrated the conditionality of thinking and doing skills for being able to use freedom to act independently. Indeed, the very ability to choose and regulate behaviour independently contributes to increasing their subjective autonomy (Frielink et al., 2018; Carey et al., 2022). As a result of this limited ability to think and act, incarcerated individuals low on self-governance ability may not experience more autonomy satisfaction (nor reduction of autonomy frustration) when there receive rewards, compared to individuals who report higher levels of self-governance ability (research question 3).

5.2 Methods

5.2.1 Data Collection

The current study uses survey data from the Life in Custody (LIC) study, a large-scale research project by Leiden University and the Dutch Correctional Institutions Service (DJI) that measures the prison climate in all prison in the Netherlands (Palmen et al., 2019). The current study used data collected in 2022 in a selection of nine prisons. These prisons were selected based on numbers of incarcerated individuals on regular prison units, as the system of Promotion and Demotion is formally operational only on those wards. In addition, diversity in size (small, medium, large) and geographical location (six provinces) of the prisons were considered. From March to July 2022, surveys were distributed and collected by a team of 10 research staff (mainly Master students in Criminology at Leiden University), under the supervision of the first author of this contribution. Research staff received extensive training in research ethics, obtaining informed consent, motivating incarcerated individuals to participate in research, and handling difficult situations. The researchers approached each potential participant individually to explain the purpose, importance, independence, voluntariness and confidentiality of the study, and answer questions. All incarcerated individuals who were approached received a small token of appreciation upfront (such as a candy bar), regardless of their decision on study participation. The distributed surveys were usually collected by the researchers the next day. Incarcerated individuals who, for whatever reason, had difficulty completing the survey were offered an oral intake.

5.2.2 Instrument and Participants

Data were collected using the validated Prison Climate Questionnaire (PCQ; Bosma et al., 2020b). The standard PCQ was supplemented with a module developed for this study, which included items on objective autonomy, subjective autonomy (satisfaction and frustration) and self-governance ability. The wording of some items was also simplified. In addition, the survey was completely anonymous. The Dutch version of the survey was piloted among eight incarcerated individuals, four of whom were designated (undiagnosed) as mild intellectually disabled by prison officers on their unit. All participants rated the survey as clear and comprehensible. The survey was available in Dutch and English.

A total of 3210 incarcerated individuals were residing in the selected facilities at the time of data collection, in a variety of regimes. Of these, 260 could not be invited to participate because of insufficient English or Dutch proficiency, or because of serious mental health problems or placement segregation or time-out during data collection. In the end, 2209 of the 2950 (75 percent) remaining incarcerated individuals completed a survey. The intended sample for this study consisted of individuals detained on regular prison regimes whose reward status was known (N = 1011). Of this all-male sample of 1011 incarcerated individuals, 65 percent was born in the Netherlands, 60 percent had previously served time in prison, and 65 percent had served more than 12 months of their current prison sentence at the time of data collection. They were 39 years old on average (Mdn. = 36).

5.2.3 Variables and Analyses

Reward status. Reward status was measured with one item ('Which programme are you currently in?'). The response categories were 'Basic', 'Plus', 'Pre-trial detention', 'don't know' or 'not applicable'. These were transformed into a dichotomous variable (No reward status = 0; Reward status = 1). The remaining responses were coded as missing.

Objective autonomy. The Prison Climate Questionnaire (v2022) measures perceptions of incarcerated individuals of seven out of eleven rewards that can be granted to those who have earned a reward status (see Elbers et al., 2021). We initially aimed to measure these seven rewards, constituting a measurement of objective autonomy, representing freedom to make independent choices in the domains of mobility, visiting, work assignments, education, and activities (e.g., 'I can choose here if, when and how often I... receive visits'). However, bivariate analyses revealed that incarcerated individuals in both programmes differed significantly on only three of these seven rewards, namely on work assignments, mobility and education (see Table 5.2). Although this insight is useful in assessing how the system is applied or at least perceived (research question 1), our additional goal was

to measure the effect of rewards *as applied* on subjective autonomy (research questions 2 and 3). Therefore, we chose to reduce the scale for objective autonomy to these three rewards. Thus, the results of the regression analyses represent the effects of rewards actually applied in practice, and thus about the functioning of the system rather than about the potential effects of rewards on subjective autonomy. The original response categories ranged from 1 (completely disagree) to 5 (completely agree) on a Likert scale. These categories were converted to 0 (completely disagree, disagree, neutral) and 1 (agree, completely agree) to simplify interpretation. A sum score was calculated if more than half of the items were answered. The number of missing values on this sum scale was small at 7 percent. Higher scores indicated greater objective autonomy (range 1 to 3).

Subjective autonomy: satisfaction and frustration. Subjective autonomy was measured using the validated autonomy subscale of the Basic Psychological Need Satisfaction and Need Frustration Scale (BPNSNF; Chen et al., 2015). Specifically, we used a Dutch-language version of the scale, which contains simple language and was also previously used in a Belgian study on autonomy perception in prison (Van der Kaap-Deeder et al., 2017). Theory and previous research – also among individuals low on self-governance ability – distinguished two dimensions of this scale: autonomy frustration and autonomy satisfaction (Ryan & Deci, 2017; Chen et al., 2015; Frielink et al., 2019). For our research questions, it is relevant to use the two autonomy subscales (satisfaction and frustration) since rewards can act as a source of frustration (Vansteenkiste et al., 2020). From our factor analysis, these two factors also emerged as such. Both subscales were equally reliable ($\alpha = 0.82$), and their mutual correlation was reasonable ($r = -0.49$). Autonomy satisfaction (e.g., 'What I choose to do suits what I want to do myself') and autonomy frustration (e.g., 'I feel compelled to do many things, which I do not really want to do') of participants was assessed using four items for both subscales. Response categories ranged from 1 (completely disagree) to 5 (completely agree) on a Likert scale. A mean score for the subscales was calculated if more than half of the items were answered. The number of missing values on both subscales was about 5 percent. Higher scores indicated more satisfaction or frustration.

Self-governance ability. We used a modified version of the Leiden Self-Governance Ability Scale (LSGAS) to measure self-governance ability. The LSGAS is a newly constructed self-report scale based on theories of cognition, intelligence and self-governance ability. Although our factor analysis highlighted two factors, we chose to include all items as one scale because of the comprehensibility of the results. A total score of ten items was calculated that covered two relevant domains: conceptual functioning (three items, e.g., 'I find short texts difficult to read and understand (such as street signs or advertising leaflets)') and socio-practical functioning (seven items, e.g., 'I can make appointments (such as at the doctor's office or the town

hall) without help from others'). All ten items loaded at least .43 on the reliable total scale (α = 0.79), and the mean inter-item correlation is acceptable with r = 0.28. Response categories ranged from 1 (completely disagree) to 5 (completely agree) on a Likert scale. A mean score was calculated if more than half of the items were answered. For specific analyses, two groups were created. Incarcerated individuals who scored in the lowest 40 percent (0.00 to 4.00) were coded as 'low on self-governance ability' and those who scored in the upper 60 percent (4.00 to 5.00) as 'high on self-governance ability'. This choice is in line with an indication of the prevalence of mild intellectual disability (Licht Verstandelijke Beperking; LVB) in prison (30 to 45 percent), a target group that is, by definition, reduced in their ability to self-govern behaviour (Kaal et al., 2011; Den Bak et al., 2018).

Control variables. We controlled for five background characteristics based on their theoretical and empirical relevance. Age in years was included as a continuous variable. Country of birth distinguished between incarcerated individuals born in the Netherlands (1) or abroad (0). Time served in prison up until data collection was included as an ordinal variable with three categories: 0 to 6 months, between 6 and 12 months and longer than 12 months. Incarceration history indicated whether a person had previously served time in prison (1 = yes). Because intrinsic motivation for compliance can override any frustration of autonomy needs, this background characteristic was also included (Ryan & Deci, 2017). Intrinsic motivation was measured as a mean score of four newly developed items (e.g., 'I try to behave according to the rules because desirable behaviour suits me'). A factor analysis indicated that these four items measure one construct and do so reliably (α = 0.70).

Analyses. Analyses were conducted using SPSS 27.0. Besides descriptive statistics, t-tests and chi-square tests were conducted to identify differences between incarcerated individuals with and without reward status on the (in)dependent variables. Three linear regression analyses were conducted to answer the three research questions. All statistical conditions were met. Those analyses were conducted for the total sample, and again separately for the two groups of self-governance (low vs high). This was chosen because we also wanted to identify the extent to which the effects differed for a vulnerable group, namely the incarcerated individuals low on self-governance ability. Three additional linear regression analyses were conducted to examine possible interaction effects (research question 3). Tables presented in the results paragraph do not contain control variables for reasons of clarity. All regression analyses are presented with control variables in tables D1 to D3 in Appendix D.

5.3 Results

The bivariate analyses show some striking results (see Table 5.1). First, of the 1011 participants, the vast majority (81 percent) reported having a reward status (N = 821). In addition, it was found that incarcerated individuals without a reward status (M = 1.65, SD = 1.50) and incarcerated individuals with a reward status (M = 2.79, SD = 1.55) were significantly different from each other regarding the objective autonomy they reported (t (949) = -8.86, p < .001). Yet, this was not true for four of seven rewards measured (see Table 5.2). At the same time, no difference was found in reported subjective autonomy (both satisfaction and frustration) between incarcerated individuals without and incarcerated individuals with a reward status.

5.3.1 Reward Status and Objective Autonomy

Research question 1 concerns the relationship between a reward status and objective autonomy. The first regression analysis showed that having obtained a reward status is a significant predictor of the extent to which incarcerated individuals report objective autonomy when controlling for background characteristics (Table 5.3, column 'Total'). Thus, a reward status is associated with greater objective autonomy (B = 0.43, p < .001), that is, with a higher number of reported rewards. This finding was consistent with the expectation we had established based on the programme theory. It is important to remember that in measuring objective autonomy, we measured only the three rewards on which incarcerated individuals in both programmes significantly differed.

5.3.2 Objective Autonomy and Subjective Autonomy

Research question 2 addresses the relationship between objective autonomy and subjective autonomy. Here, we break down subjective autonomy into satisfaction and frustration of autonomy. The analyses (see Table 5.3, column 'Total') illustrate that incarcerated individuals who report greater objective autonomy also report significantly greater satisfaction of their autonomy needs (B = 0.33, p < .001). Similarly, it appears that incarcerated individuals who report greater objective autonomy report significantly less frustration of their need for autonomy (B = -0.26, p < .001). Consistent with our hypotheses, this implies that incarcerated individuals experience greater autonomy when they report a greater number of rewards. This further suggests that rewards do not have a frustrating effect on the satisfaction of autonomy needs.

5.3.3 The Role of Self-Governance Ability

Research question 3 focused on a possible interaction effect of self-governance ability on the relationship between a stay in a Plus programme and objective autonomy (research question 1) and the relationship between objective autonomy and subjective autonomy (research question 2). In the analyses, we compared two groups: incarcerated individuals low on self-governance ability and incarcerated individuals high on self-governance ability. Having a reward status was conducive to the objective autonomy reported by incarcerated individuals high on self-governance ability ($B = 0.43$, $p < .001$), as was the case for incarcerated individuals low on self-governance ability ($B = 0.37$, $p < .01$) (see Table 5.3, columns 'Incarcerated individuals high on self-governance ability' and 'Incarcerated individuals low on self-governance ability').

In addition, linear regression analyses disclosed that all significant effects in the total sample for the relationship between objective and subjective autonomy also emerged in both self-governance ability subgroups (see Table 5.3). The direction of the effects found of objective autonomy on autonomy satisfaction (+) and autonomy frustration (-) is similar for both groups. Both effects were, however, larger in the group incarcerated individuals high on self-governance ability (satisfaction: $B = 0.35$; frustration: $B = -0.31$) than in the group with incarcerated individuals low on self-governance ability (satisfaction: $B = 0.27$; frustration: $B = -0.19$).

Non-significant interaction effects

To examine whether these group differences between incarcerated individuals low and high on self-governance ability were significant, three linear regression analyses with interaction terms were conducted. In none of the analyses the interaction term was significant (see Table 5.4). In the first analysis, objective autonomy was the dependent variable, the independent variable was reward status and the interaction term was reward status X self-governance ability. The interaction term was not significant ($B = 0.01$, $SD = 0.18$, $p = .95$). This means that the relationship between reward status and objective autonomy was independent of self-governance ability. In the second analysis, the dependent variable was autonomy satisfaction, the independent variable was objective autonomy and the interaction term was objective autonomy X self-governance ability. This interaction term was not significant ($B = 0.08$, $SD = 0.08$, $p = .28$). The third analysis, with autonomy frustration as the dependent variable and the same independent variable as used in the second analysis showed that the interaction term (objective autonomy X self-governance ability) was not significant ($B = -0.14$, $SD = 0.07$, $p = .06$). In sum, the relationship between objective autonomy on the one hand, and satisfaction and frustration of autonomy needs on the other, does not depend on the self-governance ability that incarcerated individuals reported.

See Appendix D for an overview of all control variables used in the three regressions reported in Table 5.4 and described in this paragraph.

Table 5.1
Descriptive statistics on the relationship between autonomy and reward status (N = 1011)

	Total (N = 1011) % / Mn (SD)	No Reward status (N = 190) % / Mn (SD)	Reward status (N = 821) % / Mn (SD)	Group differences Hedges g or X^2	N
(In)dependent variables					
Objective autonomy (1-7)	2.58 (1.60)	1.65 (1.50)	2.79 (1.55)	1.54**	951
Objective autonomy (1-3)	1.16 (0.89)	0.80 (0.76)	1.24 (0.90)	0.87**	944
Subjective autonomy					
Autonomy satisfaction (1-5)	2.99 (0.88)	3.00 (0.93)	2.99 (0.87)	0.88	961
Autonomy frustration (1-5)	3.10 (0.87)	3.10 (0.86)	3.09 (0.87)	0.87	977
Self-governance ability (1-5)	4.14 (0.58)	3.99 (0.64)	4.18 (0.56)	0.58**	949
Low self-governance ability (0-1)	37%	47%	35%	8.37*	351
Background characteristics					
Age (years)	39 (12.55)	32 (10.86)	41 (12.48)	12.20**	903
Intrinsic motivation (1-5)	3.75 (0.74)	3.53 (0.84)	3.80 (0.71)	1.54**	896
Born in the Netherlands (yes)	65%	68%	65%	0.70	933
Time served					
0-6 mths	6%	12%	5%	13.16**	64
6-12 mths	20%	21%	20%	0.06	201
12+ mths	65%	60%	66%	2.45	656
Incarceration history (yes)	60%	74%	57%	17.30**	919

** $p \leq .001$; * $p \leq .01$

Table 5.2
Bivariate statistics of objective autonomy per item (N = 1011)

	Total (N = 1011)	No reward status (N = 190)	Reward status (N = 821)	Group differences (X^2)	N
Objective autonomy					
Reward 1: Freedom during work assignments (0-1)	41%	13%	45%	39.10**	761
Reward 2: Free movement between activities (0-1)	63%	53%	66%	10.21**	946
Reward 3: Evening programme twice a week (0-1)	79%	31%	89%	288.36**	972
Reward 4: Receiving extra visitors (0-1)	32%	27%	34%	2.91	940
Reward 5: Participation in education (0-1)	23%	20%	24%	1.64	901
Reward 6: Participation in rehabilitation activities (0-1)	23%	20%	24%	1.14	888
Reward 7: Participation in reentry activities (0-1)	15%	13%	15%	0.38	794

** p ≤ .001; * p ≤ .01.

Table 5.3
Results of linear regression analyses research questions 1 and 2

	Total			Low Self-governance ability			High Self-governance ability		
	B	SE	N	B	SE	N	B	SE	N
Reward status (1 = Yes) → Objective autonomy (1-3)	0.43**	0.09	766	0.37*	0.14	260	0.43**	0.12	494
Objective autonomy (1-3) → Autonomy satisfaction (1-5)	0.33**	0.03	758	0.27**	0.05	256	0.35**	0.04	491
Objective autonomy (1-3) → Autonomy frustration (1-5)	-0.26**	0.04	764	-0.19**	0.06	261	-0.31**	0.05	492

Note. Background characteristics age, country of birth, time served, incarceration history, and intrinsic motivation for rule compliance were controlled for.
** p ≤ .001; * p ≤ .01.

Table 5.4
Results of linear regression analyses research question 3: interaction effects

	Total		
	B	**SE**	**N**
Reward status (1 = Yes) → Objective autonomy (1-3)	0.54	0.96	754
Interaction term: Reward status (1 = Yes) x Self-governance ability (1-5)	*-0.03*	*0.14*	*754*
Objective autonomy (1-3) → Autonomy satisfaction (1-5)	-0.11	0.25	747
Interaction term: Objective autonomy (1-3) x Self governance ability (1-5)	*0.11*	*0.06*	*747*
Objective autonomy (1-3) → Autonomy frustration (1-5)	0.16	0.25	753
Interaction term: Objective autonomy (1-3) x Self governance ability (1-5)	*-0.10*	*0.06*	*753*

Note. Background characteristics age, country of birth, time served, incarceration history, intrinsic motivation for rule compliance and self-governance ability were controlled for.

** $p \leq .001$; * $p \leq .01$.

5.4 Conclusion and Discussion

Upon entering prison, incarcerated individuals are deprived of their freedom to make independent choices. In the Dutch reward system of Promotion and Demotion, incarcerated individuals can earn back some of that freedom. By displaying desirable behaviour, they can earn a place in a Plus programme (obtain a reward status), which on paper offers significantly more independent choice space than the austere Basic programme in which incarcerated individuals without a reward status are placed. Although the implementation and effects of the system of Promotion and Demotion have not previously been scientifically outlined, there are concerns about how and to what extent system objectives are being achieved (RSJ, 2020). A specific concern is to what extent this system connects to the large part of the prison population which is characterised by low self-governance ability (Boone, 2013; Van Ginneken, 2018). Therefore, the aim of this article was to answer three related research questions on the allocation of rewards (research question 1) and the effects of rewards on incarcerated individuals' subjective autonomy (research questions 2 and 3).

The first research question was: To what extent do incarcerated individuals with a reward status also receive rewards (objective autonomy)? Although the data showed that incarcerated individuals with a reward status reported significantly greater objective autonomy than incarcerated individuals- without a reward status, this was also limited to three of the seven rewards measured. There was no difference in receiving additional visitors, access to education, participation in rehabilitation activities and reentry activities. Most incarcerated individuals in both programmes reported having no access to these rewards. This suggests that the policy guidelines are only partially applied or are experienced differently by incarcerated individuals. Perhaps some of the rewards were not offered during data collection due to staff shortages in the aftermath of the Covid-19 pandemic. An alternative explanation is that in practice it is difficult for staff to distinguish between incarcerated individuals on both programmes in granting rewards, potentially resulting in rewards being awarded to all incarcerated individuals on one unit or none. For example, because incarcerated individuals with and without reward status share units and cells, but also because of a shortage of time and prison officers (IJV, 2018; RSJ, 2019; 2020). That would raise questions about the feasibility of the system in its current form. Finally, it is possible that incarcerated individuals were not (yet) aware of the possibilities of using certain rewards, which some incarcerated individuals also told us during the data collection for this study.

The second research question was: 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)? To answer this question, inspired by the Self-Determination Theory (Ryan & Deci, 2000a; 2017), we divided subjective autonomy into satisfaction and frustration of the need for autonomy. Autonomy satisfaction arises from self-determined and chosen

behaviour, while autonomy frustration represents obstacles that stand in the way of that satisfaction (e.g., rewards). Incarcerated individuals with and without reward status reported approximately equal levels of autonomy satisfaction and frustration. In addition, incarcerated individuals who reported more objective autonomy also reported significantly more satisfaction and less frustration with their need for autonomy. This objective autonomy was measured as the presence of the three rewards on incarcerated individuals with and without a reward status significantly differed, so that the effect of reward status on subjective autonomy was indirectly outlined. The fact that freedom to choose and act independently can contribute to subjective autonomy is in line with the assumption of policymakers (Chapter 2), previous research into an English reward system in prison (Crewe, 2011b) and Dutch pilot research into self-governing prison units (Vollaard et al., 2019). We found no evidence that a greater number of rewards was associated with more frustration of the need for autonomy. This implies that providing objective autonomy in the form of a reward does not stand in the way of satisfaction of the need for autonomy (Ryan & Deci, 2017). Together with an increase in satisfaction, we found a decrease in frustration of the need for autonomy. Regarding this finding, it can be noted that demotions to a Basic programme seem to be rare in practice (RSJ, 2019; 2020) and that the differences between the Basic and Plus programme appeared to be small regarding the rewards that are offered to incarcerated individuals. As a result, any pains of freedom (Shammas, 2014) are relatively small. A possible explanation for this finding is that the behaviours that have been designated as desirable behaviour are largely in line with the intrinsic motivations of incarcerated individuals with a reward status (Chapter 4). In that case, according to the Self-Determination Theory, rewards are unlikely to be perceived as external control and generate frustration of the need for autonomy (Ryan & Deci, 2017).

The third research question concerned possible interaction effects of self-governance ability on the relationships tested in the two previous research questions. The findings imply that the effects do not depend on the self-governance ability reported by incarcerated individuals. Incarcerated individuals who reported low self-governance ability also experienced greater objective autonomy when having obtained a reward status and that objective autonomy contributes to the satisfaction and reduction of frustration of their need for autonomy. Specifically, the findings imply that incarcerated individuals low on self-governance ability also experienced greater autonomy when they are allowed greater freedom in work assignments, mobility, and education. In that respect, the system seems to be at least partly responsive to this target group and does not seem to create any further inequality among incarcerated individuals – concerns previously raised by prison scholars (Boone, 2013; Van Ginneken, 2018). This seems to contradict the hypothesis that the relationship between objective and subjective autonomy depends on self-governance ability. Still, rejecting this hypothesis may be premature, as the number and type of rewards included

in the analyses may have biased the results. When using a scale with all seven measured rewards, the group difference would have been significant. It is also plausible that more self-governance ability is required to participate in education and courses (rewards not included in the analyses) than to leave the cell during evenings or to stay outside the cell between activities (rewards that are included in the analyses). Moreover, it is important to bear in mind that, according to previous research (Chapter 4), incarcerated individuals low on self-governance ability are less likely to obtain a reward status because they (are less able to) comply with behavioural demands.

In conclusion, this article provides insight into an important part of the Dutch system of Promotion and Demotion, namely the allocation and effects of rewards on incarcerated individuals, specifically regarding their subjective sense of autonomy. The data suggests that the system is perceived or applied differently than intended, given the non-significant differences in most rewards reported by incarcerated individuals with and without reward status. Nevertheless, the rewards that are significantly awarded to a greater extent to incarcerated individuals with a reward status do have a stimulating effect on their sense of autonomy. This also applies to incarcerated individuals who report that they low on self-governance ability, although they have a smaller chance of obtaining a reward status (Chapter 4). This finding suggests that incarcerated individuals who are low on self-governance ability also benefit from more freedom to act independently – at least, in terms of type of work assignments, freedom of movement between activities and evening program, in terms of subjective autonomy. This means that it remains unclear to what extent they also possess the necessary thinking and doing capacity to be able to practice some rewards, such as actively participating in a (vocational) course. Studying the use of rewards can be relevant with a view to incarcerated individual rehabilitation.

5.4.1 Remarks

In summary, determining the effects of rewards on the subjective autonomy of incarcerated individuals is challenging. This is partly due to methodological choices. First, the survey used does not measure all rewards that can be formally offered in a Plus programme (Chapter 2). Because the unmeasured rewards could also contribute to subjective autonomy, the reported effects may represent an underestimation. At least, if it is assumed that those rewards are actually awarded. Second, the data used in this study was collected immediately after all Covid-19 measures in prisons were lifted. Also in this period, certain rewards in specific departments could have been (temporarily) cancelled due to, among other things, increased staff absenteeism. This may partly explain why the prevalence of some rewards on both programmes was relatively low (see Table 5.2). On the other hand, however, the Life in Custody also shows that autonomy scores for the Dutch prison population have almost the same for 2017, 2019 and 2022

(Berghuis et al., 2017; De Jong et al., 2019; Elbers et al., 2022). This suggests that autonomy scores were back at baseline at the time of data collection, and that effects of Covid-19 had mostly worn off. Other explanations for low reward prevalence can relate to the fact that incarcerated individuals are unfamiliar with rewards, or shortages in staff and staff training – which appears to be the status quo rather than an exceptional situation (IJV, 2018; RSJ, 2019; 2020). Third, these cross-sectional data do not provide insight into the extent to which pre-existing individual and situational differences explain the observed effects of rewards on the satisfaction and frustration of the need for autonomy. A selection effect cannot be ruled out because no pre-measurement of subjective autonomy or predictors thereof has been performed. If a selection effect exists, the effects found cannot be fully attributed to the reported rewards.

On the other hand, a cause of this complex empirical task is a lack of understanding of how rewards are awarded in practice. Incarcerated individuals with and without reward status did not differ significantly on four rewards, nor in the subjective autonomy they report. This suggests that the application of the system deviates from programme theory, or that incarcerated individuals have a different perception of that application – for example, that they are not aware of the rewards that have been awarded to them. If the application of the system deviates from the intended application, this may influence the effects.

5.4.2 Implications for Policy and Practice

The findings imply that the policy is not fully applied or experienced as intended, as evidenced by the small differences between the rewards reported by incarcerated individuals with and without reward status. In the absence of insight into the application of the system, explanations for this are often hypothetical. It is therefore recommended that policymakers carry out (or commission) a process evaluation of the application of decisions regarding promotion, demotion, and retention. An obvious research question concerns the extent to which rewards are awarded in the same way in different units and in different prisons, and how this process is experienced by incarcerated individuals. Insight could also be created into the frequency of and reasons for differentiation in that allocation. In this way it can also be examined to what extent the advice and decision-making by the MDO, and the prison governor are followed up on by prison officers, and what can explain deviations from such decisions. Interviews with incarcerated individuals and prison officers, observations of MDO consultations, as well as case law of complaints committees, and study of the content of MDO reports and decisions of prison governors, can contribute to this evaluation.

Appendix D

Table D1

Linear regression results for the effect of reward status on objective autonomy (three items), including interaction terms.

	Total		Total (interaction)		Low Self-Governance Ability		High Self-Governance Ability	
	B	**SE**	**B**	**SE**	**B**	**SE**	**B**	**SE**
(Constant)	-0.31	0.24	-0.78	1.07	-0.32	0.37	-0.17	0.33
Reward status (1 = Yes)	0.43**	0.09	0.54	0.58	0.37*	0.14	0.43**	0.12
Self-governance ability (1-5)	-	-	0.13	0.26	-	-	-	-
Reward status X Self-governance ability	-	-	-0.03	0.14	-	-	-	-
Age (in years)	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Time served								
0-6 mths	0.03	0.15	0.05	0.15	-0.14	0.22	0.20	0.21
6-12 mths	*ref*	*ref*	*ref*	*ref*	*ref*	*ref*	*ref*	*ref*
12+ mths	0.20	0.08	0.21**	0.08	0.06	0.13	0.29*	0.10
Born in the Netherlands (yes)	-0.02	0.07	-0.06	0.07	0.03	0.11	-0.10	0.09
Incarceration history (1 = Yes)	-0.09*	0.06	-0.07	0.06	-0.16	0.11	-0.05	0.08
Intrinsic motivation for compliance (1-5)	0.11	0.04	0.11	0.04	0.14	0.07	0.09	0.06
R^2	0.08		0.08		0.09		0.07	
N	766		754		260		494	

** p ≤ .001; * p ≤ .01.

Note. In total, this integrated table contains the results of three separate regression analyses. Columns 'Total' and 'Total (interaction)' present the results of two consecutive models in one linear regression analysis. Columns 'Low Self-Governance Ability' and 'High Self-Governance Ability' present results of two separate linear regressions, conducted for both subgroups.

Table D2

Linear regression results for the effect of objective autonomy on autonomy satisfaction, including interaction terms.

	Total		Total (interaction)		Low Self-Governance Ability		High Self-Governance Ability	
	B	**SE**	**B**	**SE**	**B**	**SE**	**B**	**SE**
(Constant)	1.94**	0.19	2.66**	0.38	2.05**	0.27	1.81**	0.27
Objective autonomy (1-5)	0.33**	0.03	-0.11	0.24	0.27**	0.05	0.35**	0.04
Self-governance ability (1-5)	-	-	-0.18	0.08	-	-	-	-
Objective autonomy X Self-Governance ability	-	-	0.10	0.06	-	-	-	-
Age (in years)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Time served								
0-6 mths	0.20	0.14	0.23	0.14	-0.02	0.19	0.44	0.20
6-12 mths	*ref*	*ref*	*ref*	*ref*	*ref*	*ref*	*ref*	*ref*
12+ mths	0.10	0.07	0.11	0.07	0.05	0.11	0.15	0.10
Born in the Netherlands (yes)	0.00	0.06	0.02	0.07	0.10	0.09	-0.02	0.09
Incarceration history (1 = Yes)	0.18*	0.06	0.17*	0.06	0.12	0.10	0.19	0.08
Intrinsic motivation for compliance (1-5)	0.15**	0.04	0.16**	0.04	0.17*	0.06	0.16*	0.05
R^2	0.08		0.08		0.09		0.07	
N	766		754		260		494	

** p ≤ .001; * p ≤ .01.

Note. In total, this integrated table contains the results of three separate regression analyses. Columns 'Total' and 'Total (interaction)' present the results of two consecutive models in one linear regression analysis. Columns 'Low Self-Governance Ability' and 'High Self-Governance Ability' present results of two separate linear regressions, conducted for both subgroups.

Table D3

Linear regression results for the effect of objective autonomy on autonomy frustration, including interaction terms.

	Total		Total (interaction)		Low Self-Governance Ability		High Self-Governance Ability	
	B	**SE**	**B**	**SE**	**B**	**SE**	**B**	**SE**
(Constant)	3.34**	0.20	2.62**	0.39	2.69**	0.28	3.88**	0.28
Objective autonomy (1-5)	-0.26**	0.04	0.16	0.25	-0.19**	0.06	-0.31**	0.05
Self-governance ability (1-5)	-	-	0.19	0.09	-	-	-	-
Objective autonomy X Self-Governance ability	-	-	-0.10	0.06	-	-	-	-
Age (in years)	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.00
Time served								
0-6 mths	0.08	0.15	0.07	0.15	0.38	0.20	-0.21	0.21
6-12 mths	*ref*	*ref*	*ref*	*ref*	*ref*	*ref*	*ref*	*ref*
12+ mths	0.13	0.08	0.14	0.08	0.25	0.11	0.07	0.10
Born in the Netherlands (yes)	-0.02	0.07	-0.04	0.07	0.00	0.10	-0.09	0.09
Incarceration history (1 = Yes)	-0.10	0.06	-0.09	0.06	-0.06	0.10	-0.12	0.08
Intrinsic motivation for compliance (1-5)	0.06	0.04	0.05	0.04	0.13	0.06	0.00	0.06
R^2	0.08		0.09		0.08		0.10	
N	764		753		261		492	

** p ≤ .001; * p ≤ .01.

Note. In total, this integrated table contains the results of three separate regression analyses. Columns 'Total' and 'Total (interaction)' present the results of two consecutive models in one linear regression analysis. Columns 'Low Self-Governance Ability' and 'High Self-Governance Ability' present results of two separate linear regressions, conducted for both subgroups.