

## Summary

### **Self-sufficiency of inmates Opportunities within the prison walls**

In the field of incarceration policy, the phenomenon of self-sufficiency is relatively novel. Before, the prison management and prison staff were the key actors responsible for safety, humanity and rehabilitation within the prison walls. These professionals were responsible for the accessibility and quality of a wide range of services and amenities. Recently, in the Dutch prison system, this responsibility has been transferred to the individual inmates. Services and amenities (for example services concerning rehabilitation) are therefore no longer a self-evident inmate right. Instead, inmates must earn amenities and services by showing prosocial behavior. As a consequence, the helping and supporting role of prison staff has not been dispensed with entirely, but the active actor responsible for good and stimulating prison conditions is now the inmate him or herself. A change in regime enacted in Dutch legislation stipulates that inmates are promoted to a more extensive program when they behave well. Good behavior entails obeying the house rules and a responsible attitude regarding hygiene in their cells, personal care and re-integration. Inmates can also be demoted to a less extensive program when they show undesirable behavior, which is also defined by legislation. The key principle is that the inmate takes responsibility for his or her behavior, daily needs and future perspectives.

Self-sufficiency refers in our context to the ability to perform the basic activities of life independently: to generate an income, keep physically and mentally healthy, and maintaining a social network. In a correctional setting the definition can even be understood more broadly; inmates can take an active role in helping to keep the institution running. A self-sufficient inmate fulfills his or her needs independently as much as possible and demands as little as possible of the staff. Possibilities for inmate self-sufficiency may be found in the following areas: elements of the daily program, the management of the institution, supportive environmental circumstances and technological developments. This report offers an overview of studies on measures that promote the self-sufficiency of inmates in prisons.

### **Research synthesis**

A systematic research synthesis design is used to provide a global overview of scholarly studies of measures that promote self-sufficiency in inmates and may save costs at the same time. The central question for this report is: What are experiences in western countries with practices regarding self-sufficiency of people in closed settings? An extensive set of terms was used to search scholarly data bases, including: 'self-sufficiency', 'self-management', 'autonomy', 'strength-based treatment', 'inmate-run', 'peer support', 'decreasing/lowering security level', 'IT', 'reducing inmate stress', 'increasing self-confidence' and 'inmate independency'. Relevant publications must have appeared after the year 2000 and should concern closed settings in western countries. The evidence of the selected studies is categorized as causal, associated and indicative evidence. The provided evidence is also scrutinized in terms of the used data sources, theories and research design.

Measures may make a direct or indirect contribution to inmate self-sufficiency. Some measures in the studies are aimed directly at stimulating self-sufficient behavior and are therefore referred to as direct measures. Other measures seek to create circumstances in which self-sufficient behavior is more easily shown, and these are named indirect measures.

As scientific studies rarely focus on self-sufficiency specifically, we searched for indicators of self-sufficiency that may function as an approximation for the phenomenon. First, there are measures that have an effect on (or have a relation with) prosocial and healthy behavior of inmates and the occurrence of violent incidents. Second, there may be connections between self-sufficiency and inmates' knowledge of risks and their social skills. Third, psychological indicators may relate to self-sufficiency, for example self-confidence, independence, anger, anxiety, stress and depression. All these elements are seen as indicators of inmate self-sufficiency. The studies that are included in this synthesis can be classified according to table S1.

**Table S1 Classification of measures, mechanisms and outcomes of the studies presented in this research synthesis**

<b>Measures concerning self-sufficiency</b>			
<b>Daily program</b>	<b>(Self-)Management</b>	<b>Environment</b>	<b>Technological developments</b>
Religion, arts, shop, cooking, labor, sport, library, education	Peer programs, animal programs, token economy, therapeutic community	Light, color, music, sound and so on	IT and related possibilities
<b>Mechanisms</b>			
<b>Direct</b>		<b>Indirect</b>	
Stimulating self-sufficient behavior: strength based & coping theories		Circumstances in which self-sufficient behavior flourishes: theories on social control, crime prevention and broken windows theories	
<b>Outcomes (indicators self-sufficiency)</b>			
	<b>Positively formulated</b>	<b>Negatively formulated</b>	
Behavior	Healthy and hygienic behavior, pro-social and responsible behavior	Anti-social and violent behavior, directed at staff, fellow inmates or self	
Experiences/awareness	Knowledge on risks, social skill	-	
Psychological consequences	Self esteem, independence, self respect	Anxiety, rage, depression, stress	

### Opportunities within the daily program

The first category of measures distinguished in this report concerns elements of the regular daily program. Empirical evidence is found for positive effects of sporting during incarceration. Through a coping mechanism, inmates' tension, stress and aggression may be reduced and prevented. Additional indicative evidence is found that sporting inmates learn to collaborate and are more willing to obey rules. Next, the (potential) role of nutrition is described. There is virtually no evidence for the effects of cooking activities, but the evidence of the effects of healthy nutrition (e.g. fish oil and fatty acids) on behavior is convincing. Additionally, nutrients are not expensive and have barely any negative side effects. Another element of the daily program concerns spiritual activities. The sharing of moral values and developing social bonds is seen as a strong effect of these activities. There is some evidence that inmates who engage in these activities show less misconduct. Moreover, the costs of these activities are low because they usually rely on volunteers. Another

type of activity concerns music, but this is rarely studied in a prison setting (especially not in relation to self-sufficiency). It is also unknown what the costs and what the consequences are for security and safety. Finally, the topic of prison visitation and education is described. These activities have an evidence-based effect on outcomes after detention, for example rehabilitation and recidivism. The effects of these activities during incarceration have scarcely been studied. There is only some indicative evidence to suggest that visitation of inmates by volunteers helps them to develop 'normal relationships'.

### **Opportunities for (self-)management**

The second category of measures distinguished in this report concerns inmate management systems. In several countries there are experiences with peer-based programs like the *prisoner listener* in which not the staff member, but a fellow inmate provides for an activity or service. One quality of these programs is that the fellow inmate functions as a role model that is more easily accepted by inmates because they can identify with them. The support and instruction by fellow inmates is practiced in several areas, for example health and hygiene, substance abuse, violence and the house rules of the prison. Although evidence for the effect of the measures varies, the availability, accessibility and the low costs are strong aspects of these types of measures. However, inmates should be thoroughly selected before they take on a role model function, which may require organizational effort and educational costs. Furthermore, when introducing such a program, prison staff will get a different task and may need additional training.

Besides peer programs, there are programs with animals that may stimulate a sense of responsibility and promote positive experiences. However, there is almost no evidence for the suggested positive effects of caring, training and reeducating animals. Unambiguous but outdated evidence is found for management systems that rely on *contingency management* (the punishment or reward of inmate behavior). Especially when the professional reaction follows *directly* on the behavior, the effect on self-sufficiency seems to be strong. Finally, we describe for this category the therapeutic community. In this community, the whole inmate population functions as a family that keeps an eye on each other and corrects a family member when he or she relapses into antisocial or addiction behavior. Successfully re-integrated former inmates can be a mentor in this community. Behavioral results are mainly found in populations dominated by addiction problems and in which participants take part for a longer period of time (> six months).

### **Environmental factors**

The third category of measures concerns environmental factors that can be supportive of the self-sufficiency of inmates. Studies on the architectural design of prisons show varying results. Studies have found convincing evidence for the effect of the security level of the prison. A lower security level enables inmates to be more self-sufficient and costs are lower as well. The findings originate from the United States and it is therefore unclear what they mean for European jurisdictions and Dutch prisons in particular. Furthermore, several studies suggest the favorable effects of (sun)light, fresh air and a view on the health of inmates. The use of color in the prison does not show unambiguous evidence. Sound and noise can play a role in inmate behavior. On the one hand, noise may cause sleeping problems that may lead to irritation and aggressive behavior. On the other hand, relaxing music may

have the opposite effect; there is evidence that relaxing music lowers feelings of anger and anxiety. Finally in this category, plants, gardens and greenery may have an influence on self-sufficiency. Taking care of plants can stimulate a sense of responsibility and there is indicative evidence that gardening has a favorable effect on inmates' cognition and behavior.

### **Technological developments**

The last category distinguished in this report concerns technological developments that support self-sufficiency of inmates in prison settings. There are numerous interesting developments involving the application of robots in healthcare and security tasks that may promote inmate self-sufficiency in the future and may also permit a reduction in the number of prison staff. Although no studies were found on the topic, we are aware of diverse technological developments relating to smart-phones, biometrics, serious gaming, chase and aggression detection systems; all of which may be of considerable significance for the self-sufficiency of inmates. The only two studies found on technological developments and self-sufficiency offer merely indicative evidence, but they do suggest positive effects against low (security) costs. Family visits and psychological help via videoconferencing, for example, did not lead to decreased satisfaction among inmates, while this does offer interesting cost-saving opportunities. Furthermore, computer work is increasingly common in inmate workshops, and findings suggest the increasing profitability of this work.

### **What can be implemented in the Dutch prison system?**

The report examines which measures could potentially be implemented in the Dutch prison system, and considers these measures in relation to recent legislative and policy developments in the Dutch prison system. One option is to extend inmates' opportunities to participate in activities of the current daily program that do not need extra supervision by staff. Many of the materials and services are already available in Dutch prisons and could be used more intensively. The outputs may also be found in positive experiences, reducing tension and monotony. There is evidence to suggest that these activities contribute to inmate health, self-esteem and prosocial behavior. The use of volunteers, fellow inmates and former inmates may help to minimize the extra costs and to maximize the use of the already available materials and services. The role of prison staff will change accordingly; others will take over supervision tasks and staff will focus more on the screening of volunteers and peers in order to maintain a safe prison environment. These arguments join up with the evidence on peer programs. The availability and accessibility of such supervision are strong characteristics, as are the low costs. Again, it has to be emphasized that the role of staff may change as a result.

The scientific evidence for the ideas of (self-) management by inmates is outdated. The recently introduced system in the Netherlands (titled 'Promotion and degradation', under the flag of the policy program Customized Detention, Security and Supervision) is largely similar to much of the principles of the well-tested mechanisms of *contingency management*. It should be noted here that this system was chiefly effective because the punishment or reward was given *directly* after the inmate behavior. Such incentives have not yet been defined in Dutch policy and legislation but may contribute to inmate self-sufficiency in the future.

Other measures that could be implemented in the Dutch prison system can be found in environmental factors to support self-sufficiency. Although the evidence is only indicative, there are straightforward and less expensive means of creating prison conditions that contribute to inmate self-sufficiency. For example, experiments have shown that the security level is needlessly high for certain inmates. Improved inmate analysis and selection may lead to the placement of inmates in lower security levels that also gives room for self-sufficiency and a reduction of security costs as well. Because these findings and arguments originate from studies in the United States it is difficult to estimate how such measures will fit in the Dutch situation, as the security level here is generally much lower (a so-called supermax regime is barely found in the Netherlands, for example). Providing for (sun)light, fresh air, a view and outside activities (like gardening) may contribute to inmate health and thereby self-sufficiency, although the empirical evidence is largely lacking. Strong evidence is found for the relation between self-sufficiency and relaxing music and a reduction of noise. These are measures that can likely be implemented at no great cost, for example by using sound-dampening building materials and by playing relaxing music at certain moments during the daily program.

Noteworthy is the convincing evidence on the effectiveness of fatty acids, minerals and vitamins on inmates' behavior. These nutrients can reduce violence against low costs and do not have significant side effects. The benefits can be obtained by offering inmates healthy food (for example fatty fish), nutritive supplements and additives to regular meals.

Finally, it was found that the literature on inmate self-sufficiency does not pay much attention to technological developments. Videoconferencing has been shown to have similar satisfaction assessments compared to face-to-face modalities for family visitation and psychological help, but unfortunately the evidence of the effects on behavior is lacking. Another interesting activity concerns computer-based labor in prison workshops, as findings show a positive relation with inmate self-sufficiency and the work moreover appears to be profitable. These activities can be offered against low costs in terms of logistics and security. Given the potential advantages of technological developments, it is recommended to gain practical experience with their implementation, and thus to explore their contribution to inmate self-sufficiency.