

## Summary

This study provides an overview of the psychosocial criminogenic factors and neurobiological characteristics of male detainees in the Netherlands in 2017. According to the Custodial Institutions Agency's (DJI) introductory memorandum, prison employees are under the impression that behavioral problems of inmates have worsened in recent years. Therefore, the DJI and WODC have requested a study into these characteristics. This report consists of two studies: a largescale study of the psychosocial characteristics of male inmates in 2017 (and a comparison with the situation in 2003,  $N=2.079$ ) and a study of the neurobiological characteristics of male inmates in 2017 ( $N=283$ ). Sub-questions address, (1) psychosocial criminogenic factors and neurobiological characteristics of male detainees, (2) the association between these factors, (3) the possible creation of detainee profiles based on these factors. Furthermore, (4) an overview of the available information after an inmate starts his incarceration has been made. In addition, we (5) provide some information about psychiatric symptoms and (6) have made a start with the development of norm scores for the detained population for the neurobiological tasks that have been used in this study. It is the first time this has been done in the Netherlands.

### Psychosocial criminogenic factors

The first study in this report offers an overview of the psychosocial criminogenic factors of male inmates in 2017. This overview shows that detainees often have long or severe criminal career, in most cases accompanied by a high level of antisocial behavior. This supports the notion of the prison employees, since these characteristics may give the impression of a population with high levels of behavioral problems. These findings are supported by the relatively high prevalence of issues with thinking patterns (especially the lack of social skills), financial issues (debt, low income) and/or issues with housing. On the other hand, there seems to be only a small group of detainees with problems regarding relationships with friends and family, and alcohol and drug use.

The impression of prison employees that psychosocial problem has increased, is corroborated by a comparison between the situation in 2017 and 2003. This comparison indicates that the prevalence of a severe history of criminal offences has increased and that the number of inmates with a lower education level and more learning difficulties has increased (although this does not result in more issues with one's working history and their motivation to work). A decrease in the level of issues in relationships with friends and acquaintances can be observed. There have been little to no changes in other areas, or the scales of the instruments have changed too much to make a valid comparison.

Finally, six profiles have been created from these psychosocial characteristics which can differentiate between three levels of problems (low, medium, high). For the highest level of issues, a further distinction can be made between inmates with or without issues with alcohol and/or drug use. These findings suggest that issues in one area are often accompanied by issues in other areas. Moreover, alcohol and/or drug abuse is possibly an indication of additional psychosocial issues.

## Neurobiological characteristics

The second study in this research offers an overview of the values of several neurobiological characteristics of male detainees. This overview demonstrates a decreased functioning in several areas. For example, inmates have a lower ability to concentrate compared to the general population, and they have a somewhat lower level of cognitive flexibility compared to the general population. Furthermore, the indication of a mild intellectual disability has a prevalence of 45%. These findings of impaired executive functioning and relatively high levels of an indication for a mild intellectual disability are in line with previous national and international studies.

The results for our investigation into the mental health of detainees show little problems regarding anxiety or depression, but some characteristics of psychopathy seem to be present in the detained population – although extremely high levels of psychopathy are practically absent. Additionally, the range of the distribution of the level of aggression in the incarcerated population is large.

During the course of this study, it became apparent that norm scores for many neuropsychological tests were only sparsely available and the available norm scores were often not applicable to the detained population. As a result, a table with norm scores has been included in this report. This overview can be used to further interpret individual scores, and expands the usefulness of these tests in both a research and judicial setting.

Based on the information on the neurobiological characteristics that was gathered in this study, neurobiological profiles have been created. These can differentiate between a high functioning profile and a low functioning profile. These profiles differ mostly between cold executive functions and heart rate (in rest), but not in level of psychopathy or aggression. These findings suggest that a low functioning on one of these characteristics is often accompanied by lower functioning on other characteristics.

Finally, we looked at the association between the neurobiological and psychosocial measures. Little association has been found between the various characteristics. An indication for a mild intellectual disability is associated with several measures of executive functioning, and some psychosocial factors. This lack of association between characteristics suggests that these measures supplement each other in regard to the information they offer.

## Conclusion and recommendations

In conclusion, this report supports the experiences and impression of many prison employees, as inmates often have a severe history of criminal offences and show high levels of antisocial behavior. This is further supported by the lower level of executive functioning and the high prevalence of an indication for a mild intellectual disability. These results suggest there is a group of inmates, which could possibly benefit from different treatment, guidance and care, but this information is sparsely available.

Resulting from these findings, three recommendations can be made: (1) (further) training of prison employees in dealing with inmates with a high level of antisocial behavior and/or diminished social skills (2) expanding the intake procedure by administering the RISC more often, and by adding some neurobiological tests, screeners for mild intellectual disability and psychiatric issues. The neuropsychological tests and norm scores, that were mentioned above, may provide a basis although further validation is warranted, (3) offering interventions that are specifically targeted (and available) at the issues that have been mentioned, can add to a better prospect for both detainee and employee.