Targeting recidivism : an evaluation study into the functioning and effectiveness of a prison-based treatment program

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1 Introduction■

1.1 Background

Driven by high post-release recidivism rates among ex-detainees (Fazel & Wolf, 2015; Hughes & Wilson, 2002; Langan & Levin, 2002; SEU, 2002; Wartna et al., 2010), and inspired by evidence showing that rehabilitation programs can effectively help decrease re-offending rates among former incarcerated offenders (see e.g. Andrews et al., 1990; Cullen & Gendreau, 2001; Gendreau, Cullen & Bonta, 1994; McGuire, 1995; McGuire & Priestley, 1995; Andrews, 1995), governments of many Western countries turned to implementing correctional rehabilitation programs aimed to deter offenders from future criminal behavior. In The Netherlands, this lead to the nation-wide implementation of the *Prevention of Recidivism Program*: A prison-based rehabilitation program aimed to decrease post-release re-offending rates among detainees with a prison sentence of at least 4 months (Dutch Prison Service & Dutch Probation Organizations, 2007).

To date, much is unknown about the functioning and effectiveness of the Prevention of Recidivism Program. As a result, on a large scale, incarcerated offenders have been exposed to a rehabilitation program for which we do not know the exact consequences. The program has not been evaluated and it is therefore unknown if it was successful in reaching its aim: reducing post-release re-offending among program participants. The current study aims to overcome this lack in knowledge by addressing the functioning and effectiveness of the Prevention of Recidivism program. The overall research questions are: (1) *To what extent is the Prevention of Recidivism Program effective, based on theoretical and empirical knowledge?* (2) *To what extent is the Prevention of Recidivism program functioning according to plan?* And (3) *To what extent is the Prevention of Recidivism Program effective in reducing post-release re-offending rates among program participants*? To examine the research questions proposed, this study uses a population-based sample consisting of 3.981 offenders that were included in the Prison Project: A large scale, longitudinal research project, studying the effect of imprisonment on the life of detainees and their families in The Netherlands.[1]

■ An extended version of Paragraph 1.5 was published in Dutch as: Bosma A. Q., Kunst, M. J. J. & Nieuwbeerta, P. (2013). Rehabilitatie in Nederlandse gevangenissen: Wat is de stand van zaken ten aanzien van de uitvoering en doelmatigheid van het programma Terugdringen Recidive? *Tijdschrift voor Veiligheid, 3*, 3-19.

1 The Prison Project is financially supported by the University of Leiden, The Netherlands Institute for the Study of Crime and Law Enforcement (NSCR), The Netherlands Organization for Scientific Research (NWO) and Utrecht University. The study protocol was submitted to and reviewed positively by the Ethical Committee for Legal and Criminological research of the VU University Amsterdam.

By doing so, this study responds to a growing emphasis on implementing *evidence-based* correctional practices; the movement towards the use of practices which were found effective in preventing future criminal behavior (Day & Howells, 2002; Latessa, 2004; MacKenzie, 2000; 2001). Consequently, evaluation studies are needed to assess the effectiveness of correctional programs. Most evaluation studies have however merely focused on the outcomes of such programs (Todd & Wolpin, 2008), with little attention being paid to the processes by which results were accomplished (Burton, Goodlad & Croft, 2006; Lipsey, Petrie, Weisburd & Gottfredson, 2006). A comprehensive evaluation approach would involve conducting a plan evaluation, a process evaluation, and a product evaluation. This way, it can be (a) assessed if a program is designed in accordance with theoretical insights and empirical knowledge; (b) determined if a program is delivered properly; and (c) can be evaluated if a program is successful in reaching its aims.

1.2 The Prevention of Recidivism Program

Rehabilitation has been a central part of the Dutch penal policy since postwar times (Boone, 2011). According to section 2 of the Dutch Penitentiary Principles Act, a prison sentence must, as much as possible, be dedicated to preparing a detainee for re-entry in society.[2] This is the so-called re-socialization assignment, which has been incorporated in the Penitentiary Principles Act since it was first introduced in 1953, by which imprisonment is specifically defined as a measure that is imposed to rehabilitate offenders, instead of being a measure solely intended as retribution and/or punishment. It provides a legal foundation for a variety of activities and measures that can be imposed upon detainees, such as labor, education, furlough, phased re-entry, and also prison-based treatment programs. A clear manifestation of the Dutch re-socialization assignment is the implementation of the Prevention of Recidivism Program. The Prevention of Recidivism Program was developed within the scope of a governmental policy program (*to a safer society*) in 2002. It was then further developed and tested in various pilot-areas, after which it was implemented nation-wide in 2007.

The Prevention of Recidivism Program is a prison-based rehabilitation program meant for detainees with a prison sentence of at least 4 months (i.e. their remaining prison sentence at the moment of convicted, which is the total sentence imposed minus the time spent in pre-trial detention). It was inspired by the *Risk-Need-Responsivity model* [RNR] of crime prevention and correctional rehabilitation (Andrews et al., 1990), which suggests that risk- (who should be treated), need – (what should be treated) and respon-

2 Note that the section 2 of the Penitentiary Principles Act has been restricted in 2014, resocialisation opportunities are from then on dependent on an offender's (pro-social) behavior, and the interests of victims have to be taken into account when offenders are considered for early (conditional) release (Boone & Van Hattum, 2014).

sivity – (how should it be treated) factors influence correctional rehabilitation outcomes. In line with the RNR-model, the program aimed to reduce re-offending rates among participants by assessing an offender's risk for recidivism and individual criminogenic needs (factors that were shown related to repeated offending) based on which, if indicated by an offender's risk and need scores, specific treatment modules are applied (such as substance abuse treatment) that address those criminogenic needs (Van der Linden, 2004). Detainees who participated in the program were eligible for phased re-entry and could, in the final stages of their prison sentence, be placed in (half) open prison facilities where they had more privileges and security measures were less strict. Detainees who decided not to participate in the program had to spend the remainder of their detention period in a fully guarded correctional facility with limited or no options to go on leave (Dutch Prison Service & Dutch Probation Organizations, 2007).

The Prevention of Recidivism Program officially ended in March 2014. However, its main components, the application of risk-need based treatment modules, are still in practice today. This study therefore evaluated the Prevention of Recidivism Program, and the treatment modules that were implemented within its scope.

The Prevention of Recidivism Program working process in detail

In this paragraph, the entire Prevention of Recidivism Program process – from program qualification to program completion, and possibly recidivism – is described. To visually aid this narrative, the path through the various junctures leading up to program completion is visually represented in Figure 1. Note that the empirical chapters included in this dissertation (Chapter 3 up to 7) are structured accordingly.

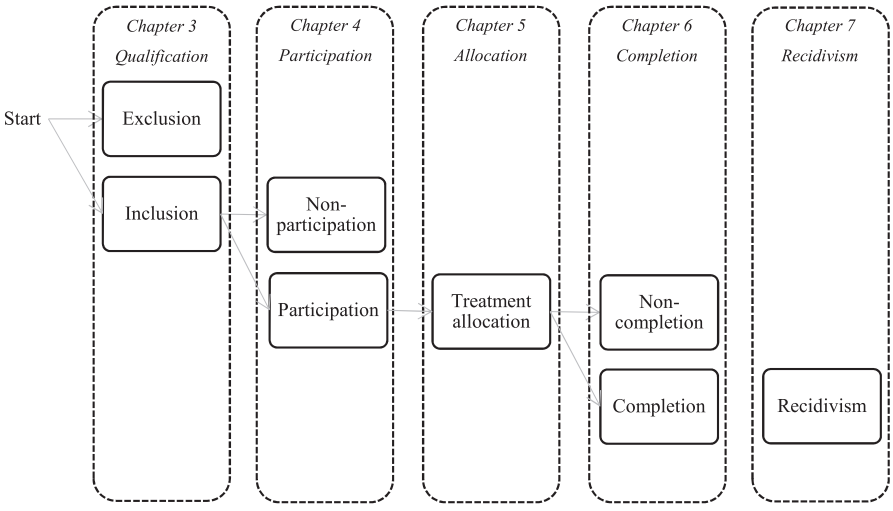

Figure 1. The Prevention of Recidivism Program in stages

Program *qualification* is determined at the moment an offender is convicted by a judge. Eligible detainees are automatically recognized with help of the application TRIS (Trajectory Information System: the official Prevention of Recidivism Program registration system accessible and used in every penitentiary institution in The Netherlands). Offenders are assigned by TRIS as a candidate if their remaining prison sentence at the moment of sentencing (which is the total sentence minus the time spent in pre-trial detention) is equal to or larger than four months, and if they are not excluded based on objective criteria, such as a life-sentence (Dutch Prison Service & Dutch Probation Organizations, 2007).

Program *participation* is the next step. If an offender is assigned a candidate, the Prevention of Recidivism Program Coordination Bureau is informed of this new candidate and assigns a probation officer and program-counselor (prison-employee) to the case. This program-counselor visits the detainee, informs the detainee about the program, and determines if there are any exclusion criteria present that prevent participation (such as insufficient Dutch language skills or not enough motivation to take part). The counselor then asks the detainee to participate in the program; if a detainee decides to participate a participation statement is signed. If the detainee decides not to take part a refusal statement is signed, and a selection officer (prison employee that is responsible for placement advices, with which is determined in which prison and under which regime an offender will be detained) will advise to place the uncooperative detainee in a fully guarded prison facility. In case of participation, a selection officer makes a placement-advice regarding prison and type of regime, which will usually include some sort of phased re-entry, in which an offender is gradually granted more freedom by being placed in half-open and open prison regimes in the final stages of a prison sentence (Dutch Prison Service & Dutch Probation Organizations, 2007).

If an offender has decided to take part in the program, risk assessment information is for the *allocation* of an offender to criminogenic need-specific treatment modules. To do so, the program counselor will first check if a recent (not older than one year) risk assessment is available (which was, for example, used in light of a previous court appearance). If available, this risk assessment will be used. If no (recent) risk assessment is available, the Dutch probation organization will be asked to make a (new) assessment (for which a standardized instrument, the RISc, is used nationwide; Dutch Prison Service & Dutch Probation Organizations, 2007). Based on all the information gathered, the program-counselor and probation officer together will prepare a concept re-integration plan. This concept re-integration plan contains the final placement-advice and specifies which aftercare needs have to be organized during detention (on the target areas identity documents, income, housing, and health care). But most important, the re-integration plan prescribes, if risk assessment outcomes indicate this, in which criminogenic need-specific behavioral modules offenders need to participate during detention (Cognitive Skills Training, Lifestyle Training

for Addicted Offenders, Job Skill Training, and Aggression Replacement Training). The concept re-integration plan has to be drawn up within four weeks post-verdict. It is then discussed with the detainee in question, after which it is formalized (Dutch Prison Service & Dutch Probation Organizations, 2007) and carried out.

Program *completion* takes place at the end-date of a detainee's sentence, at what time all activities planned have been carried out. During this (intramural) stage, the program-counselor has the role of case-manager. Besides monitoring every activity related to the Prevention of Recidivism Program, the program-counselor maintains contact with other stakeholders, keeps in close contact with the detainee, motivates the detainee to attend and engage in behavioral modules (if applicable) and monitors the progress of the re-integration plan. If situations occur that call for adjusting the re-integration plan, the program-counselor can in consultation with the probation officer, do so. Towards the end of the intramural phase, most detainees are eligible for phased re-entry and have the option to go on leave. If a participating offender decides to withdraw participation, before the end-date of their sentence, the program-counselor (and other prison-personnel) will try to motivate the offender to resume or restart their program. If an offender does not wish to do so and drops out, agreements regarding phased re-entry and furlough are canceled (Van der Linden, 2004; Dutch Prison Service & Dutch Probation Organizations, 2007; Balogh & Jans, 2009).

As the program aims to reduce post-release re-offending rates among program participants, *recidivating* after release is anticipated to not occur after an offender is discharged from prison. To attain this, the Prevention of Recidivism Program may in some cases also contain an extramural phase. In this extramural (and final) phase of the program, offenders may take part in a so-called penitentiary program, which means that an offender serves the final months of his or her sentence at home (or in housing facilities for ex-detainees, such as an Exodus house), under supervision of the Dutch probation service, and takes part in rehabilitation activities (for a minimum of 26 hours a week) directed at re-socialization and re-entry. For some offenders, taking part in a penitentiary program forms the final stage of a prison sentence, after which they are released (sometimes under special conditions). For most offenders however, the Prevention of Recidivism program is concluded the moment they exit prison.

Recent developments

The Prevention of Recidivism Program ended in March 2014. Abolishment of the program was instigated by a series of policy measures introduced that were mainly driven by cutbacks in government spending and a political climate that favored more punitive conditions of confinement in The Netherlands. The new policy measures introduced did not so much change the process of assessing risk and needs and applying behavioral modules that match an offender's individual risk and need assessment outcomes, but did alter the target population of offenders eligible for rehabilitation. As of

the beginning of March 2014, each offender detained in The Netherlands is detained under a basic regime. This basic regime is sober, and is intended to motivate an offender to think about (and make plans for) desisting from crime, to set up a detention and re-integration plan, and to work towards a promotion to the plus-regime. This plus-regime can be earned by showing good behavior for a minimum of six weeks straight. In the plus-regime, which is only available in prisons (as opposed to remand centers, which means it is not available for offenders detained in pre-trial detention), a detainee gets to spend 5 extra hours a week on out-of-cell activities such as education, visits, and rehabilitation (which is still based on risk assessment and entails the same programs as were operative under the umbrella of the Prevention of Recidivism Program). Offenders that have been promoted and are detained under a plus-regime can carry out the activities that were laid out in their detention and re-integration plan (which they have set up during their stay in the basic-regime), such as assistance with aftercare (on the target area's work and income, healthcare, housing, debt and identification papers; which was previously available for all detainees), and rehabilitation programs (which up to March 2014 have been part of the Prevention of Recidivism Program). If a promoted offender misbehaves, he or she can be demoted back to the basic-regime. Phased re-entry, or placement in a half-open facility, is only available for detainees that are detained under a plus-program. By implementing a promotion/demotion system the Dutch government wishes to reward detainees for good behavior and taking responsibility. A large consequence of this approach is that rehabilitation programs are nowadays only available to offenders that have shown they are motivated to change their criminal ways, and are capable of showing good behavior.

Although under the current policy perhaps a slightly different (more narrow) research population of offenders is included in treatment, since offenders can only take part in treatment if they had shown pro-social behavior and have shown to be motivated to change their delinquent ways, the current rehabilitation practices in Dutch prisons involve the same risk- and need based approach that was functioning within the scope of the Prevention of Recidivism Program: A study into the functioning of the Prevention of Recidivism Program is therefore also insightful for correctional rehabilitation practices carried out today.

1.3 Towards evidence based practices: Evaluation studies

As mentioned, this study will evaluate the Prevention of Recidivism Program. Evaluation studies are an important method in determining the extent to which a program (or policy) is meeting its objectives and to assess if those intended to benefit have done so. It can uncover good practices and can identify ways in which programs and policies need to be improved or developed to increase its outcomes (National Audit Office, 2001). Most evaluation

research focused on the outcomes of existing policy programs (in terms of efficiency or effectiveness); ex-post evaluations or *product evaluations* (Todd & Wolpin, 2008). With this so-called *black box* approach (in which a study merely evaluates what goes in to a program, and what comes out of it, without assessing what happens inside a program; see e.g. Simpson, Joe, Rowan-Szal & Greener, 1997; Taxman & Bouffard, 2000) little attention is paid to the processes by which outcomes are accomplished (Burton, Goodlad & Croft, 2006; Lipsey, Petrie, Weisburd & Gottfredson, 2006). A more comprehensive evaluation approach is necessary to not only assess the outcomes of a policy measure, but also assess the mechanism through which goals were achieved, and take into account factors relating to the way a program was delivered. There are several steps included in such a broad approach to evaluation research (see e.g. Van Ooyen-Houben & Leeuw, 2010). These include: a plan evaluation, a process evaluation, and a product evaluation.

Plan evaluation

Plan evaluation (or ex-ante evaluation) aims to assess what results of a treatment program may be expected, based on the program plans laid out. These expected results are estimated by assessing if the supposed mechanisms are congruent with what we know based on theoretical and empirical evidence (Wartna, 2009), it therefore requires extrapolating from general theories, previous empirical studies and past experiences to assess the effects of a program (Todd & Wolpin, 2008). Ideally, a plan evaluation is conducted prior to implementing a program. This is useful because the potential effectiveness of a policy measure can then be estimated before program introduction, thereby avoiding the high costs and negative consequences of implementing an ineffective measure (Todd & Wolpin, 2008). Plan evaluations can however also be insightful when conducted after a policy measure has been implemented. For example, because it can provide an explanation for why a program may have no or negative effects, and can give arguments to change a certain aspect of a program or practice. There are different approaches to plan evaluation (see e.g. Klein Haarhuis, Smit & Keulemans, 2014). The most commonly applied is the reconstruction of program theory (Leeuw, 2003). In a program-theory reconstruction, all explicit and implicit assumptions and theories underpinning a program are mapped (based on documents such as policy information and program manuals). These assumptions can then be tested to theoretical and empirical knowledge.

Process evaluation

Ever too often, outcome studies that find no effect will attribute this lack of outcome to the failure of the underlying program (Sherman et al., 1997). However, poor results may have also been caused by inadequate program delivery, or can emerge because the appropriate target population was not reached. A lack of program-effectiveness is then not a result of an ill-designed program, but is caused by poor program delivery (Bouffard, Taxman & Silverman, 2003). A process evaluation (or formative program

evaluation) is meant to provide insight in these matters. It basically aims to assess if a program was carried out as it was intended (see e.g. Bouffard, Taxman & Silverman, 2003; Van Ooyen-Houben & Leeuw, 2010). This is a vital component of assessing program effectiveness (Bouffard, Taxman & Silverman, 2003; Gottfredson, 1984). It touches upon the internal validity of a program by assessing the degree to which a program is implemented as designed or intended. It is also a direct measure of program integrity (factors associated with program implementation, such as quality of delivery; Andrews, 2006), a principle that was shown related to effective rehabilitation (Gendreau, 1996; Lipsey & Cullen, 2007; Palmer, 1995). There are various strategies to conducting a process evaluation, such as conducting stakeholder interviews, systematic social observation (direct observation in an actual setting) but also gathering of program fidelity measures (such as official number of program participants, program content, etc.), in which researchers rely solely on quantitative statistics to assess program implementation, instead of using more qualitative measures (Bouffard, Taxman & Silverman, 2003).

Product evaluation

The final step of program evaluation is to determine if a program has actually reached the desired outcomes, and to assess if the program has caused these outcomes. A product evaluation (or effect evaluation) aims to gain insights in the effectiveness of a program or practice (Cook & Campbell, 1979; Rossi, Freeman & Lipsey, 1993; Swanborn, 1999). A proper product evaluation for testing causality will be conducted, in an ideal world, by use of a randomized controlled experiment [RCT]. In an RCT subjects are randomly assigned to a treatment or control condition, after which, through pre- and post-program measures, it can be assessed if a program has had the desired outcome. The randomized experiment is generally considered the strongest experimental design for testing a causal relationship (Farrington, 2003; Sherman et al., 1997; Welsh et al., 2002). It is however very difficult to apply in practice because of practical, legal en ethical objections. For example, if we want to randomly assign some offenders to a prison sentence, and others to community service, offenders sentenced to prison are clearly disadvantaged, which would perhaps not be fair. An alternative is to assess program effectiveness by use of a quasi-experimental design. This method is similar to a true experiment (and therefore includes a treatment- and control group, and pre- and post-program measures), except for the fact that subject are not randomly assigned to conditions. Statistical analyses then have to be applied to control for other factors that were perhaps correlating with treatment- or control-condition group membership and/or program-outcomes (Sherman et al., 1998; Farrington, Gottfredson, Sherman & Welsh, 2002).

1.4 Theoretical framework

Program effectiveness: rehabilitation theories

Rehabilitation is based on the premise that, in addition to specific deterrence, the purpose of punishment is rehabilitation; turning law-breaking citizens into law-abiding ones. It presumes that criminal behavior is caused by psychological and social factors that differ from one individual to another. And assumes that future crime can be prevented if these crime-causing factors are eliminated, in which the correctional system can play a central role (Cullen & Gendreau, 2000; Sechrest, White & Brown, 1979). Rehabilitation theories specify the mechanisms through which treatment programs can help to decrease post-release re-offending among program participants. The two dominant rehabilitation theories are the Risk-Need-Responsivity model (Andrews, Bonta & Hoge, 1990) and Good Lives Model (Ward & Brown, 2004).

The *Risk-Need-Responsivity* model [RNR] of crime prevention and correctional rehabilitation (Andrews, Bonta & Hoge, 1990) is a psychological model that suggests that, in order to be effective, a rehabilitation program should adhere to three core principles; risk, need and responsivity. The *risk* principle indicates that treatment intensity should be adjusted to the extent to which there is risk for re-offending. The *need* principle asserts to the premise that correctional programs should address criminogenic needs, i.e. dynamic characteristics that have shown to be directly related to re-offending rates. And finally, the *responsivity* principle suggests that interventions should match an offender's characteristics, such as an offender's motivation to engage in treatment. In other words, the model gives direction to *who* should be treated (risk), *what* should be treated (need) and *how* it should be treated (responsivity) (Andrews & Bonta, 2010; Andrews, Bonta & Wormith, 2006; Andrews et al, 1990; Andrews & Dowden, 1999; Lowenkamp & Latessa, 2005). To principle of *program integrity*, added to the model at a later date (Andrews, 2006), relates to program design, implementation, and delivery. It is argued that effective programs should be based on theories that explain criminal behavior, use methods that were shown effective in past empirical studies and are delivered according to plan, which also includes selecting the proper (such as including high-risk offenders) participants (Andrews & Dowden, 2005; Hollin, 1995; Leschied, Bernfeld & Farrington, 2001; Moncher & Prinze, 1991; Van der Laan, 2004).

The RNR-model is theoretically grounded by the General Personality and Cognitive Social Learning perspective of criminal behavior (Andrews & Bonta, 2006), which proclaims that criminal behavior represents a personality predisposition, that is learned in a social environment, and is governed by the anticipated costs and actual rewards of offending behavior (for further reading, see: Andrews & Bonta, 1998; Andrews & Bonta, 2006; Bonta, 2002; Bonta & Andrews, 2007). The costs and rewards for criminal behavior can be provided by others, or can stem from within the person or the behavior itself (Andrews & Bonta, 1998; Andrews & Bonta, 2006; Bonta, 2002; Bonta & Andrews, 2007). Criminogenic needs (factors that were shown

related to future re-offending, and therefore need targeting) are in essence characteristics that indicate rewards for criminal behavior, such as having antisocial peers, a drug- or alcohol addiction, or lacking a stable income, as opposed to pro-social behavior. (Andrews, Bonta & Wormith, 2011). In line with the General Personality and Cognitive Social Learning Perspective of Criminal Behavior, a correctional treatment program can be effective in reducing future re-offending if it is able to reduce or remove these criminogenic needs.

A second rehabilitation theory that is often marshalled to explain the mechanisms through which correctional treatment can effectively decrease re-offending rates among offenders is the *Good Lives Model* [GLM] of offender rehabilitation (Ward & Brown, 2004). The GLM is a so-called strength-based model (Whitehead, Ward & Collie, 2007), and proclaims that criminal re-offending can be prevented if a program is able to enhance an offender's capabilities to attain certain human goods (life; knowledge; excellence in play; excellence in work; excellence in agency; inner peace; friendship; community; spirituality; happiness; and creativity; Ward & Stewart, 2003). Concrete ways are needed to acquire these goods, for example, in order to excel at work, one has to have a job. An offender's probability of attaining human goods depend on the possession of internal capabilities (skills, attitudes, beliefs) and external conditions (opportunities, support), and can be frustrated or blocked by criminogenic needs (Ward & Gannon, 2006; Ward & Stewart, 2003). According to the model, offending behavior can be caused by the absence of legitimate ways to attain personal goods, or can be the result of conflicting goods. Consistent with the GLM, correctional programs program are regarded to be effective in reducing future re-offending if it is able to enhance an offender's skill to acquire personal goods.

Program integrity: other perspectives

In addition, the impact of any rehabilitation program is not solely dependent on program-design. Often, a lack in impact (or effectiveness if you will) can be attributed to the way a program is carried out in practice (program-integrity). Several theoretical notions point to that.

First, a major issue for (prison-based) treatment programs is treatment engagement (i.e. participation and completion). Often, a selective group of offenders do not engage in or complete the treatment program they were referred to. Previous work has suggested that treatment in correctional rehabilitation programs may be explained by focusing on an offender's willingness and suitability to participate in treatment (Howells & Day, 2003; Ward, Day, Howells & Birgden, 2004; Williamson, Day & Howells, 2003). A model that is believed to explain this relationship is the *Multifactor Offender Readiness Model* [MORM] (Ward et al, 2004). This model is based on the concept of treatment readiness, defined as the presence of characteristics within the client and/or therapeutic situation that endorse therapeutic engagement and behavioral change (Serin & Kennedy, 1997; Serin, 1998). According to MORM, An offender that can be considered treatment ready is (a) motivated;

(b) able to respond to treatment; (c) finds treatment meaningful; and (d) has the capacities to successfully enter and complete correctional programs (Casey, Day & Howells, 2005; Howells & Day, 2003; McMurran & Ward, 2010; Ward et al, 2004). The model specifies that an offender's treatment readiness is determined by a number of internal characteristics (affective, volitional, behavioral or identity-related) and external factors (circumstances, opportunities, resources, interpersonal support and program characteristics), which, if present, allow offenders to effectively engage in and benefit from correctional treatment programs (McMurran & Ward, 2010; Ward et al, 2004). Based on the MORM, it is expected that offenders who are ready for treatment will be more likely to successfully engage in (participate in and complete) treatment programs that aim to help them desist from criminal behavior.

Second, program effectiveness can be hampered by the incorrect referral of offenders to specific types of programs. As mentioned, in order to effectively apply correctional treatment programs, offenders should be allocated to treatment based on risk and need assessment outcomes (Latessa et al., 2002), a practice implemented as part of the Prevention of Recidivism Program in The Netherlands. Studies have however shown that risk assessment is not always used to allocate offenders to treatment, even if such a risk and need-based approach is prescribed by official policies (Latessa, Cullen & Gendreau, 2002; Taxman & Bouffard, 2000). Lipsky's Street Level Bureaucracy Theory (1971; 1980) suggests that a successful implementation of public policy is not merely determined by the quality a policy measure, but instead is for a large part dependent on the actions of those who carry out government policy, so-called *street-level bureaucrats*. These are government employees, such as police officers and social workers, who interact directly with clients and citizens, and have substantial discretion in the execution of the tasks assigned to them. Although the work of public service employees (as is the case for prison staff members) can be considered highly scripted, they often need to improvise in order to be responsive in applying general rules and laws, in individual cases, while working under great time-pressure and with a limited amount of information available. Consequently, they adapt and interpret public policy in a way that enables them to efficiently cope with their tasks at hand (Lipsky, 1980; 2010). This then, according to Lipsky (1980), effectively becomes the public policy that they carry out. This often results in a gap between policy as written, and policy as performed (Lipsky, 1980; 2010). Prison staff-members who make decisions about the allocation of offenders to treatment programs can also be considered street-level bureaucrats. And based on Street Level Bureaucracy Theory, it is therefore expected that they are likely to use certain discretion when making treatment referral decisions, which may result in deviating from prescribed standards, which may even lead to the incorrect referral of offenders to specific types of programs

1.5 Prior studies

As mentioned, this study aims to evaluate the Prevention of Recidivism Program. Although the program has been developed over a decade ago, there appears to be a considerable lack in knowledge concerning the implementation and effectiveness of the program. A literature review has indicated that since its implementation eleven studies were conducted. Of those studies, only two studies have focused on the Prevention of Recidivism Program as a whole (Van Bostelen et al., 2005; Inspectorate of Security and Justice, 2010). These studies did not focus on program effectiveness, but have merely assessed if the program adheres to certain aspects of the program's cooperation-model, in which tasks and responsibilities between the prison- and probation service are assigned. The most recent study (the first study was conducted prior to nation-wide program implementation, and therefore studied the program in its pilot-phase) was published in 2010 and was conducted by the Dutch Inspectorate of Security and Justice (ISJ). The report demonstrated that the implementation and execution of the Prevention of Recidivism Program fell short. It appears that organizational problems (such as a suboptimal cooperation between the prison service and probation service) and the complex program-structure caused great delays in individual program trajectories. Programs did not start in time, and re-integration plans were not established in time. Behavioral modules could not be implemented promptly and phased re-entry was therefore postponed in many cases (ISJ, 2010). In response to the ISJ-report, a number of measures were taken by the State Secretary for Security and Justice, in order to improve program functioning, which involved streamlining working processes to shorten the processing times, the prioritizing of offenders based on their remaining sentence, and a more efficient use of behavioral interventions (Parliamentary Papers, 2010/11).

The remaining nine studies have focused on the criminogenic need-specific behavioral programs (such as cognitive skill training, or lifestyle training), that were implemented in the scope of the Prevention of Recidivism Program (Barendregt & Wits, 2014; Buysse & Loef, 2013; Cornet, 2016; Ferwerda, Van Wijk, Arts & Kuppens, 2009; Fischer, Captein & Zwirs, 2012; Kuppens, Van Wijk & Klőne, 2012; Nas, Van Ooyen-Houben & Wieman, 2011; Schoenmakers, Van Leiden, Bremmers & Ferwerda, 2012; Van Poppel, Tackoen, & Moors, 2005). Seven of these nine studies conducted have been directed at program-integrity (is a program carried out according to plan). In summary, the studies conducted have shown similar results; treatment modules appeared to have been hampered by several (implementation) problems: Modules were applied infrequently, did not always reach their target population and were not always carried out as they should have been based on the treament methods described (Barendregt & Wits, 2014; Buysse & Loef, 2013; Ferwerda et al., 2009; Kuppens, Van Wijk & Klőne, 2012; Nas, Van Ooyen-Houben & Wieman, 2011; Schoenmakers et al., 2012; Van Poppel, Tackoen, & Moors, 2005). Two studies also included treatment outcomes

(Buysse & Loef, 2013; Cornet, 2016), Buysse and Loef (2013) showed that offenders that had participated in cognitive skill training displayed a significant but small improvement with regards to three of the four areas targeted (rational problem solving, impulse control, and perspective taking), while Cornet (2016) revealed that offenders who took part in cognitive skill training, in comparison to a control group, showed little improvement in several behavioral measures. The last of these nine studies aimed to assess if treatment modules on offer in The Netherlands cover every criminogenic need present in the Dutch offender population. Fischer, Captein, and Zwirs (2012) concluded that this is not entirely the case: Although the main criminogenic needs (impulsivity, which is present in 90 percent of offenders, and a pro-criminal attitude, present in 83 percent of offenders) were covered by the programs on offer, three types of factors were not covered: needs concerning social relations (such as problematic family relationships, or anti-social friends), psychological needs (such as low confidence, stress or sexual deviancy), and structural needs (such as housing and financial situation).

Although aspects of implementation were studied, it has not been explored if the Prevention of Recidivism Program as a whole has been carried out adequately and has been effective in reducing the post-release re-offending rates among program participants. Based on previous work, it appears that the program, as well as the treatment modules applied within the scope of the program, was troubled by problems relating to program integrity. It is however unknown to what extent these issues have influenced program effectiveness. It must therefore be concluded that the program and its effectiveness are mostly unexplored. It is unclear if the program was successful in reaching its aim: reducing post-release re-offending rates among participants.

International studies

Compared to the considerable lack in knowledge on the effectiveness of the Dutch Prevention of Recidivism Program, a vast amount of empirical work has focused on the effectiveness of comparable programs implemented in other countries. Outcomes of these studies have consistently shown that treatment programs can be effective in reducing re-offending rates amongst participants. A systematic review of meta-analytic studies (Lipsey & Cullen, 2007) has shown positive (but small to moderate) prison-based treatment results, while supervision and sanctioning showed smaller or – in some instances – even negative (small to moderate) results. Though reductions in recidivism rates amongst a variety of programs were fairly diverse (Lipsey, 1999; Lipsey & Cullen, 2007; Lipsey, Chapman & Landenburger, 2001; Lösel, 1995), on average, programs that adhered to the RNR-principles appear to have had the most positive effect on re-offending rates (see e.g. Andrews & Bonta 2006; Andrews et al., 1990; Bonta & Andrews 2007; French & Gendreau, 2006; Gendreau et al., 2006; Lowenkamp, Latessa & Holsinger, 2006; Polaschek, 2012; Sherman et al., 1997). Additionally, studies indicated that program-integrity might be an important determinant, possible explaining variance in treatment program effectiveness (Gendreau, 1996; Lipsey & Cullen, 2007; Palmer, 1995).

Shortcomings
Despite the fact that the effectiveness of prison-based treatment programs have been addressed and confirmed in an international context, it is not sufficient to simply generalize these findings to the Dutch context, and assume that accordingly, the Prevention of Recidivism Program will probably also be effective in reducing post-release re-offending. First and foremost, because all of these studies had focused on treatment programs in other geographical regions. We do not know if comparable results in a different geographic location, where penal laws, conditions (and length) of confinement and social circumstances are different. Secondly, while recognizing the clear value of the vast amount of studies conducted, there are some limitations that should be mentioned, justifying the need for further research. First of all, most studies merely focused on treatment outcomes, and failed to control for effects of program engagement and program allocation. Second, few studies were theory driven, resulting in lists of factors that influenced treatment outcomes, without a comprehensive explanation of the mechanisms through which treatment outcomes were attained. Third, information on risk and need factors was often limited, and/or was measured by inadequate instruments. And fourth, many studies focused on community-based rehabilitation programs, and did not focus on prison-based programs.

To sum up, as a result of a lack of available studies conducted in The Netherlands, and studies conducted abroad for which it is unknown if and how they translate to the Dutch situation, much is unknown regarding the Prevention of Recidivism Program. It is unknown how many offenders are eligible for participation in the program, and what their characteristics are. It remains unclear how many eligible offenders participate in the program, and who do not, and what their characteristics are. There is no information available about the treatment modules that are applied within the scope of the program; we do not know which offenders are referred to treatment, and it has not been unidentified if offenders were referred to treatment based on the appropriate considerations. Additionally, we do not know how many offenders complete the Prevention of Recidivism Program, and what their characteristics are. And last, it remains unclear of the program was effective in reducing the post release re-offending rates among program participants. This dissertation aims to address these matters, by conducting a broad evaluation study into the functioning and effectiveness of the Prevention of Recidivism Program.

1.6 The current study

Research Questions
A prison sentence in The Netherlands is aimed, as much as possible, to the reintegration of offenders in society. By including this statement in its penal laws, the Dutch legislator has proclaimed a central role for rehabilitation in its penal policy. This gave way to the introduction of the Prevention of Recidivism Program, a prison-based rehabilitation program that aims to decrease post-release

re-offending among program participants. The Prevention of Recidivism Program has been implemented nation-wide almost a decade ago. And although the program has been replaced by a new policy measure in 2014, rehabilitation practices carried out nowadays still rely on the same risk/need based approach of risk assessment and the implementation of criminogenic need specific treatment modules. To date, much is however unknown about the performance and consequences of the Prevention of Recidivism Program. As a result, since 2007 up to present date a rehabilitation program has been running for which we do not know (a) the functioning, and (b) the effectiveness.

This evaluation study therefore focused on the functioning and effectiveness of the Prevention of Recidivism Program. The main three research questions were: (1) *To what extent is the Prevention of Recidivism Program effective, based on theoretical and empirical knowledge?* (2) *To what extent is the Prevention of Recidivism program functioning according to plan?* And (3) *To what extent is the Prevention of Recidivism Program effective in reducing post-release re-offending rates among program participants*? By answering the main research question proposed, this study aimed to realize three goals:

First, this study aimed to describe and evaluate the theories on which the Prevention of Recidivism Program was based. This was done by conducting a plan evaluation, which aimed to assess which results could be expected based on the program as described in relevant documentation. The research question central to this plan evaluation was: To what extent can the Prevention of Recidivism Program, based on theoretical and empirical knowledge, be considered an effective rehabilitation program?

Second, this study aimed to describe and evaluate the functioning of the Prevention of Recidivism Program: i.e. assess if the program was applied as it was designed, which was done by use of a process-evaluation. This process evaluation was conducted by meticulously studying each phase (as shown in paragraph 1.2, Figure 1) of the Prevention of Recidivism Program-process (i.e. qualification, participation, allocation, and completion), leading to four sets of research questions: (a) How many offenders qualified for program entry, and what were their characteristics? (b) Did the correct target population qualify for the Prevention of Recidivism Program? How many offenders participated in the Prevention of Recidivism Program, and what were their characteristics? Which factors determined program participation? (c) How many offenders were allocated to what types of treatment? Was the correct target population allocated to the right type of treatment? Which factors influence these treatment-allocation decision-making processes? And (d) How many offenders completed the program, and what were their characteristics? Which factors determined program completion?

Third, this study aimed to describe and evaluate the effectiveness of the Prevention of Recidivism Program, by conducting a product evaluation in which the final research question was addressed: Was the Prevention of Recidivism Program effective in reducing 6, and 24-month post-release re-offending rates among program participants? See Table 1 for an overview of each research questions proposed in the current study.

Table 1. Study outline

Chapter	Evaluation type	Subject	Main research question(s)	Data
1		Introduction	–	–
2	Plan evaluation	Program theory	To what extent can the Prevention of Recidivism Program, based on theoretical and empirical knowledge, be considered an effective rehabilitation program?	Literature review
3	Process evaluation	Qualification	How many offenders qualified for participation in the Prevention of Recidivism Program? What were their characteristics? Did the correct target population qualify for the Prevention of Recidivism Program?	Prevention of Recidivism Program registration data Prison Registration data Risk Assessment data
4	Process evaluation	Participation	How many offenders participated in the Prevention of Recidivism Program? What were their characteristics? Which factors determined program participation?	Prevention of Recidivism Program registration data Prison Registration data Risk Assessment data
5	Process evaluation	Allocation	How many offenders were allocated to what types of treatment? Was the correct target population allocated to the right type of treatment? Which factors influenced these treatment-allocation decision-making processes?	Prevention of Recidivism Program registration data Prison Registration data Risk Assessment data Prison organization characteristics (collected in light of study)
6	Process evaluation	Completion	How many offenders completed the Prevention of Recidivism Program? What were their characteristics? Which factors determined program completion?	Prevention of Recidivism Program registration data Prison Registration data Risk Assessment data
7	Product evaluation	Recidivism	To what extent was the Prevention of Recidivism Program effective in reducing 6, and 24-month post-release re-offending rates among program participants?	Prevention of Recidivism Program registration data Prison Registration data Risk Assessment data Sentencing files from Dutch Prosecution Office General Documentation Files (Criminal Record Office)
8		Summery and discussion	–	–

Research sample and data

In order to address the first research question, relating to plan-evaluation, a literature study was conducted, in which the program manual, policy papers, parliamentary papers, and published literature concerning the Prevention of Recidivism Program were gathered and analyzed.

Our process evaluation and product evaluation were conducted by analyzing a unique research sample that was collected as part of a larger research project: the Prison Project. The Prison Project is a large-scale, longitudinal research project studying the effects of imprisonment on the life of detainees and their families in The Netherlands. The study used a national population-sample in which the total inflow (in every single remand center in The Netherlands) of male detainees that were put in pre-trial detention between October 2010 and March 2011 was included. Additional selection criteria included age (between the age of 18 and 65) and place of birth (born in The Netherlands; Dirkzwager & Nieuwbeerta, 2016). The Prison Project studied a total sample of 3.981 offenders by collecting two types of data: official registration data (that was available on the total sample of 3.981 detainees) and panel data (available on a sample of 1.904 detainees that decided to participate in the panel study). Due to the selective group of offenders that were eligible for participation in the Prevention of Recidivism Program, and the broad nature and large number of official registration data sources available, the current study used registration data and was therefore able to study the full population of 3.981 detainees.

As mentioned, data from a number of official registration sources on the detainees included in the sample were collected to answer the research questions proposed in this dissertation. First, data on all persons in the sample from several prison registration databases were made available by the *Dutch Custodial Institutions Agency*. This included the Prison Registration System (in which information on background characteristics, offence characteristics, and incarceration details, such as in and outflow, transfers between prisons, departments, and cells is administered), and the Prevention of Recidivism Registration system (which contains in-depth information on rehabilitation trajectories). Second, risk assessment data on all detainees in the sample were made available by the *Dutch Probation Service*. Third, records from the General Documentation Files (GDF) of the Criminal Record Office were provided by the *Research and Documentation Centre* of the Dutch Ministry of Security and Justice. These data contained detailed information on all registered crimes and convictions, and provided information about a respondent's criminal history, current offences and registered post-release re-offending behavior. Fourth, a data file was provided by the *Dutch Prosecution Office* which contained detailed trial information, including information about the offender, the offence and final punishment on all of the current study's respondent's criminal cases. And fifth and final, a telephone-administered interview was held to gather organizational information on every remand center and prison in which respondents of the current study were at some point detained. All Dutch penitentiaries were asked to provide information

concerning their occupation rates (per prison and per location), staff numbers, and the availability of in-house rehabilitation programs. An overview of each data sources used in our consecutive chapters is provided in Table 1.

1.7 Relevance

An improved understanding of What Works in correctional rehabilitation programming has been a crucial step in working towards implementing evidence based practices in correctional settings. However, to help further the field of correctional rehabilitation research and practice, it is vital that we continue to empirically evaluate rehabilitation programs in various populations in other geographic regions, and that we advance our understanding of the mechanisms through which effective interventions work (Lipsey & Cullen, 2007). The current study aims to do so, thereby making a major contribution to the current state of the art in prison-based rehabilitative treatment research.

Scientific relevance
The study described in this dissertation makes substantial scientific progress in a number of areas. First, it proposes new research questions by assessing the functioning and effectiveness of a program that has not been previously studied. Additionally, the current study's research questions are not limited, alike much of the previous work conducted, to the effectiveness of prison-based treatment programs. By using a comprehensive evaluation approach, important prerequisites of program effectiveness, such addressing the correct target population, are also studied. Also, by focusing on such a broad overarching rehabilitation program that is carried out nationwide, the entire field of prison-based rehabilitation efforts undertaken in Dutch prisons is studied. This has never been done, and provides a unique opportunity to compare different elements of treatment and different types of treatment, imposed on different groups of offenders. Second, the current study was able to test the empirical validity of several criminological theories, such as (a) the risk-need-responsivity model, (b) the good-lives model, (c) the multifactor offender readiness model, and (d) street level bureaucracy theory. And finally, methodological progress is made by using a unique, large-scaled dataset, consisting of a population-based sample of offenders who entered prison in pre-trial detention. On this large dataset of offenders, multiple sources of official registration data were available, such as risk assessment data, making it possible to analyze and control for a large number of characteristics. Also, advanced methodological techniques were applied to address the research questions proposed.

Societal importance
By conducting a comprehensive evaluation study into the functioning and effectiveness of a prison-based rehabilitation program in The Netherlands,

this study is also of great societal relevance, and of vital importance for both policy makers and practitioners.

Almost every offender that is incarcerated returns home after a short or long period in detention. Studies have indicated that the recidivism rate among ex-detainees is high; about half of them have re-offended in the two years following release (Linckens & De Looff, 2013). The Prevention of Recidivism Program has been implemented to prevent re-offending. However, rather surprisingly, the effectiveness of the Prevention of Recidivism Program, which has been implemented and running for over a decade, has to date not been studied. This is problematic for several reasons: First, as mentioned, the program was aimed to contribute to decreasing re-offending rates and contribute to a safer society. If the program is however unable to reach the desired results, or worse has a negative impact on offenders, this will not improve, or even have a harmful impact on public safety. Second, because tax money was invested to implement and carry out the program, it is of great societal relevance to assess if this was "money well spent", especially in a time of economic recession, where considerable cuts in government spending were implemented in areas such as health care and education. And third, although the Prevention of Recidivism Program is a voluntary program, non-participation has a number of consequences relating to conditions of confinement and even the duration of an offenders prison sentence: Imposing a program in such a way carries responsibility for outcomes: If detainees are (on a large scale) exposed to a program that may negatively influence their future prospects, this is unwanted and should be abolished. On the contrary, if a study into the effectiveness of the program can demonstrate that the program has a positive impact on the post-release re-offending rates of former participants, this supports current practices and could be a reason to continue and perhaps even expand the program. In light of the above mentioned, a study into the consequences of participation is considered crucial.

1.8 Study overview

In summary, this study aims to assess the functioning and effectiveness of the Dutch prison-based Prevention of Recidivism rehabilitation program. The three central research questions addressed are: (1) *To what extent is the Prevention of Recidivism Program effective, based on theoretical and empirical knowledge?* (2) *To what extent is the Prevention of Recidivism program functioning according to plan?* And (3) *To what extent is the Prevention of Recidivism Program effective in reducing post-release re-offending rates among program participants*? In order to answer the overall research questions proposed, a plan-, process-, and product evaluation were conducted, the results of which are presented in the several chapters included in this dissertation (an overview on which is displayed in Table 1).

Chapter 2 discusses the results of a plan-evaluation, in which it was assessed if the Prevention of Recidivism Program was expected to be effec-

tive, based on theoretical and empirical knowledge. In order to assess the program potential, a reconstruction of program logic was conducted; a coherent assembly of all assumptions and mechanisms, underlying a program, that combined explain how a program and its methods intend to reach its goals. The program logic was then evaluated for plausibility, in light of theoretical knowledge and empirical evidence.

The consecutive chapters focus on the functioning of the Prevention of Recidivism Program (process evaluation). These chapters use empirical data to study each element (qualification, participation, allocation and completion) of the Prevention of Recidivism Program process (an overview of which was presented in Figure 1). Chapter 3 focuses on program qualification, the aim of which was to assess how many offenders qualified for participation in the Prevention of Recidivism Program, and to determine what their characteristics were. In this chapter it is also explored if the correct target population had qualified for program qualification.

Chapter 4 continues with the group of offenders identified as a program candidate, and focuses on program participation. The study discussed in this chapter investigated how many offenders participated in the Prevention of Recidivism Program, and studied what their characteristics were. It also examined which factors determined program participation.

The most important pillar of the Prevention of Recidivism Program is the application of criminogenic need-specific treatment modules in line with an offender's risk for re-offending and criminogenic needs. Chapter 5 therefore concentrates on the selection processes that have influenced criminogenic need-specific treatment allocation. It aimed to assess how many offenders that participated in the Prevention of Recidivism Program were allocated to what types of treatment, and discusses if the correct target population was allocated to the correct type of treatment. Furthermore, it aimed to determine which factors influenced treatment-allocation decision-making processes.

Chapter 6 presents a study that focused on program completion. In this closing part of our process evaluation it was examined how many participants completed the Prevention of Recidivism Program, and was determined what there characteristics were. Furthermore, it was studied which factors determined program completion.

In Chapter 7, a product evaluation is presented in which the impact of the Dutch Prevention of Recidivism Program on the 6 and 24-month post-release re-offending rates of participating detainees were examined. This was done using two approaches. First, it was assessed if the post-release recidivism rates of each treatment group described in preceding chapters (i.e. program non-candidates, program non-participants, program non-completers, completers standard program, completers standard program plus treatment) differed, using multivariate regression analysis. Second, it was studied using propensity score methodology, by which the re-offending rates of program completers were compared to those of a comparable group of offenders who were eligible for participation, but could not engage in treatment due to organizational circumstances.

Chapter 8 presents the general discussion. In this chapter, the current studies main findings are summarized and discussed in light of the theoretical framework brought forward. Furthermore, the study's strengths and limitations were discussed, after which some recommendations were made regarding future research. The conclusions drawn in this study also led to some policy implications, which are also elaborated on in the final chapter.

2 The Prevention of Recidivism Program

2.1 Introduction

In general, recidivism rates among ex-detainees are high. Studies in the United States and the United Kingdom have reported re-arrest rates of approximately sixty percent within two to three years after release (Hughes & Wilson, 2002; SEU, 2002). In The Netherlands, research has shown that within six years, over seventy percent of released prisoners were reconvicted, while almost fifty percent was re-incarcerated within that same period of time (Wartna et al., 2010). In the last decade, the Dutch government has therefore focused attention on the development and implementation of policy measures that prevent criminal behavior among formerly incarcerated offenders. The most important measure taken was the development of the Prevention of Recidivism Program, which was implemented nationwide in 2007. The Prevention of Recidivism Program is a prison-based rehabilitation program aimed at reducing re-offending rates among ex-detainees with a remaining prison sentence (after sentencing) of at least four months (Dutch Prison Service & Dutch Probation Organizations, 2007). This concerns a limited number of offenders in The Netherlands, since about sixty percent of all offenders in Dutch prisons are incarcerated for a period of less than three months (Linckens & De Looff, 2015). Offenders who qualify for program entry are asked to participate in a customized rehabilitation program that is directed at an offender's criminogenic needs; factors that influence future re-offending behavior (Dutch Prison Service & Dutch Probation Organizations, 2007; Van der Linden, 2004). The program was operational up until March 2014, at what time it was replaced by a new policy measure that applies a similar approach, but for which offenders have to qualify trough showing pro-social behavior and motivation.

The development, implementation, and execution of a large-scale nationwide rehabilitation program, such as the Prevention of Recidivism Program, has been time-consuming and most likely involved great costs. The program may have affected many incarcerated offenders: In theory, each year a few thousand detainees were eligible to participate. Surprisingly, little is known to date about the functioning and effectiveness of the program. This of great concern, since rehabilitation practices carried out today involve the same methods, as applied in light of the Prevention of Recidivism Program. This dissertation therefore aimed to assess if the program has been successful in reaching the goals it has set out, by conducting a broad and comprehensive evaluation study. The first step in evaluation research is to conduct a plan

evaluation. A plan evaluation aims to assess what results may be expected based on the program plans laid out (Leeuw, 2003; Van der Laan, Kea & Verwers, 2009; Todd & Wolpin, 2008; Wartna, 2009). It is ideally conducted before a policy or program is implemented, but can also be of great value when evaluating a program that has already been implemented (Wartna, 2005), in which case it can give meaning to results found in an effect study.

2.2 The current study

In this chapter, a plan-evaluation is described that aimed to answer the following central research question: *To what extent can the Prevention of Recidivism Program, based on theoretical and empirical knowledge, be considered an effective rehabilitation program?*

Out of the several approaches to plan evaluation (see e.g. Leeuw, 2003; Van der Laan, Kea & Verwers, 2009; Wartna, 2009), we chose to evaluate the potential effectiveness of the Prevention of Recidivism Program (in line with Van Noije & Wittebrood, 2008) by means of *evaluation of program logic*. Program logic (also referred to as program theory) can be described as the sum of all assumptions and mechanisms, underlying a program, that combined explain how a program and its methods intend to reach its goals (Leeuw, 2003; 2005). In an evaluation of program logic, all explicit and implicit assumptions and theories underpinning a program are gathered, and tested against theoretical and empirical knowledge (Leeuw, 2003; 2005). Unfortunately, the program logic is often only implicitly referred to in many policy documents (Van Noije & Wittebrood, 2008). Consequently, *reconstruction of program logic* is necessary in order to gain full insight in the mechanisms and assumptions that are believed to explain how the program intends to reach its goals. Such a reconstruction is done by gathering and examining relevant documentation, from which assumptions and mechanisms relating to program *means*, *methods* and *goals* are deduced. Then, each of these assumptions and mechanisms are summarized and visually represented in a means-goals analysis (a program logic model), in which arrows represent the mechanisms that connect methods to goals, which provides a comprehensive overview of the program logic (Hoogerwerf, 1998). Using this model, the plausibility of the assumptions gathered (now represented by arrows) can then be tested against empirical knowledge (evaluation of program logic), by answering the following question: *Are the assumed mechanisms (or arrows in our logic model) considered plausible based on theoretical knowledge and knowledge based on insights from previous studies*?

In detail, the above described method of reconstruction and evaluation of program logic involves several steps (in line with Hoogerwerf, 1998; Hoogerwerf & Herweijer, 2003; Leeuw, 2003; 2005; Van Noije & Wittebrood, 2008), each of which were undertaken in this study. First, relevant documentation was gathered. This first of all included the Prevention of Recidivism Program manual (Dutch Prison Service & Dutch Probation Organizations,

2007), which was used as a key resource of information, but also involved policy papers, parliamentary papers, relevant published articles and websites. In order to collect as many relevant documents as possible, a literature review was also conducted, for which the following databases and sources were consulted (using the following keywords (in Dutch) *"(Programma) Terugdringen Recidive")*: the online repository of the Second Chamber (House of Representatives), online repository of the Ministry of Security and Justice/WODC, Web of Science, and the online journal portal Boom legal publishers. Additionally, a search was set out via Google and Google Scholar. Finally, the snowball method was used, in which reference lists of retrieved publications and survey studies were searched for relevant publications. The literature found was then studied, and searched for key statements that refer to relationships between means and goals and causes and consequences (for example "the Prevention of Recidivism Program *aims* to decrease the negative effect of detention"). Next, assumptions (mechanisms that were supposed to intermediate between goals and means, and causes and consequences) were filtered from these key statements. In the third and final step, these assumptions were gathered and integrated to form a coherent program logic, which was then represented in a logic-model. An evaluation of program logic was then conducted, in which the vital assumptions (the arrows in the logic-model) in the program logic were then tested for potential effectiveness in light of (criminological) theories and previous studies conducted.

2.3 Reconstruction of program logic

The coherent assembly of assumptions derived from the key documents studied (the reconstructed program logic) is presented in Figure 1. In order to clarify the key elements that form the program logic, three elements will be discussed in detail below: (a) the target population; (b) the methods; and (c) the program (sub)goals.

Target population
As articulated in the program manual, the Prevention of Recidivism Program focuses on a target population of adult detainees who, after their sentence has been imposed, have a remaining prison sentence (which is the total sentence imposed minus the time spent in pre-trial detention) of at least four months (including special conditions that, combined with their remaining prison sentence, add up to a total of four months). Certain groups of offenders were excluded from participation based on (as referred to by the program manual) *objective* criteria, such as offenders who are sentenced to prison for life, and offenders who are placed in psychiatric facilities or penitentiary hospitals. Additionally, some (as referred to by the program manual) *subjective* exclusion criteria were formulated, such as insufficient Dutch language skills or not being willing to participate. If one or more contra-

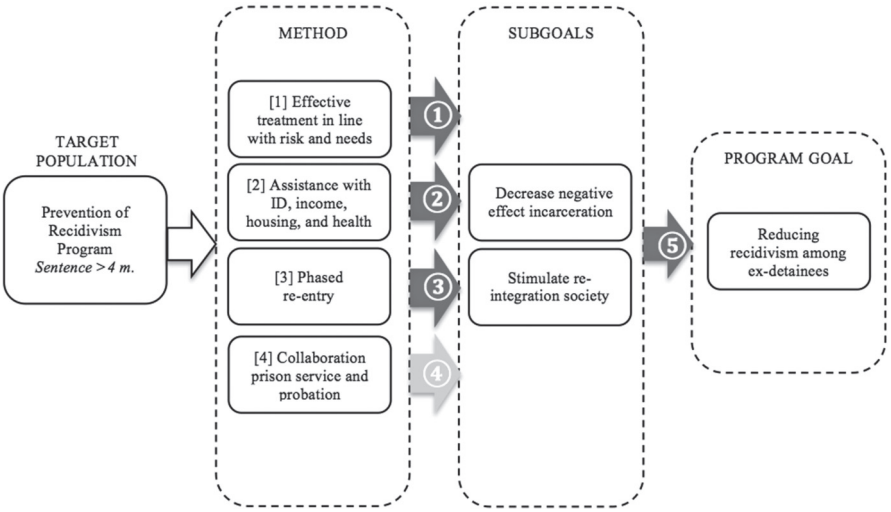

Figure 1. Prevention of Recidivism Program: program logic

indication is present, the start or continuance of the program can be postponed or shut down. If a contraindication expires, the program can start or be continued (Van der Linden, 2004; Dutch Prison Service & Dutch Probation Organizations, 2007). Table 1 provides an overview of in- and exclusion criteria.

Table 1. Overview of in- and exclusion criteria

Central inclusion criterion
Remaining sentence length of at least four months
Objective exclusion criteria
Offenders who are detained under hospital orders (TBS)
Offenders who are detained for life
Detainees under psychiatric care
Illegal aliens in detention
Detainees in a penitentiary hospital
Detainees staying in a forensic observation clinic (Pieter Baan Centrum)
Detainees with an indication *special group*, such as those who are under maximum security
Subjective exclusion criteria
Insufficient Dutch language skills
Inadequate motivation
Flight risk

Method

The Prevention of Recidivism Program manual[1] states that the program aims to achieve a decrease in re-offending rates among detainees with a prison sentence of at least four months, by applying an approach that leans on four pillars: (1) the development and nation-wide implementation of a risk assessment instrument, and the use of evidence-based behavioral interventions designed to target an offender's individual criminogenic needs; (2) the introduction of a new model of collaboration between the Dutch Prison Service and Dutch probation organizations; (3) and an improved transmission from the correctional system to non-correctional social services; and (4) a phased re-entry of detainees in society.

The first, and appointed by several program-documents studied as most important (see e.g. Van der Linden, 2004), pillar first of all rests development and nation-wide implementation of a diagnostic instrument with which the overall risk for recidivism and criminogenic needs (factors that were shown related to repeated offending) of each individual detainee could be assessed. As a result, the Dutch-language Recidivism Assessment Scales (RISc) were developed; an instrument based on and highly similar to the British Offender Assessment System (Howard, Clark & Garnham, 2003). The RISc was designed to (1) assess an offender's likelihood of recidivism (defined as a new conviction), categorized as low, moderate or high, (2) identify and classify offending-related needs on twelve domains (offending history; current offence and pattern of offences; accommodation; education, work, and training; financial management and income; relationships with partner, family, and relatives; relationships with friends and acquaintances; drug misuse; alcohol misuse; emotional wellbeing; thinking and behavior; and attitudes and orientation), (3) assess an offender's responsivity to treatment, and (4) indicate the need for further specialized risk evaluation (Bosker, 2009; Adviesbureau van Montfoort & Reclassering Nederland, 2004; van der Knaap, Leenarts, Born & Oosterveld, 2012). Studies conducted since have indicated that the reliability and internal consistency, as well as the predictive validity of the RISc seem adequate (see Van der Knaap, Leenarts & Nijssen, 2007; Van der Knaap & Alberda. 2009).

Second, this pillar rests on the use of evidence-based behavioral interventions designed to target an offender's individual criminogenic needs (Ministry of Justice, 2005). To achieve this, in 2005 the Dutch Ministry of Justice and Safety had established the *Judicial Behavioral Intervention Accreditation Committee*.[2] This committee (modeled after the British accreditation panel; see Maguire, Grubin, Losel & Raynor, 2010) assesses the *potential* effectiveness of behavioral interventions based on criteria derived from the central principles for effective correctional practices (such as adherence to risk

1 The program manual describes the entire program working process in great detail, an elaborate description of which is provided in Chapter 1.

2 Note that the *Judicial Behavioral Intervention Accreditation Committee* was replaced by the *accreditation committee interventions* in 2015 (Parliamentary Papers, 2014/15).

and need factors). All interventions (or modules) imposed within the Prevention of Recidivism Program must be accredited by this committee. Currently, four types of prison-based behavioral modules have been evaluated as potentially effective. These include *Cognitive Skills Training* and *Cognitive Skills-Plus Training* (an extended version meant for detainees with limited mental capacities), aimed at improving the cognitive skills that are necessary in order to independently live, develop and function in society. Also, a short and extended (depending on the severity of problems) version of *Lifestyle Training for Addicted Offenders* was accredited, which was designed to help offenders cope with addiction to alcohol, drugs and/or gambling. And finally, *Job Skill Training*, aimed at offenders with limited work experience and/or problems with getting or maintaining a job, and a Dutch version of the *Aggression Replacement Training*, which aims to help offenders cope with violence and anger, were accredited and are applied within the scope of the Prevention of Recidivism Program. Currently, none of these accredited behavioral interventions have been evaluated for effectiveness. Studies aimed at assessing the effectiveness of these programs have in some cases been started, but no results have been published to date (source: www.erkenningscommissie.nl). Behavioral modules are supposed to be applied in line with risk assessment scores (for example, an offender with needs with regards to substance abuse, should be allocated to lifestyle training). The extent to which an offender has criminogenic needs, and has a low, moderate or high risk to re-offend is important in determining the content of an offenders individualized treatment program. Detainees with a high risk that score high on specific criminogenic need scales qualify for specialized treatment modules (such as cognitive skill training or job skill training). Detainees with a low recidivism risk can take part in the Prevention of Recidivism Program, but are, in accordance with the risk principle, not referred to further specialized treatment modules. They do however meet the requirements to enter the Prevention of Recidivism Program and can participate without being referred to further (specialized) treatment modules. Their program will then merely consist of phased re-entry and assistance with aftercare needs (identity documents, income, housing, and health care).

The second key program-pillar was the introduction of a new model of collaboration between the Dutch Prison Service and Dutch probation organizations (3RO). The main goal of which was to optimize the transfer of detainees between the prison and probation system. In 2003, a collaboration model was developed in which roles were defined and the distribution of tasks en responsibilities between the prison and parole system was formalized (Van Bostelen, Davio, Mehlkopf & Woerlee, 2005). This collaboration model was implemented in pilot areas in 2003 and was implemented nationwide in 2008 (Dutch Prison Service & Dutch Probation Organizations, 2007).

The programs third key pillar, which was believed to contribute to reaching the overall program goals, was to improve the transmission from the correctional system (i.e. prison) to non-correctional social services. In order to achieve this, an aftercare trajectory was developed (that is available

for every person detained in The Netherlands, so not just offenders that take part in the Prevention of Recidivism Program) that aims to achieve a seamless transfer on four target areas; identity documents, income, housing, and health care (Van Duijvenbooden, 2005). This aftercare program involves: (a) screening an offender's needs on four target areas; (b) assistance on areas that can be assisted on (such as helping a detainee acquire an identity document); and (c) sharing information on areas that were not yet accomplished with the municipality in which an ex-detainee will settle. By doing so, a better transfer from prison to the community is supposed to be achieved. The Dutch prison system is responsible for the preparation of aftercare. After an offender has been released, the municipality or residential care institution (depending on whether an offender returns to a private accommodation or residential institution) takes over this responsibility. This aftercare-protocol was implemented nation-wide in 2010.

One program element that is not considered (or at least not mentioned) as an important pillar, but which is brought up in various documents and articles, is that offenders who take part in the Prevention of Recidivism Program, are eligible for phased re-entry. This fourth pillar, phased re-entry, implies that an offender is gradually granted more freedom until the moment of (early) release. Which means they can, in the final stages of their prison sentence, be placed in (half) open prison facilities where they have more privileges and security measures are less strict. Detainees who decide not to participate in the program will have to spend the remainder of their detention period in a fully guarded correctional facility with limited or no options to go on leave (Van der Linden, 2004; Dutch Prison Service & Dutch Probation Organizations, 2007).

To summarize; the Prevention of Recidivism Program sets out to reach its aims by offering treatment to offenders that meet a set of inclusion criteria, during the time they are incarcerated, after which they are gradually released in society, for which they are prepared during the time they spent imprisoned. As visually represented in Figure 1, the program applies a method resting on *four* focal pillars: (1) the assessment of risk and needs, and the application of treatment modules in line with an offenders risk and need assessment outcomes, the pillar that was pronounced as the most important (see e.g. Van der Linden, 2004); (2) assistance with post-release ID, income, housing, and health care; (3) phased re-entry, and (4) collaboration between the Dutch prison service and Probation Organization.

Program (sub) goals

The Prevention of Recidivism Program was developed within the scope of a governmental policy program (to a safer society), which was initiated in 2002. The aim of this new policy was to reduce criminal behavior, violence and nuisance in the public domain by 20 to 25 percent, which was supposed to be achieved by intensifying surveillance and law enforcement (Parliamentary Papers, 2002/03). Because repeated offending represents a large proportion of the overall crime figure, the prevention of recidivism

was made a major priority (which could contribute to the overall reduction of crime in The Netherlands). Therefore, several policy measures were introduced that were meant to reduce re-offending rates among young offenders with a criminal case and adult ex-detainees. One of these measures was a correctional modernization program that, besides an increased prison-capacity and more austere prison regimes, introduced a measure directed at increasing the *effectiveness* of corrections; the Prevention of Recidivism Program (Parliamentary Papers, 2003/04). The overall goal of the Prevention of Recidivism Program was to reduce recidivism among ex-detainees (see Figure 1, program goal), by decreasing the negative effects of incarceration and stimulating the re-integration of ex-detainees in society (see Figure 1, subgoals), by using an effective, efficient and person-centered approach (Parliamentary Papers, 2007/08).

2.4 Evaluation of program logic

The reconstruction of program logic presented in Figure 1 shows that the Prevention of Recidivism Program is believed to reach its program goal (reducing recidivism among ex-detainees) by means of five proposed mechanisms: The program relies on an approach that consist of: (Arrow 1) Applying effective treatment in line with an offenders risk and need assessment outcomes; (Arrow 2) preparing offenders for release by offering assistance on four (practical) target areas; (Arrow 3) gradually releasing detainees into society by means of a phased re-entry and early release, and (Arrow 4) providing a prisoner with a case-manager that closely cooperates with both the prison- and probation service. This combined approach is supposed to lead to a decrease in the harmful effect of imprisonment and is believed to: stimulate re-integration, which in turn is supposed to reduce re-offending rates among program participants (Arrow 5). Each of these assumed relationships that combined form the program logic, will now be tested for plausibility in light of theoretical knowledge, as well as knowledge based on previous studies conducted.

Effective treatment in line with risk and needs can decrease the negative impact of incarceration, and stimulate re-integration in society (1), which will reduce recidivism rates (5)

The implementation of a rehabilitation program that focuses on delivering treatment in line with risk for re-offending and criminogenic needs does not come out of thin air. Instead, this is a popular approach in correctional rehabilitation practices, which is based on the renowned *Risk-Need-Responsivity* model [RNR] of crime prevention and correctional rehabilitation (Andrews et al, 1990; Bonta & Andrews, 2007). The RNR-model argues that, in order to be effective, treatment should be matched to the characteristics of individual offenders. According to the model, effective treatment focuses on targeting high risk offenders, is directed at altering criminogenic needs, and

is matched to an offender's characteristics (such as motivation; (Andrews, 1995; Andrews & Bonta, 2010; Andrews, Bonta & Hoge, 1990; Andrews & Dowden, 1999; Lowenkamp & Latessa, 2005). A fourth principle, added to the model at a later date, is program integrity, which relates to program delivery (for example, optimal selection of participants, proper referrals to treatment, proper trained treatment staff; Andrews & Dowden, 2005; Hollin, 1995; Leschied, Bernfeld & Farrington, 2001; Moncher & Prinze, 1991).

Based on previous studies, it appears that a risk-need-responsivity approach can effectively reduce post-release re-offending rates among ex-detainees. Theoretically, the mechanisms trough which treatment is supposed to achieve its goals can be explained by marshaling the General Personality and Cognitive Social Learning Perspective of Criminal Behavior (Andrews & Bonta, 2006), a theory that was designed to underpin the Risk-Need-Responsivity framework. According to this theory, criminal behavior signifies a personality predisposition (such as an antisocial personality pattern) that is learned and regulated or re-enforced trough social interactions. Behavior that is (expected to be) rewarded is likely to occur, and behavior that is (expected to be) punished is unlikely to occur (see Andrews & Bonta, 1998; Andrews & Bonta, 2006; Bonta, 2002; Bonta & Andrews, 2007). Criminal behavior can be expected when the rewards and costs for crime outweigh the rewards and costs for pro-social behavior. For example, if an offender has a drug addiction, criminal behavior is expected to be rewarded (for example by getting high after using drugs), which strengthens a person's attitude towards crime, while not doing drugs may trigger withdrawal symptoms such as nausea, anxiety and depression. If risk factors are removed by correctional treatment, the rewards for criminal behavior are removed, and rewards for pro-social behavior may be installed. Chances of successful re-integration are then enhanced, and the risk for re-offending is decreased. As theorized by Andrews and Bonta, providing treatment to detainees aimed at helping them desist from future criminal behavior has been shown effective in a vast number of previous empirical studies (see e.g. Andrews et al., 1990; Bonta & Andrews 2007; Cullen & Gendreau, 1989; French & Gendreau, 2006; Gendreau, 1996; Gendreau & Ross, 1980; 1987; Gendreau et al., 2006; Landenburger & Lipsey, 2005; Lipsey & Cullen, 2007; Lipsey & Wilson, 1993; Lowenkamp, Latessa & Holsinger, 2006; Lösel, 1995; McGuire & Priestley, 1995; Polaschek, 2012; Sherman et al., 1997).

As mentioned, in order to provide a risk- and need based approach, the Prevention of Recidivism Program had implemented a number of criminogenic need-specific treatment modules; the most important of which (Bosma, Kunst & Nieuwbeerta, 2013) are cognitive skill- and lifestyle training. These programs rely on their own set of mechanisms, and theories that can be marshalled to explain their effectiveness. First, the impact of cognitive skill training can theoretically be explained by social learning theory (Bandura, 1986; Ross & Fabiano, 1985), and cognitive social learning theory (McGuire, 2004), which both claim that a number of individual factors (adherence to antisocial attitudes and beliefs; a pattern of deficits in (social-interactive)

problem-solving; a lack in social perspective; and problems concerning self-management; Andrews & Bonta, 2003; McGuire, 2004; Ross & Fabiano, 1990), in interaction with the environment and opportunities for crime, are associated with involvement in criminal behavior. Cognitive skill training was developed to target or alter the individual factors believed to be associated with criminal behavior, leading to reductions in post-release criminal activity. The effectiveness of cognitive skill training was confirmed by studies focusing on the effectiveness of cognitive skills programs in reducing the re-offending among ex-detainees, which have found a small to moderate, but significant treatment effect (see e.g. Friendship, Blud, Erikson & Travers, 2002; Lipsey, Chapman & Landenburger, 2001; Robinson, 1995; Sadlier, 2010; Travers, Wakeling, Mann & Hollin, 2013; Joy Tong & Farrington, 2006; 2008).

Second, the effectiveness of lifestyle training, which aims to influence an offender's problematic addictive behavior in order to reduce the odds of future criminal re-offending by use of an approach based on the relapse prevention model (Marlatt & Gordon, 1985), can be explained by the assumption that substance (ab)use leads to crime. This mechanism may be explained in several ways. First, it may be the case that the psychopharmacological properties of drugs and alcohol, leading to intoxication (undermining judgment and self-control, causing paranoid thoughts or distorting inhibitions and perceptions), may cause aggression (due to, for example, withdrawal or sleep deprivation; Virkkunen & Linnoila, 1993) and criminal behavior (Collins, 1981; Fagan, 1990; With & Gorman, 2000). Second, as it could be the case that substance users have an economic motivation to acquire drugs and/or alcohol, they may be designated to non-legally acquired income to supply in their (often growing) demand (frequently referred to as pharmacological determinism, which asserts that people who were once exposed to drugs, often require this in increasing amounts; Alexander, 1984). Third, the causal link between substance use and crime may be explained by the assumption that substance abuse is fundamentally connected with (violent) criminal behavior (Goldstein, 1985). Substance abuse treatment, such as lifestyle training, is designed to help offenders cope with their addictive pattern, which is believed to impact each of the above mentioned mechanisms, thereby reducing the odds for post-release criminal behavior. This assumption was tested by several previous studies, which were summarized in a meta-analysis (Irvin, Bowers, Dunn & Wang, 1999). This meta-analysis, which included studies that focused on programs based on a relapse prevention model (Marlatt & Gordon, 1985), concluded that these programs effectively increased the psychosocial functioning of participating offenders, and decreased substance abuse among program participants.

The first assumption extracted from the program logic, which proposes that correctional treatment can aid to decreasing the negative effect of incarceration, as well as stimulate re-integration of ex-detainees in society (premise 1), leading to reduced recidivism rates (premise 5), was therefore, based on theoretical and empirical considerations, considered plausible (see figure 1).

Aftercare assistance with respect to ID, income, housing and health can decrease the negative impact of incarceration, and stimulate re-integration in society (2), which will reduce recidivism rates (5)

The benefits of preparing offenders for release by offering assistance in obtaining an identity document, post-imprisonment income, post-imprisonment housing and health care, and it's relations to future crime-reductions are perhaps somewhat more difficult to theoretically explain. The absence of, for example, an identity document may not be directly related to criminal behavior. However, it may be argued that without a passport or identity card, it will be virtually impossible to get a job, or rent a house. And without health care insurance, former offenders may be confronted with high medical costs, leading to debt and perhaps even economically driven re-offending. In other words, post-release difficulties in areas such as ID, housing, income and health may cause strain (Merton, 1938), friction that arises when people fail to achieve society's expectations (such as getting a job or finding a house), which can cause people to revert to criminal behavior. Helping people achieve these means (before re-entering society) may in that respect prevent future criminal behavior. Additionally, helping offenders to acquire housing and employment can also be seen as endorsing them to engage in key life events. Such life-events, or transitions, that strengthen an individual's ties to society, were often associated with desistance from crime; for instance, by life-course theories of criminal behavior (see e.g. Laub & Sampson, 1993). Previous studies have found support for the assumption that salient life events that promote social bonds are associated with desistance from crime (Farrington & West, 1995; Horney, Osgood & Marshall, 1995; Laub, Nagin & Sampson, 1998; Sampson & Laub, 2003). Studies also provided support for the proposed influence of housing (Metraux & Culhane, 2004; Steiner, Makarios & Travis, 2015; Visher & Courtney, 2007; Yahner & Visher, 2008), acquiring an income, and mental or physical health (Gendreau, Litlle & Goggin, 1996; Visher & Courtney, 2007) on post-release re-offending and re-incarceration.

In conclusion, helping offenders with acquiring ID, income, housing and health care, can prevent further criminal behavior by preventing strain, and can promote life course transitions, helping them to desist from future criminal behavior. The second assumption extracted from the program logic, which proposes that Aftercare assistance with respect to ID, income, housing and health can aid to decreasing the negative effect of incarceration, as well as stimulate re-integration of ex-detainees in society (premise 1), leading to reduced recidivism rates (premise 5), was therefore, based on theoretical and empirical considerations, considered plausible (see figure 1).

Phased re-entry can decrease the negative impact of incarceration, and stimulate re-integration in society (3), which will reduce recidivism rates (5)

Our third premise states that gradually releasing offenders into society (earlier than the total duration of their sentence would originally imply) can minimize the potentially harmful effect of incarceration, can stimulate re-

integration and will thereby reduce the odds for future re-offending. This proposition is linked to two assumptions. First, a phased re-entry implies that offenders, in the final stage of their prison sentence, can be placed in (half) open prison facilities where they have more freedom and security measures are less strict. They can, for example, spend their weekday outside the prison walls for occupational or educational purposes. Second, phased re-entry means offenders are eligible for early release, which implies that they spend less time in detention. Both assumptions are based on the notion that imprisonment has a negative impact on offenders, with longer prison sentences leading to increased harm done. This negative effect of imprisonment can be explained by referring to the differential association tradition (Sutherland, 1939), which relies on the notion that criminal attitudes, values, and techniques are learned in association with deviant others. Some scholars in this context refer to the process of *prisonization*; the process in which imprisoned offenders learn the norms of an antisocial subculture during the time they remain incarcerated (Clemmer, 1940). Others state that imprisonment is damaging because it removes offenders from society, which weakens interpersonal-, familial-, workplace- and economic bonds (Orsagh & Chen, 1988), thereby relating to a social bonds perspective of criminal behavior (Hirschi, 1969). Finally, a long incarceration time can also prevent people from life-course transitions that according to Laub and Sampson (1993) are related to a decrease in criminal behavior, such as getting and maintaining a relationship and/or employment.

In line with these theories, it may be expected that a shorter prison-sentence may decrease the harmful effect of imprisonment. Similarly, a prison sentence spent in a half-open facility may stimulate re-integration in society through strengthening social (conventional) bonds, and/or life-course transitions. Previous empirical studies conducted evidenced the hypothesized relationship between length of incarceration and post-release recidivism. Smith, Gendreau & Goggin (2002) for example compared re-offending rates by length of incarceration and concluded that the time served in prison was positively related to the probability of re-offending. Similar results were also found in other studies (see for example Baay, Liem & Nieuwbeerta, 2012; Gottlieb & Gabrielsen, 1990; Roberts, Zgoba & Shahidullah, 2007).

In conclusion, the premise made, stating that phased re-entry (implicating detention in a (half) open facility, and early release from prison) can decrease the negative impact of incarceration, and stimulate re-integration in society (premise 3), which will reduce recidivism rates (premise 5), was considered plausible based on theoretical and empirical considerations (see figure 1).

Improved collaboration between the prison- and probation service can decrease the negative impact of incarceration, and stimulate re-integration in society (4), which will reduce recidivism rates (5)

The fourth assumption asserts that an improved collaboration between the prison- and probation service can contribute to decreasing the nega-

tive impact of incarceration, and stimulate re-integration in society, which in turn will reduce re-offending rates among program participants. This hypothesis mostly relies on a method in which a case-manager has a care-coordinating role and in which there is a collaboration model in place for the prison- and probation service. This is believed to have major advantages for the efficiency and effectiveness of treatment.

In prison-based treatment practices, as is the case in the broad spectrum of human service organizations (under which a prison system that provides rehabilitation-services can be grouped), fragmentation of services forms a threat to effective delivery of services (Kane & Kane, 1981; Rapp & Chamberlain, 1985; Sonsel, Paradise & Stroub, 1988). In many cases, human service organization have to deal with a variety of clients, with their own characteristics and motivations, perform various types of tasks (such as diagnosing, training and educating) and programs, in an often changeable and complex context (Hasenfeld & English, 1974; Hasenfeld, 1984; Scott 1981). In short: the more goals organizations want to achieve, the more complex the system becomes. This can cause conflicting goals and a lack in the continuity of services. Case management is a method used that is expected to streamline care in a fragmented service delivery system (Loomis, 1988), and optimize treatment results. Studies have indicated that a continuity of care (especially concerning the contact that human service agents have with a client), and a coordinated transfer from one phase to the next are effective enhancing elements of case-management models (Partridge, 2004).

We can therefore conclude that case management can be an effective way to maximize treatment retention and optimize treatment outcomes. It does however seem highly unlikely that case management itself can decrease the harmful effect of imprisonment, increase re-integration among ex-detainees, and finally, reduce re-offending rates among ex-detainees, because case management itself is not believed to have a direct effect on (the causes of) criminal re-offending. Consequently, the premise stating that an improved collaboration between the prison- and probation service can decrease the negative impact of incarceration, and stimulate re-integration in society (premise 4), and can contribute to reduced recidivism rates (premise 5), was considered implausible based on theoretical and empirical considerations (see figure 1). Perhaps it is better to view case management as an important prerequisite for effective rehabilitation in a program in which multiple practitioners from different organizations have to cooperate.

2.5 Conclusion

In the current chapter, a plan-evaluation was presented that aimed to assess the potential effectiveness of a prison-based rehabilitation program implemented in The Netherlands: the Prevention of Recidivism Program. This evaluation was conducted by (a) reconstruction of program logic, in which all explicit and implicit assumptions and theories underpinning the Preven-

tion of Recidivism Program were gathered, and (b) evaluation of program logic in light of theoretical knowledge and knowledge based on previous studies conducted.

Reconstruction of program logic made clear that the program relied on a method consisting of: (1) Applying effective treatment in line with an offenders risk and need assessment outcomes; (2) preparing offenders for release by offering assistance on four (practical) target areas; (3) gradually releasing detainees into society by means of a phased re-entry and early release, and (4) providing an inmate with a case-manager that closely cooperates with both the prison- and probation service. This combined approach is assumed to lead to a decrease in the harmful effect of imprisonment and is believed to stimulate re-integration, which in turn is supposed to reduce re-offending rates among program participants (5). Based on detailed evaluation of program logic it was concluded that three of four treatment methods (applying treatment in line with risk and needs, preparing offenders for release by offering assistance on four target areas, and phased re-entry) were considered plausible based on theoretical considerations and previous studies conducted. The influence of a case-manager, which ensures close cooperation between the prison- and probation service, on post-release re-offending outcomes was however not considered plausible, although it was concluded that this approach could potentially increase treatment retention, a direct effect of case management on recidivism was not considered probable.

Concerns and overall conclusion

Although it was concluded that the Prevention of Recidivism Program can be considered potentially effective based on theoretical considerations and previous studies conducted, two concerns need mentioning.

First, this study reasoned that the Prevention of Recidivism Program can be considered as potentially effective, an assumption that was largely based on the fact that the program was developed in line with the RNR-model (Andrews et al, 1990). The RNR-model was based on evidence from a large body of previous studies that have shown that treatment can be effective, generally referred to as the *What Works* literature (see e.g. Cullen & Gendreau, 2001; Gendreau, Cullen & Bonta, 1994; McGuire, 1995; McGuire & Priestley, 1995). There are however also critical voices who have risen concerns about the What Works literature. Van der Hurk and Nelissen (2004) assembled some of these criticisms, the most important of which is perhaps its insufficient empirical foundation; relating mostly to the poor quality of studies on which the What Works movement was built (see e.g. Palmer, 1994; Pawson & Tilly, 1994). Furthermore, they discuss the fact that most studies conducted have used a rather simplistic evaluation approach, mostly focusing on the question *if* programs work, instead of determining *how* treatment programs work (Pawson & Tilly, 1994; Farrall, 2002). Other authors have also criticized the RNR-framework for its poor theoretical assumptions and narrow, negative approach, solely focused on risk, which

according to them makes the model difficult to implement in practice (Ward & Brown, 2004; Ward, Melser & Yates, 2006; Ward & Stewart, 2003; Ward, Yates & Willis, 2012). These authors might argue that we should be cautious about drawing firm conclusions about the potential effectiveness of the Prevention of Recidivism Program, relying merely on the RNR-model.

Second, The Prevention of Recidivism Program was implemented within the scope of a governmental policy program (to a safer society), for which several policy measures were introduced, that combined were believed to contribute to reducing re-offending rates in society by ten percent, and finally, was believed to contribute to a reduction of crime in society by twenty to twenty-five percent (Parliamentary Papers, 2002/03). In The Netherlands, prison sentences are relatively short; about sixty percent of all offenders that enter the Dutch penitentiary system remain detained for a period up to three months; while well over seventy percent of detainees return home after having spent less than six months in a Dutch prison (Kalidien & Zuiderwijk van Eijk, 2010; Linckens & De Looff, 2014). When we take into account the time it takes to bring an offender to trial and impose a sentence, a remaining sentence of four months will only apply to a limited number of detainees. In fact, a study by Bosma, Kunst & Nieuwbeerta (2013) found that on a yearly basis, just over ten percent of the total inflow of detainees in Dutch correctional institutions was eligible to take part in the Prevention of Recidivism Program (Bosma, Kunst & Nieuwbeerta, 2013). International studies found the impact of prison-based treatment to be moderate, with effect sizes of around .17 (Andrews & Bonta, 2003). Given the somewhat ambitious policy aims set out (a reduction of recidivism rates in society by ten percent, and a reduction of crime in society of twenty to twenty-five percent), one could wonder if such an aspiring objective could be reached by a moderate reduction in recidivism rates, among what will probably be a fairly small population of participants.

In conclusion, the Prevention of Recidivism Program can be considered theoretically strong. However, expected treatment effects are probably limited, and most likely only apply to the small population of offenders that qualify for the program. Expectations with regards to the impact of the Prevention of Recidivism Program on re-offending among ex-detainees in general, as well as the impact of the program on crime in society should perhaps be tempered. Regardless, further study into the functioning and effectiveness of the program should make clear how the program is implanted, and if it effective in reducing re-offending among former program participants.

3 Qualification for a prison-based treatment program■

3.1 Introduction

Changing lawbreakers into law abiders seems an obvious answer to the rising re-offending rates of ex-detainees all over the western world (see e.g. Hughes & Wilson, 2002; SEU, 2002; Visher & Travis, 2003), including The Netherlands (Wartna et al., 2010). It was not however until the 1970s, 1980s that correctional treatment was considered a viable option. Until then, the common belief was that nothing works in correctional treatment (e.g. Lipton, Martinson & Wilks, 1975; Martinson, 1974). Large-scale meta-analytic studies changed this view, and proved that recidivism rates could be decreased by altering factors that were shown to influence post-release re-offending (see e.g. Andrews, 1995; Andrews & Bonta, 1994; Andrews et al., 1990; Gendreau, 1996; Gendreau, Little & Goggin, 1996; Lipsey & Wilson, 1993). Consequently, in an attempt to decrease post-release re-offending rates, governments have started to focus attention on better preparing detainees for life after prison. This led to the implementation of (prison-based) rehabilitation programs all over Northern America en Western Europe (see Hannah-Moffat, 2005; Jolley & Kerbs, 2010; McSweeney, Turnbull & Hough, 2008).

Correctional treatment programs generally adhere to the central principles for effective correctional rehabilitation, gathered in the *Risk-Need-Responsivity* model [RNR] of crime prevention and correctiona rehabilitation (Andrews, Bonta & Hoge, 1990). This psychological model for understanding behavioral change in offenders consists of three core elements that a program needs to adhere to, in order to be effective; risk, need and responsivity. In brief, the *risk* principle indicates that treatment should be directed at high risk offenders. The *need* principle prescribes that treatment should address an offender's individual criminogenic needs (factors that have shown to be related to repeated offending). And the *responsivity* principle recommends that interventions should match an offender's abilities, treatment readiness, and personality (see Andrews, 1995; Andrews & Bonta, 2010; Andrews et al., 1990; Andrews & Dowden, 1999; Lowenkamp & Latessa, 2005). Thus, the need and responsivity principles guide what should be treated in what specific manner, while the risk principle is crucial to specify *who* should be targeted by treatment.

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The risk principle: targeting high risk offenders

The proposition derived from the risk principle, suggesting that treatment should be directed at high risk offenders (see e.g. Andrews, Bonta & Hoge, 1990; Andrews, Bonta & Wormith, 2006), has two components. The first aspect proclaims that the risk for future criminal behavior, which differs between individuals, and depends on several (static and dynamic) factors or characteristics (Andrews, 1989; Andrews & Bonta, 1998; Bonta, 2002; Dowden & Brown, 2002; Gendreau, Little & Goggin, 1996; Hoffman, 1994; Lipsey & Derzon, 1998), can be predicted. The second component proposes that, in order to reduce the risk of recidivism among offenders, treatment programs should be matched to the risk level of the individual offender. This implies that offenders who are considered a high risk to re-offend should receive more intensive services, compared to offenders with a low risk, whose prospects ought to be better when receiving no, or a limited intensity of services. Basically, the practical implication of the risk principle is fairly simple and perhaps obvious: "*if it ain't broke; don't fix it*" (Andrews & Dowdon, 2006, p89).

Allegedly, not adhering to the risk principle can cause *iatrogenic effects* (Wiener, 1998). Iatrogenic effects, originated in medical practices, refer to damages (illnesses or injuries) that are acquired during medical treatment for a primary disease (Lowenkamp & Latessa, 2005). The concept of iatrogenic effects can also be applied to other contexts (Wiener, 1998), such as correctional treatment (Dishion, McCord & Poulin, 1999; Lowenkamp & Latessa, 2005), in which case it refers to the potential harm that can occur by exposing low-risk offenders to intensive correctional interventions in which high-risk offenders take part (Lowenkamp & Latessa, 2005). In other words; exposing low-risk offenders to treatment (in which they may interact with high-risk offenders) may cause them to re-offend more often, then they would have had they not engaged in treatment.

The risk principle has been studied exhaustively and research conducted provided strong empirical support for its claims (Andrews et al., 1990; Andrews & Dowden, 1999; 2006; Dowden & Andrews, 2000; Lowenkamp & Latessa, 2005; Lowenkamp, Latessa & Holsinger, 2006; Taxman & Marlowe, 2006). For example, a meta-analysis (Andrews & Dowdon, 2006) provided solid support for the risk principle by showing that adherence to risk was associated with increased reductions in future criminal behavior (compared to programs that did not adhere to risk), especially when the need and responsivity principle were also met.

In conclusion, both theory and previous studies provide clear insight into the type of offender that ought to qualify for correctional treatment programs, in order for programs to reach the desired results: high risk offenders. Much is however unknown about the type of offender that qualifies for correctional treatment in practice. This study therefore focuses on qualification for a prison-based treatment program in The Netherlands: the Prevention of Recidivism Program.

The Prevention of Recidivism Program

Inspired by the body of research that showed that correctional treatment programs can be effective in reducing recidivism among former offenders, the Dutch government implemented the prison-based Prevention of Recidivism Program nation-wide in 2007 (Dutch Prison Service & Dutch Probation Organizations, 2007).[1] The Prevention of Recidivism Program was designed in line with the RNR-model, and accordingly relied on an approach in which: (a) a detainees risk for recidivism and criminogenic needs tied to twelve specific subdomains[2] are assessed by administering a validated risk assessment instrument; after which (b) a personalized program is assembled, in which, if risk and need scores indicate this, treatment modules are applied to target a detainees criminogenic needs (Dutch Prison Service & Dutch Probation Organizations, 2007).

Although the Prevention of Recidivism Program was meant to target a broad offender population (instead of merely focusing on, for example sex offenders or addicted offenders), some (mostly practical) selection criteria were set. First and foremost; the program was available for offenders with a prison sentence of at least four months (i.e. remaining after being sentenced by a judge). Besides the central sentence-length inclusion criterion, additional exclusion conditions were formulated. These were grouped under (as termed by the Prevention of Recidivism Program manual); *objective* exclusion criteria, which can automatically be assessed by an automatic registration system based on type of offender and type of location; and *subjective* exclusion criteria, which cannot be assessed automatically but instead ask for further examination.

First, *objective* exclusion criteria were formulated to exclude specific groups of offenders, including detainees who are detained under hospital orders (TBS); detainees serving a life sentence; detainees who are placed in psychiatric facilities; illegal aliens in detention; detainees admitted to a penitentiary hospital; detainees staying in a forensic observation clinic (Pieter Baan Centrum); and detainees with an indication "special group", such as those who are staying in a maximum secured facility. *Subjective* exclusion criteria are insufficient Dutch language skills, and inadequate motivation. Detainees who are considered a great flight risk are also excluded from participation (Dutch Prison Service & Dutch Probation Organizations, 2007;

1 Note that the program was replaced by a new policy measure that was implemented in March 2014, which uses the same risk/need based approach, but in which offenders can only take part of they have earned the right to engage, by expressing their willingness to change their criminal ways, and by showing pro-social behavior for a minimum of 6-weeks straight.

2 Namely: (1) offending history; (2) current offence and pattern of offences; (3) accommodation; (4) education; work; and training; (5) financial management and income; (6) relationships with partner and relatives; (7) relationships with friends and other acquaintances; (8) drug misuse; (9) alcohol misuse; (10) emotional well-being; (11) thinking and behavior and (12) attitudes/orientation (Adviesbureau van Montfoort & Reclassering Nederland, 2004).

Van der Linden, 2004). Both objective and subjective exclusion grounds can expire: If one or more contraindication is present, the start or continuation of the program can be suspended or shut down. If a contraindication expires, the program can be re-started or continued (Dutch Prison Service & Dutch Probation Organizations, 2007; Van der Linden, 2004). A complete overview of exclusion criteria can be found in Table 1.

Table 1. Overview of in- and excluded detainees

Central inclusion criterion
Remaining sentence length of at least four months
Objective exclusion criteria
Detained under hospital orders (TBS)
Detained for life
Detained under psychiatric care
Illegal aliens
Detained in a penitentiary hospital
Detained staying in a forensic observation clinic (Pieter Baan Centrum)
Detained with an indication *special group*, such as those who are under maximum security
Subjective exclusion criteria
Insufficient Dutch language skills
Inadequate motivation
Flight risk

Qualification for entry in the Prevention of Recidivism Program is determined at the moment an offender is convicted by a judge. With help of the application TRIS (Trajectory Information System; the official Prevention of Recidivism Program registration system accessible and used in every penitentiary institution in The Netherlands), eligible detainees are recognized the moment their sentence is imposed. Offenders are assigned by TRIS as a candidate if their remaining prison sentence at the moment of sentencing (which is the total sentence minus the time spent in pre-trial detention) is equal to or larger than four months, and if they are not excluded based on objective criteria (as mentioned, detainees in special locations, such as a penitentiary hospital and forensic observation clinic, and special groups, such as those under maximum security, are excluded). Offenders eligible for participation are then asked if they are willing to enter the program. Participation in the Prevention of Recidivism Program is voluntary. However, there is a strong incentive to participate: Detainees who decide to take part are eligible for phased re-entry and early release. This implies that they can be (gradually) placed in prison facilities with a lower security level (where they are granted more freedom) and have the ability to go on leave (for example on weekends). They are also qualified to spend up to one third of their sentence at home, under supervision of the Dutch Probation Organization.

As mentioned, the Prevention of Recidivism Program main exclusion criteria was a remaining prison sentence (i.e. after being sentenced by a

judge) that does not reach or exceed four months. Compared to many other countries, the time an incarcerated offender spends "behind bars" in The Netherlands is relatively short: Roughly sixty percent of all offenders that enter the Dutch penitentiary system remain detained for a period up to three months; while well over seventy percent of them return home after having spent less than six months in detention (see Linckens & De Looff, 2015). When we take into account the time it takes to bring an offender to trial and impose a sentence, a remaining prison sentence of four months at the moment of sentencing will only apply to a limited number of detainees; a rough estimate of which lies around about eleven percent of the total inflow of detainees in Dutch correctional institutions (Bosma, Kunst & Nieuwbeerta, 2013).

Based on the abovementioned, the Prevention of Recidivism Program appears to target a fairly narrow offender population. However, precise data is lacking. We can therefore assess what type of target population the program aims to achieve; we do not know how many offenders were actually eligible for treatment (and how many were not), and what their characteristics were. We also do not know if the correct target population was reached. Additionally, and perhaps most important, we do not know if the Prevention of Recidivism Program has been successful in targeting a high-risk offender population, for whom theory and previous studies have pointed out that correctional treatment program will be most effective. This chapter aims to address these matters.

3.2 The current study

In this chapter, a study is presented that aimed to assess which offenders qualified for entry in the Prevention of Recidivism Program: a prison-based treatment program that was designed for a selective group of offenders with a (assessed at the moment of sentencing) remaining prison sentence of at least four months. Previous work (Bosma, Kunst & Nieuwbeerta, 2013) has indicated that a little over ten percent of the total inflow of Dutch detainees meets the criteria to enter the program; however, no study has focused on the characteristics of candidates and non-candidates. It is therefore unknown if the proper target population was addressed. Also, it is unknown if the program was able to reach a population of high risk offenders and was therefore able to adhere to the risk-principle, which was shown as a major indicator of treatment success by theory and previous studies. Three research questions were studied: (1) *How many offenders qualified for participation in the Prevention of Recidivism Program*? (2) *What were their characteristics*? (3) *Did the correct target population qualify for the Prevention of Recidivism Program*? Treatment candidacy was studied by use of a unique population-based dataset that included registration data from several sources, including background and legal case characteristics and risk and need assessment outcomes.

3.3 Methods

Sample and procedure

To examine program qualification for the Prevention of Recidivism Program, this study used a data set from the Prison Project. This is a large scale, longitudinal research project, studying the effect of imprisonment on the life of detainees and their families in The Netherlands. Its population-based sample included all male prisoners aged 18 to 65 years, who were born in The Netherlands, who entered one of the Dutch remand centers between October 2010 and April 2011, and who were held in pre-trial detention. This amounts to a total sample of 3.981 detainees.

Several sources of data on the persons included in the sample were gathered to answer the research question proposed. First, the *Dutch Custodial Institutions Agency* provided data from prison registration systems on all persons in the sample, including data on background characteristics, offence type and incarceration details (Prison Registration System) and in depth information regarding rehabilitation trajectories (Prevention of Recidivism Registration System). Second, data on the sentencing process and outcomes were made available by the Dutch Prosecution Office. And third, risk assessment data were made available by the *Dutch Probation Service*. Unfortunately, a risk assessment instrument had only been administered among 2.601, of our total sample of 3.981 offenders (65.3%), which means that we are dealing with a considerable number of missing data.

Measures

The current study categorized offenders by Prevention of Recidivism Program qualification status: offenders who qualified for program entry offenders who did not qualify for program entry. To determine program qualification, the official Prevention of Recidivism registration system was consulted. This administrative database provides exact information regarding the status of an offender's program qualification or non-qualification, program participation or non-participation and completion or non-completion. It automatically selects offenders after their sentence has been imposed based on their remaining prison sentence (> 4 months) and objective criteria. The system is available and used in every prison in The Netherlands. As mentioned, it provides exact information, recoding of data was therefore not necessary in order to determine qualification status.

Background characteristics accounted for in the current study included age and ethnic background (native vs. non-native). Age (in years) was calculated from the prison registration systems by subtracting date of birth from the date of their prison entry. Ethnic background (non-native vs. native; Statistics Netherlands defines a person as having a non-native background if at least one of his/her parents was born abroad) was obtained from municipal data, and if not available, was subtracted from data retrieved from the Dutch probation organization. Offence type was drawn from the Prison Registration system and was recoded in violent (violent offences) and non-violent (property, damage, drug related and other offences).

Risk scores were drawn from the Dutch-language Recidivism Assessment Scales (RISc). This validated risk assessment tool is administered by trained probation officers and is used in criminal courts, prisons and probation services throughout The Netherlands. The RISc measures the risk for future re-offending by scoring items on twelve subscales; (1) offending history; (2) current offence and pattern of offences; (3) accommodation; (4) education; work; and training; (5) financial management and income; (6) relationships with partner and relatives; (7) relationships with friends and other acquaintances; (8) drug misuse; (9) alcohol misuse; (10) emotional well-being; (11) thinking and behavior and (12) attitudes/orientation, that combined form an overall risk indication (low, moderate-low, moderate-high, high). Treatment readiness (which relates to an offender's motivation to change deviant behavior and his or her willingness to participate in treatment) was also drawn from the risk assessment database. Ready for treatment was coded as 1 and not ready for treatment was coded as 0. For additional information on the RISc instrument, see Van der Knaap and others (2012). As mentioned, a considerable number of risk assessment data was missing. Note that offenders for whom this is the case were not removed from the analyses. Outcomes regarding risk assessment scores therefore have to be interpreted with great care and reticence.

3.4 Results

Exploring program qualification

First, this study aimed to assess how many offenders qualified for participation in the Prevention of Recidivism Program. After consulting the Prevention of Recidivism Program registration database, it was shown that 886 (22.3%) of our total research sample of 3.981 offenders qualified for program entry. They were selected based on their remaining prison sentence (which, at the moment of sentencing, had to be at least four months), and on objective criteria (not excluded based on their status or placement). These offenders were now considered eligible to participate in the program. A total number of 3.095 detainees (77.7%) did not qualify.

Second, this study intended to explore what the characteristics of offenders qualified for program participation were. Therefore, it was assessed to what extent offenders who qualified for program participation, differed from offenders who did not qualify, with respect to background characteristics. As shown in Table 2, offenders who qualified and who did not qualify did not differ concerning age. They did differ significantly on ethnic background, which was however largely caused by the large proportion of missing risk assessment data for those who did not qualify, from which ethnic background was retrieved. Offenders who did and did not qualify differed regarding the type of offence for which they were imprisoned, and the length of the prison sentence imposed (which in most cases is probably associated with the type of offence committed). Concerning type

of offence, it was shown that offenders, who did not qualify, were more often in prison for a property or damage-related offence. While offenders qualified were overrepresented regarding violent offences and drug related offences. With respect to sentence length, analyses have shown that offenders who qualified for treatment were sentenced to an average of 847 days in prison, while the group of offenders who did not qualify was sentenced to an average of 183 days in prison. This large difference is as expected, since sentence remainder is the main criterion to include offenders in the Prevention of Recidivism Program. This indicates that offenders who qualified for program entry were probably more often in prison for being accused of a more serious crime, for which they more often compared to those who did not qualify, received a more serious prison sentence.

Concerning risk assessment outcomes (available for 787 or 88 % of 886 candidates, and 1814 or 58.6% of 3095 non-candidates) the results are not as straightforward: The overall risk for recidivism score, which was generated based on the twelve criminogenic need scales, did not differ between the two groups, as is the case for categorized scores. There were also no differences reported concerning six of twelve criminogenic need scales (offending history and current offence, accommodation, relationships with partner and relatives, drug misuse, thinking and behavior, and attitudes and orientation). Significant differences were reported concerning the remaining six scales, but differences were small, and sometimes favored non-candidates (who scored lower on financial management and income, relationships with friends and acquaintances), and in other cases favored the group of candidates (who scored lower on the scales education, work and training, alcohol misuse, and emotional wellbeing). With respect to treatment readiness it was shown that offenders who qualified for treatment, were more often considered treatment ready, compared to offenders who did not qualify. Though perhaps interesting, it is important to keep in mind that risk assessment data was missing for a considerable number of, especially not-qualifying detainees, which means that no firm conclusions should be drawn based on the results presented in Table 2.

Table 2. Group characteristics in- and excluded detainees (N=3.981)

	Qualified (*n*=886)	Did not qualify (*n*=3.095)	Total (*N*=3.981)	
	M(SD)/%	*M(SD)*/%	*M(SD)*/%	Sig.
Age (18-65)	30.59 (10.54)	30.62 (10.75)	30.61 (10.70)	
Ethnicity				***
Native	55.3	42.0	45.0	
Non-native	35.3	24.3	26.8	
Unknown	9.4	33.7	28.3	
Type of offence				***
Violent	56.5	40.7	44.3	
Property	22.7	37.8	34.4	
Damage	2.5	6.9	6.0	
Drug related	13.4	10.4	11.1	
Other/Unknown	4.8	4.0	4.3	
Sentence length in days (7-10950)	847.43 (882.13)	183.33 (253.22)	353.80 (575.67)	***
RISc: Overall risk for re-offending (0-167)†	71.06 (34.55)	71.29 (34.30)	71.22 (34.37)	
RISc: Categorized scores				
Low to low/moderate	63.3	65.9	65.1	
Moderate/high to high	36.7	34.1	34.9	
RISc: Criminogenic need scores				
Offending history & current offence (0-50)	18.84 (13.00)	17.98 (12.24)	18.24 (12.48)	
Accommodation (0-12)	4.12 (4.19)	3.87 (3.89)	3.94 (3.98)	
Education, work & training (0-20)	9.68 (6.71)	10.55 (6.96)	10.28 (6.90)	*
Financial management & income (0-12)	4.94 (3.75)	4.44 (3.58)	4.59 (3.63)	*
Relationships with partner & relatives (0-6)	2.71 (1.75)	2.84 (1.78)	2.80 (1.77)	
Relationships with friends & acquaintances (0-15)	6.34 (4.42)	5.96 (4.54)	6.07 (4.51)	*
Drug misuse (0-15)	5.97 (5.41)	6.35 (5.48)	6.23 (5.44)	
Alcohol misuse (0-5)	1.65 (1.87)	1.87 (1.94)	1.80 (1.92)	**
Emotional well-being (0-6)	2.37 (1.75)	2.59 (1.85)	2.52 (1.83)	**
Thinking & behavior (0-12)	7.95 (3.13)	8.10 (3.35)	8.06 (3.29)	
Attitudes & orientation (0-15)	6.48 (4.65)	6.75 (4.81)	6.67 (4.76)	
Treatment readiness				***
Treatment ready	67.7	46.4	63.0	
Not treatment ready	32.3	53.6	37.0	

* $p < .05$ ** $p < .01$ *** $p < .001$

† Note that RISc scores are only available for 88.8% of candidates, and 58.6% of non-candidates.

Exploring the population targeted

The current study's third objective was to determine if the correct target population had qualified for entry in the Prevention of Recidivism Program. Our data sources available provided information on the three key aspects that are salient in determining program qualification; *sentence length* (remaining after a sentence has been imposed); *offender status*, the most important of which are detained under hospital orders (TBS), detained under psychiatric care and being detained for life; and being detained in an *excluded facility*, such as a penitentiary hospital or forensic observation

clinic.[3] Based on which it could be assessed if the selection of offenders that qualified for program entry has been correct (in light of who should have been reached based on the programs in- and exclusion criteria).

Results have shown that according to our own analyses, 846 offenders (21.3%) received a prison sentence that (after subtracting the time spent in pre-trial detention) exceeded 120 days, 690 of which qualified for program participation because there sentence was immediately imposed[4], 2.909 offenders (73.1%) had a remaining prison sentence that did not exceed 120 days, while the sentence was unknown based on the information available for 226 offenders (5.6%). Furthermore, 51 (1.3%) were excluded based on their detainee-status (such as TBS), while 3930 offenders were not (98.7%). And finally, 109 offenders (2.7%) were detained in excluded locations, while 3872 offenders (97.3%) were not. Combined, this added up to a total number of 640 offenders (16.1%) that qualified for the program, 2969 (74.6) who did not qualify, and 372 offenders (9.3%) for whom qualification could not be determined. Next, the results of our own analyses (based on registration data) were compared to the program-candidacy data retrieved from the Prevention of Recidivism Program database, the results of which can be found in Table 3.

Table 3. Crosstab program qualification based on PoR program versus own analyses (N=3.981)

	Prevention of Recidivism Program status		
	Included	Excluded	Total
Qualified based on sentence, status and facility	575 (64.9%)	65 (2.1%)	640
Did not qualify based on sentence, status and facility	285 (32.2%)	2684 (86.7%)	2969
Unknown	26 (2.9%)	346 (11.2%)	372
Total	886 (100%)	3095 (100%)	3981

* A grey block indicates a wrongful in- or exclusion

Two types of program candidacy errors can occur; offenders can be incorrectly included (type 1 error), and can be incorrectly excluded (type 2 error). As shown in Table 3, a number of 285 offenders were included in the program

3 Sentence length was constructed with use of data on the sentencing process and outcomes that were made available by the Dutch Prosecution Office. The remaining prison sentence was determined by subtracting the time spent in pre-trial detention from the total (unconditional) prison sentence imposed. Second, information on offender status (TBS, detained under psychiatric care and being detained for life) was collected using the same sentencing database. Lastly, information on the type of facility an offender was detained in was gathered with use of data provided by the *Dutch Custodial Institutions Agency*. The date at which an offender was sentenced (subtracted from the database provided by the Dutch Prosecution Office) was used to determine the facility in which offenders were detained in at the time they're candidacy was determined.

4 Note that for 156 offenders, their sentence was imposed after they had already been released (in most cases for a substantial amount of time), these sentences may be executed long after a sentence was imposed, candidacy for the program is consequently uncertain and therefore, these offenders were added to the unknown category when determining if the program had reached the correct target population.

that should not have been included based on our analyses, which amounted to 32.2 percent of the total number of included offenders (n = 886). Non-inclusion was mostly caused by (a combination of) sentence length; which did not exceed 120 days (n=252), being detained in an excluded facility (n=39); which in most cases was a psychiatric penitentiary institution, and a TBS (detained under hospital orders) status (n=15). The second type of error, offenders that were wrongfully excluded (n=65), which was *just* 2.1 percent of all excluded offenders, was in all cases caused by a prison sentence that, according to information provided by the Dutch Prosecution Office, exceeded 120 days.

The question remains as to why the selection system was in some cases not accurate. After inquiry with the department responsible for the functioning of prison-registration systems, two potential explanations were considered: First, prison staff-members have the option to manually select offenders for program qualification. This can be done if they consider an offender in great need for treatment, or if a long prison sentence (> 120 days) is expected. It could be the case that consequently, a group of offenders was therefore manually selected for qualification, that based on official criteria should not have been included. Second, if a sentence had not been imposed yet, the registration system can base assessment of sentence duration on the *expected* date of release. This date is generated by another registration system (TULP) and is adjusted throughout an offenders stay in prison. Program qualification is then based on an estimate date, instead of the remaining prison sentence after a verdict has been imposed. This can cause great discrepancies in remaining sentence length, causing offenders to be wrongfully included or excluded from program-participation.

In order to further explore the groups of correctly and incorrectly classified offenders (correctly in and excluded offenders, incorrectly in and excluded offenders and unknown); the five groups were compared on background characteristics, the results of which are shown in Table 4. As shown, the groups differed with respect to age, ethnicity, type of offence, sentence length, risk for re-offending, several criminogenic need scales, and treatment readiness. Without discussing every difference found in great detail, overall it was shown that offenders who were correctly classified were often younger, served a shorter prison sentence, more often committed a less serious (non-violent) offence, had a lower risk to re-offend, and accordingly scored lower on a number of criminogenic need domains (offending history and current offence, accommodation, financial management and income, and relationships with partner and relatives), and were more often treatment ready, than offenders who were not correctly classified. However, since a lot of risk assessment data was missing (mostly among those who did not qualify), firm conclusions about the risk and criminogenic needs of our entire research population would be rash and unjustified. And although the data all point in the same direction (age, type of offence and sentence length, versus risk assessment outcomes), we can only state that it *appears* that incorrectly in- or excluded offenders represent a more high-risk group of offenders.

Table 4. Group characteristics correctly and incorrectly in/excluded offenders (N=3.981)

	Correctly included (*n*=575)	Correctly excluded (*n*=2.684)	Incorrectly included (*n*=285)	Incorrectly excluded (*n*=65)	Unknown (*n*=372)	Total (*N*=3.981)	
	M(SD)/%	*M(SD)*/%	*M(SD)*/%	*M(SD)*/%	*M(SD)*/%	*M(SD)*/%	Sig.
Age (18-65)	29.53 (10.41)	30.42 (10.69)	32.89 (10.60)	19.95 (10.25)	32.02 (11.07)	30.61 (10.70)	***1/3 1/5 2/3 2/5 3/4
Ethnicity							***1/2 1/3 1/5 2/3 2/4 3/5
Native	54.8	41.8	55.1	52.3	43.3	45.0	
Non-native	38.1	24.5	31.2	36.9	20.7	26.8	
Unknown	7.1	33.7	13.7	10.8	36.0	28.3	
Type of offence							***1/5 2/5 3/5
Violent	65.9	41.3	38.9	44.6	36.3	44.3	
Non-violent	12.7	38.5	42.1	35.4	32.8	34.4	
Damage	3.0	6.9	1.8	1.5	7.5	6.0	
Drug related	13.6	9.6	12.3	15.4	16.7	11.1	
Other/Unknown	4.8	3.7	4.9	3.1	6.7	4.3	
Sentence length in days (7-10950)	700.27 (857.06)	15.15 (69.86)	137.22 (426.21)	238.02 (175.68)	240.75 (505.85)	353.80 (575.67)	***1/2 1/3 1/4 1/5 2/3 2/4 2/5 3/5
RISc: Overall risk for re-offending (0-167) †	67.01 (33.89)	71.18 (34.19)	79.66 (34.03)	66.65 (33.15)	73.82 (36.07)	71.22 (34.37)	***1/3 1/5 2/3 3/4
RISc: Criminogenic need scores							
Offending hist. & current offence (0-50)	17.96 (13.40)	17.95 (12.18)	20.52 (11.93)	16.00 (11.06)	19.18 (13.06)	18.24 (12.48)	*1/3 2/3 3/4
Accommodation (0-12)	3.51 (3.87)	3.88 (3.89)	5.51 (4.55)	3.64 (3.96)	3.80 (3.84)	3.94 (3.98)	***1/3 2/3 3/4 3/5
Education, work & training (0-20)	9.06 (6.67	10.51 (6.92)	10.94 (6.56)	9.64 (7.64)	11.16 (7.19)	10.28 (6.90)	***1/2 1/3 1/5

Financial management & income (0-12)	4.52 (3.57)	4.40 (3.58)	5.90 (3.93)	4.44 (3.62)	4.78 (3.61)	4.59 (3.63)	***1/3 2/3 3/4 3/5
Relationships w. partner & relatives (0-6)	2.56 (1.72)	2.82 (1.78)	3.05 (1.78)	2.85 (1.83)	3.00 (1.76)	2.80 (1.77)	**1/2 1/3 1/5
Relationships w. friends & acquaintances (0-15)	6.20 (4.34)	5.91 (4.56)	6.56 (4.51)	6.80 (4.34)	6.29 (4.54)	6.07 (4.51)	
Drug misuse (0-15)	5.63 (5.25)	6.38 (5.46)	6.79 (5.57)	6.00 (5.13)	6.06 (5.63)	6.23 (5.44)	*1/2 1/3
Alcohol misuse (0-5)	1.47 (1.76)	1.88 (1.95)	2.07 (2.03)	1.47 (1.73)	1.85 (1.95)	1.80 (1.92)	***1/2 1/3 1/5 3/4
Emotional well-being (0-6)	2.15 (1.64)	2.61 (1.86)	2.85 (1.89)	2.09 (1.62)	2.53 (1.87)	2.52 (1.83)	***1/2 1/3 1/5 2/4 3/4
Thinking & behavior (0-12)	7.81 (3.10)	8.11 (3.33)	8.24 (3.17)	7.96 (3.49)	8.08 (3.51)	8.06 (3.29)	
Attitudes & orientation (0-15)	6.14 (4.56)	6.74 (4.85)	7.23 (4.74)	5.76 (4.15)	7.12 (4.66)	6.67 (4.76)	**1/2 1/3 1/5 3/4
Treatment readiness							***1/2 1/4 1/5 2/3 2/5 3/4 3/5
Treatment ready	44.9	66.8	48.8	67.7	73.1	63.0	
Not treatment ready	55.1	33.2	51.2	32.3	26.9	37.0	

Note: Behind significant levels it is demonstrated which groups differed. For example: 1/2 means post-hoc analysis showed there was a significant difference between group 1 and 2, ALL means group differences were found between all groups.

† Note that RISc scores are only available for 65.3% of our research population.

* $p < .05$ ** $p < .01$ *** $p < .001$

3.5 Discussion

In the current chapter, a study was presented that focused on qualification for participation in the Prevention of Recidivism Program: an intramural rehabilitation program meant for detainees with a prison sentence of at least four months. It aimed to: (a) identify how many offenders qualified for program entry; (b) assess what the characteristics of (non-) candidates were; and (c) determine if the correct population was targeted. To study program qualification, a large population-based sample of male detainees put in pre-trial detention was used, which amounted to 3.981 offenders.

The results showed that a little over twenty percent (886 offenders) of the total research population was assigned by the Prevention of Recidivism Program's registration database as a program-candidate. The number of program candidates in the currents study was higher than the national average, previously found to be around eleven percent (Bosma, Kunst & Nieuwbeerta, 2013). This was most likely caused by the current studies research sample of offenders who entered prison in pre-trial detention. Offenders that enter prison in pre-trial detention (as opposed to, for example, arrestees, or offenders that enter prison because of unpaid fines) represent a group of offenders who are assumed to have committed a more serious crime, for which a longer prison sentence is usually imposed (Linckens & de Looff, 2015). Therefore, offenders who enter detention on other grounds than pre-trial detention are less likely to qualify for entry in the Prevention of Recidivism Program. Consequently, the qualification rate found in this study was slightly higher than the national average.

Besides addressing who were assigned a treatment candidate, the current study focused on the characteristics of those who (not) qualified for treatment (as assigned by the registration program). The results found made clear that offenders that qualified for the program, as opposed to those who did not, represented a group of offenders who entered prison because of a more serious crime, for which they, on average, received a more serious sentence. This was an expected outcome, with sentence length being the most important inclusion criterion. However, studied risk and need assessment outcomes also indicated, that no group differences were reported concerning risk for recidivism, and no coherent pattern of differences were found with respect to criminogenic need scores. This seemed to indicate that those who qualified for program participation represented a high-risk group of offenders, who were in need of treatment. However, caution is warranted since we had to deal with a lot of missing risk assessment data which perhaps hampered results. If indeed correct, this result would be in line with what we know works in correctional rehabilitation programming, as treatment was shown most effective for high-risk offenders (Andrews et al., 1990; Andrews & Dowden, 1999; 2006; Dowden & Andrews, 2000; Lowenkamp & Latessa, 2005; Lowenkamp, Latessa & Holsinger, 2006; Taxman & Marlowe, 2006). The fact that there were no differences found in risk and need assess-

ment scores between those who did and did not qualify, did however also indicate that the need for treatment may perhaps be equally high among offenders that did not qualify for program entry (at least it was for those for whom a risk assessment instrument was available. Their needs were not met by the Prevention of Recidivism Program. This does not impact the potential effectives of the program with regards to the current sample addressed, but may mean that a broader group should perhaps be addressed to reach larger post-release recidivism reductions.

Third, this study aimed to determine if the Prevention of Recidivism Program registration database has been correct in assigning the offenders qualified for treatment. Results showed that the registration system did not in all cases select the correct target population. Consequently, a rather large group of offenders that qualified for program entry was actually not eligible (which amounted to a little over thirty percent of the total number of offenders who qualified), while a much smaller group of offenders (just over two percent) qualified, but were not selected for program entry by the registration system. One could argue that both types of errors (wrongful inclusion, and wrongful exclusion) are problematic: The first error can result in low-risk offenders being included in treatment, while there is strong empirical support for the premise that effective treatment should focus on targeting high risk offenders (Andrews et al., 1990; Andrews & Dowden, 1999; 2006; Dowden & Andrews, 2000; Lowenkamp & Latessa, 2005; Lowenkamp, Latessa & Holsinger, 2006; Taxman & Marlowe, 2006), while the second type of error is unwanted because it withholds treatment to those who have a legal right to engage treatment (which is also included in the Dutch penitentiary laws). However, perhaps it could also be debated that the first error does not present a major issue, since wrongfully included offenders (which should have been excluded based on a remaining sentence that was too short to qualify) will most likely eventually drop-out because their sentence is not long enough to get them engaged in treatment, while the second was rarely reported, affecting just a little over two percent of offenders. It is therefore concluded that, although the registration system was off in a considerable number of cases, severe consequences are not anticipated.

Limitations

This study provided unique insight into the process by which offenders are selected for Prevention of Recidivism candidacy. This is important, because it sheds light on an aspect of correctional treatment – the proper selection of target population – that is often neglected. It also gives some relevant background information on the group of offenders that were eligible to take part in the Prevention of Recidivism program, and those who were excluded from participation. Although this study is has great merits, since it touches upon an important (and perhaps in most studies overlooked) research topic, two limitations deserve attention.

The first limitation concerned the offender population included in the current study. The sample only involved male offenders, who were born in The Netherlands and entered prison in pre-trial detention. Besides obvious questions regarding generalizability, the choice of research sample almost certainly resulted in overestimating the proportion of detainees qualified for entry in the Prevention of Recidivism program, for two reasons: First because offenders in pre-trial detention are often imprisoned for longer periods of time, in comparison to, for example, arrestees, which probably resulted in more offenders qualified for program entry in this study (based on a longer prison sentence), compared to the general population. And second, because our research sample merely consisted of detainees who were born in The Netherlands, offenders who were born abroad (roughly 45 percent of the entire detainee population, see Linckens & De Looff, 2015) were excluded. Taking into consideration one of the programs inclusion criteria, sufficient Dutch language skills (the program is only offered in Dutch), the proportion of offenders qualified for program entry would have probably been slightly lower had this group of offenders been included in the current study's sample. In general, our research group, though large, therefore most likely caused us to somewhat over-estimate the number of offenders eligible for program participation.

Second, the study made use of RISc assessment data. This has great benefits, because it enabled us to include our entire (population-based) sample of offenders, and provides broad and detailed data on a range of highly relevant characteristics. However, it also meant that there was a considerable amount of missing risk assessment data, especially among the group of offenders who did not qualify for program entry. Though inevitable, this represents a major shortcoming since the presence or absence of risk assessment is undoubtedly selective. In most cases, risk assessment is only conducted if an offender qualifies for entry in the Prevention of Recidivism Program and/or is considered *serious* enough. Risk assessment data will consequently be mostly missing among less serious offenders, for whom it was clear that program qualification was not imminent. As a result, the average risk for recidivism and criminogenic needs of offenders not qualified for treatment will in this study no doubt be somewhat overestimated. Results therefore have to be interpreted with great care. On the contraire, we were able to find fully completed risk assessment data for almost sixty percent of our group of offenders not qualified for program entry (versus almost ninety percent among the group that did qualify). This is mainly a result of the fact that risk assessment is also rather frequently used for other purposes then screening in light of the Prevention of Recidivism Program: The RISc (for example) also used to inform a judge on the risk for future re-offending in a criminal case, or for probation purposes. Since risk assessment was more widely available then just among program candidates we, keeping in mind its pitfalls, decided upon using the data in the current study.

In summary, this study concluded that the Prevention of Recidivism reaches a rather small share of incarcerated offenders in The Netherlands. The offenders that qualified for program entry represent a high risk group of offenders, although it was shown that the risk for re-offending and criminogenic needs were equally high among the group of offenders that did not qualify for program entry. The included offenders did not fully represent the group of offenders that should have been targeted by the program based on in- and exclusion criteria, which in most cases resulted in incorrectly included offenders. Further evaluation should however point out if this is problematic. In conclusion, it was shown that, overall, the Prevention of Recidivism program reached a small but appropriate population of offenders.

4 Participation in a prison-based treatment program▪

4.1 Introduction to prison-based treatment programs

Each year, a large number of ex-prisoners return home after having spent time in the penitentiary system. Many studies have shown that recidivism rates of these ex-detainees are high, both in the United States and Europe. Research has shown that well over sixty percent of prisoners are re-arrested within three years after release (Hughes & Wilson, 2002), while re-incarceration rates for male ex-detainees are around 53 percent (Visher & Travis, 2003). A study conducted in the United Kingdom concluded that almost 58 percent of prisoners released in 1997 were re-convicted of another crime within two years and 36 percent were re-incarcerated in that same period of time (SEU, 2002). In The Netherlands, similar recidivism rates have been reported. Research has shown that within six years after release, over seventy percent of released prisoners were reconvicted and almost fifty percent were re-incarcerated (Wartna et al., 2010).

The large number of detainees re-entering society and their high recidivism rates call for effective offender rehabilitation programs. Until the 1970s, a widely accepted notion was that nothing works in correctional treatment (e.g. Lipton, Martinson & Wilks, 1975; Martinson, 1974). During the 1980s and 1990s, however, with the introduction of meta-analytic methods, several factors were identified that had a positive influence on recidivism reduction. Since then, there has been a shift in criminal justice thinking from *nothing* works to *what* works (see e.g. Andrews, 1995; Andrews & Bonta, 1994; Andrews et al., 1990; Gendreau, 1996; Gendreau, Little & Goggin, 1996; Lipsey & Wilson, 1993). Consequently, in an attempt to prevent or reduce recidivism, several prison-based offender rehabilitation programs have been implemented in Northern America en Western Europe (see Hannah-Moffat, 2005; Jolley & Kerbs, 2010; McSweeney, Turnbull & Hough, 2008).

▪ An earlier version of this chapter was published as: Bosma, A. Q., Kunst, M. J. J., Reef, J., Dirkzwager, A. J. E. & Nieuwbeerta, P. (2016), Prison-based rehabilitation: Predictors of offender treatment participation and treatment completion. *Crime and Delinquency, 62*(8), 1095-1120. And in was published in Dutch as: Bosma, A., Kunst, M. J. J., Dirkzwager, A. J. E. & Nieuwbeerta, P. (2014). Determinanten van deelname aan een resocialisatieprogramma in Nederlandse penitentiaire inrichtingen. *Tijdschrift voor Criminologie, 56*(3): 47-67. In these publications, Chapter 4 (program participation) and Chapter 6 (program completion) were combined.

The many prison-based offender rehabilitation programs that have been developed typically adhere to the principles of the *Risk-Need-Responsivity* [RNR] model of crime prevention and correctional rehabilitation (Andrews, Bonta & Hoge, 1990). In this model, the *risk* principle advocates that treatment intensity should be adjusted to the extent to which there is risk for reoffending. The *need* principle suggests that correctional programs should address criminogenic needs – factors that have shown to be related to repeated offending (see Bonta, Law & Hanson, 1998; Hanson & Morton-Bourgon, 2004 & Gendreau, Little & Goggin, 1996). Instruments that measure criminogenic needs, such as the Level of Service Inventory (Andrews, Bonta & Wormith, 1995), the Offender Assessment System (Home Office, 2002) and the Dutch-language *Recidive Inschatting Schalen* (Adviesbureau van Montfoort en Reclassering Nederland, 2009) typically distinguish between several (dynamic) criminogenic need domains, such as drug or alcohol addiction, an offender's criminal history and psychological problems. Finally, the *responsivity* principle argues that interventions should match an offender's abilities, treatment readiness, and personality (see Andrews, 1995; Andrews & Bonta, 2010; Andrews, Bonta & Hoge, 1990; Andrews & Dowden, 1999; Lowenkamp & Latessa, 2005).

Prison-based treatment programs in The Netherlands

In an attempt to reduce reoffending rates in The Netherlands, the Dutch government has developed the *Prevention of Recidivism Program* (Dutch Prison Service & Dutch Probation Organizations, 2007), which was implemented nation-wide in 2007.[1] Detainees who have at least four months of a prison sentence left to serve are eligible for this voluntary rehabilitation program. Those who are serving a life sentence, who are sentenced to compulsory treatment on behalf of the state, who are detained in special observation (assessment) centers and who are considered illegal immigrant offenders are excluded from the program. Several additional (objective and subjective) contraindications were formulated and include: staying in a penitentiary hospital or psychological assessment facility, insufficient Dutch language abilities, high risk of violence and/or escape, and finally a lack of motivation to complete the program (Dutch Prison Service & Dutch Probation Organizations, 2007).

Following the aforementioned RNR principles, the Prevention of Recidivism Program aims to reduce reoffending by ex-detainees by: (1) proper assessment of risk for recidivism, (2) application of behavioral interventions which are known to be effective in reducing re-offending behavior (Van der Linden, 2004). To set up a system of evidence-based behavioral inter-

1 Note that the program was replaced by a new policy measure that was implemented in March 2014, which uses the same risk/need based approach, but in which offenders can only take part of they have earned the right to engage, by expressing their willingness to change their criminal ways, and by showing pro-social behavior for a minimum of 6-weeks straight.

ventions, in 2005 the Dutch Ministry of Justice and Safety has established the *Judicial Behavioral Intervention Accreditation Committee*. This committee assesses the potential effectiveness of behavioral interventions based on criteria derived from the *what works* literature (such as a adherence to risk and need factors, and treatment integrity).[2] All interventions imposed within the Prevention of Recidivism Program have to be accredited by this committee. Currently, four types of prison-based treatment modules have been evaluated as potentially effective, two of which are applied with a certain regularity. These are: *Cognitive Skills Training*; and *Lifestyle Training for Addicted Offenders*. Cognitive Skill Training aims to improve cognitive skills that are necessary in order to independently live, develop and function in society. Lifestyle Training helps offenders cope with addiction to alcohol or drugs. These criminogenic need-specific treatment modules are applied in line with risk and need scores. This means that some offenders, based on risk assessment outcomes, may not qualify for any of these behavioral programs. If this is the case, they can participate in the Prevention of Recidivism Program without being referred to further (specialized) treatment.

Offenders who qualify for program-entry based on inclusion criteria (see Chapter 3 for a study that has focused on program qualification) are informed about the program and are invited to participate in the program. Participation in the program is voluntary, but detainees who participate can be placed in prison facilities with a lower security level where they can be granted more freedom and have the ability to go on leave. Detainees who decide not to participate will have to spend the remainder of their detention period in a fully-guarded facility with limited options to go on leave (Dutch Prison Service & Dutch Probation Organizations, 2007). If an offender has decided to take part, the program starts with assessment of criminogenic needs (i.e., factors contributing to reoffending), overall likelihood of recidivism, expected responsivity to treatment and need for further (specialized) evaluation (if a recent risk assessment is already available, this can be used). Based on this assessment, a re-integration plan is then drawn up. Depending on the identified needs, criminogenic need specific treatment modules can be included in an offender's individual re-integration plan. After discussing it with the concerning detainee, the re-integration plan is then carried out during the remaining detention period.

Treatment participation

A previous study has shown that about half of the candidates who were eligible for participation in the Prevention of Recidivism Program, between 2008 and 2013, did not enter the program (Bosma, Kunst & Nieuwbeerta, 2013). Non-participation is a common problem in correctional rehabilitation practices. Currently, there is extensive knowledge on the potential effectiveness of prison-based treatment programs (Andrews & Bonta 2003; Cullen

2 Note that the *Judicial Behavioral Intervention Accreditation Committee* was replaced by the *accreditation committee interventions* in 2015 (Parliamentary Papers, 2014/15).

& Gendreau, 2000; Gendreau, 1996), treatment programs can however only be successful if offenders actually take part in treatment. Besides the obvious reason of not adequately targeting risk for recidivism and criminogenic needs if detainees do not want to participate in treatment, there are two other reasons to be concerned about treatment non-participation. First, if potential participants do not engage in treatment, expensive treatment places will be wasted. Second, non-engagement may be selective, which may form a problem for assessing the effectiveness of rehabilitation programs. When selective non-participation is not adequately taken into account, effectiveness of treatment programs may be overestimated in effect studies. Knowledge on determinants of treatment participation is therefore also important when assessing a treatment program's effectiveness.

Surprisingly, although (selection in) participation of prison-based rehabilitation treatment programs is of great scientific and societal importance, little is known about who is most likely to (not) participate in prison-based treatment programs. This study therefore examines factors associated with program participation. To guide research into determinants of prison-based treatment participation, the following theoretical framework may be used.

4.2 Theoretical framework

As mentioned, previous studies indicated that treatment programs can be effective in reducing future criminal behavior among offenders. Several theoretical perspectives were brought forward to explain the mechanisms through which treatment is believed to reach its goals, the most renowned of which is the aforementioned RNR-model (Andrews, Bonta & Hoge, 1990). Explaining treatment engagement (instead of effectiveness) may however be another matter. In order to explore the mechanisms associated with treatment program participation, we would therefore like to briefly discuss three theoretical models: the *General Personality and Cognitive Social Learning Perspective of Criminal Behavior* (Andrews & Bonta, 2006), the *Good Lives Model* of offender rehabilitation (Ward & Brown, 2004), and *Multifactor Offender Readiness Model* (Ward, Day, Howells & Birgden, 2004).

The *General Personality and Cognitive Social Learning Perspective of Criminal Behavior* (Andrews & Bonta, 2006) aims to explain criminal behavior, and is frequently brought forward to explain the mechanisms behind the RNR-model. According to this theory, criminal behavior represents a personality predisposition that is learned (or reinforced) in a social environment. The learning process of criminal behavior is governed by the expected and actual consequences of behavior. Behavior that is (expected to be) rewarded is likely to occur, and behavior that is (expected to be) punished is not likely to occur. The negative and positive consequences of criminal behavior can be delivered by others (such as partners or family members), can stem from within the person of the offender (for example feelings of pride or shame), or can be produced by the criminal behavior itself (such as a high after

injecting a drug; see Andrews & Bonta, 1998; 2006; Bonta, 2002; Bonta & Andrews, 2007). Criminal behavior can be expected when the rewards and costs for crime outweigh the rewards and costs for pro-social behavior. Risk factors are essentially characteristics that signal rewards for criminal behavior, and demote costs (Andrews, Bonta & Wormith, 2011). For example, if an offender has antisocial peers, these may reinforce criminal behavior, and if an offender does not have a job, this may also stimulate criminal behavior (in order to make ends meet). Following the General Personality and Cognitive Social Learning Perspective of Criminal Behavior, a correctional treatment program can be effective in reducing future re-offending if it is able to reduce or remove these risk factors.

As mentioned, the General Personality and Cognitive Social Learning Perspective of Criminal Behavior perspective was developed to explain criminal behavior, and is often marshalled to clarify how treatment programs can influence future criminal behavior. However, if an offender's risk and needs have a vital function in determining their cost-benefit analyses to take part in criminal behavior, these risk factors could perhaps also influence their perceptions on taking part in treatment to help them stop their criminal ways (Wormith & Olver, 2002). This can be explained as follows: Having (severe) risk factors means that an offender is in great need for treatment, which – following an RNR approach – indicates that the offender will have to attend an extensive program. However, these same risk factors may influence (alike they govern the deliberations to (not) engage in criminal behavior) the expected costs and rewards of engaging in treatment. For example, an addicted offender who is eligible for drug treatment may – influenced by risk factors such as addiction, an antisocial peer network and lack in pro-social bonds with family and friends – not see the benefits of participating in treatment, but will instead expect great difficulties and perhaps failure. Therefore, it is hypothesized that (severe) risk factors will negatively influence odds of treatment participation.

Modern risk assessment instruments (so-called fourth generation tools, see Andrews, Bonta & Wormith, 2004; 2006) usually take into account twelve risk domains, that were shown salient in predicting future re-offending; (1) offending history, (2) current offence and pattern of offences, (3) accommodation, (4) education; work; and training, (5) financial management and income, (6) relationships with partner and relatives, (7) relationships with friends and other acquaintances, (8) drug misuse, (9) alcohol misuse, (10) emotional well-being, (11) thinking and behavior, and (12) attitudes/orientation. Therefore, based on the General Personality and Cognitive Social Learning Perspective of Criminal Behavior, it is expected that offenders with higher risk assessment scores (concerning the twelve subscales abovementioned), will be less likely to participate in treatment programs that aim to help them desist from criminal behavior.

A second rehabilitation theory used to predict outcomes of correctional rehabilitation that is unquestionably gaining popularity is the *Good Lives Model* [GLM] of offender rehabilitation (Ward & Brown, 2004). The GLM

was formulated as an alternative to the RNR-model, and moves away from the RNR-model by stating that a focus on risk-reduction is not enough to get people motivated to alter their behavior (Ward & Gannon, 2006; Ward, Melser & Yates, 2007). While the risk centered RNR-model primary focuses on the detection and modification of risk factors, the more strength-based (Whitehead, Ward & Collie, 2007) approach of the GLM concentrates on creating competencies in offenders and by doing so, reduce risk more indirectly (Willis, Ward & Levenson, 2014). In a nutshell, the GLM proposes that an offender's risk for committing further crimes can be reduced by enhancing an offender's abilities to attain *primary human goods* (Ward & Steward, 2003). Ward and others have proposed a list of eleven areas of primary goods (life; knowledge; excellence in play; excellence in work; excellence in agency; inner peace; friendship; community; spirituality; happiness; and creativity; Ward & Brown, 2004; Ward & Gannon, 2006; Ward & Marshall, 2004; Ward, Melser & Yates, 2007), which are supposedly sought after by all humans to some degree, while the order of which are dependent on an individual's values and life priorities (Ward & Brown, 2004). *Secondary goods* are required to provide concrete ways to fulfill primary goods. For example, the primary good of excellence in work requires one to have a job. An offender's chances of attaining primary goods depends on the possession of internal capabilities (skills, attitudes, beliefs) and external conditions (opportunities, support) and can be frustrated or blocked by risk factors (Ward & Gannon, 2006; Ward, Melser & Yates, 2007; Ward & Stewart, 2003). Although the GLM, alike the RNR-model, deals with explaining correctional treatment effectiveness, it also prescribes the conditions required for an offender to effectively take part in treatment. These conditions are pooled in the concept of *treatment readiness*, which according to the GLM is a prerequisite for effective rehabilitation (Ward & Brown, 2004; Ward & Gannon, 2006; Ward, Melser & Yates, 2007).

A model that can be used to specify the concept of treatment readiness more clearly is the *Multifactor Offender Readiness Model* [MORM] (Ward, Day, Howells & Birgden, 2004). MORM is based on the notion that behavioral change is enlarged when an offender is ready for treatment (Casey, Day & Howells, 2005; McMurran & Ward, 2010; Ward et al, 2004). Treatment readiness, first conceptualized by Serin and Kennedy (1997) and Serin (1998), is believed to be a broader concept than treatment motivation, which exclusively deals with the will to engage. It can be defined as the presence of characteristics within the client and/or therapeutic situation which are likely to endorse therapeutic engagement and therefore, behavioral change. Offenders are ready for treatment if they (1) are motivated, (2) are able to respond to treatment, (3) find treatment meaningful and (4) have the capacities to successfully enter correctional treatment programs (Howells & Day, 2003).

Consequently, an offender that is not motivated, is not able to respond to treatment, does not find treatment meaningful and does not have the capacities to successfully enter a program, is expected to take part in treatment. Therefore, based on the Multifactor Offender Readiness Model, it can

be hypothesized that offenders with less treatment readiness will be less likely to participate in treatment programs that aim to help them desist from criminal behavior.

4.3 Previous research

The focus of this study is treatment participation in a prison-based treatment program; a subject that is vastly understudied by previous research. In order to provide some empirical underpinning to the current study on program participation we therefore had to draw inspiration from an adjacent research area: studies that have focused on prison-based treatment non-*completion*.

The lack of focus on treatment non-*participation* is perhaps unexpected, since treatment non-*completion* has been of growing concern in the broad range of mental health services, particularly among offender populations (Wortmith & Olver, 2002): As a result, a growing number of studies conducted have focused on treatment non-completion (attrition) in offender samples. These studies have however mainly focused on treatment engagement in *community*-based programs, and largely ignored *prison*-based programs. To exemplify: A systematic review conducted in 2011 identified 114 studies that have been published between 1982 and 2010 (Olver, Stockdale & Wormith, 2011). Only 25 of these studies have focused on attrition in prison-based treatment programs. These studies have confirmed our hypothesis that risk factors (characteristics associated with re-offending) were related to treatment engagement. For example, it was shown that offenders with a higher overall risk for re-offending (an overall score that incorporates both static and dynamic risk factors on several domains) were less likely to complete treatment (Berman, 2005; Nunes & Cortoni, 2006a; Nunes & Cortoni, 2006b; Nunes & Cortoni, 2008; Olver & Wong, 2009; Walters, 2004; Wormith & Olver, 2002). Additionally, it was shown that offenders with a more extensive criminal history and more severe current offence (i.e. offences for which they are detained) were less likely to complete correctional treatment programs (Berman, 2005; Geer, Becker, Gray & Krauss, 2001; McGrath, Cumming, Livingston & Hoke, 2003; Moore, Bergman & Knox, 1999; Nunes & Cortoni, 2008; Seager, Jellicoe & Dhaliwal, 2004). Results have also indicated that treatment readiness was shown to be related to treatment completion; offenders with less treatment readiness were shown less likely to successfully complete prison-based programs (Nunes & Cortoni, 2006a; Nunes & Cortoni, 2006b; Ogloff, Wong & Greenwood, 1990; Pelissier, 2007; Wormith & Olver, 2002).

In line with these findings, it would be worthwhile to explore if *participation* in prison-based treatment programs is influenced by comparable factors. To sum up the above, based on past empirical work in a different but adjacent research field, it is expected that lower risk assessment scores and more treatment readiness will be determinants of entry in a prison-based treatment program aimed to help offenders desist from future criminal behavior.

4.4 The current study

Given the aforementioned, the purpose of the current study was to examine determinants of treatment participation among correctional rehabilitation program candidates in The Netherlands. Three research questions were proposed: (1) How many offenders participated in the Prevention of Recidivism Program? (2) What were their characteristics? And (3) Which factors determined program participation? Based on theoretical grounds, it was expected that offenders with less treatment readiness would be less likely to participate in prison-based treatment programs. Additionally, based on research that has focused on prison-based treatment completion, it was expected that offenders with lower risk assessment scores would be less likely to participate in prison-based treatment programs.

4.5 Methods

Sample and Procedure
To address the research question proposed, data were analyzed from a sample of 886 male offenders who were candidate for the Prevention of Recidivism Program and were included in a longitudinal research project on the impact of imprisonment on Dutch detainees and their families – the *Prison Project*. The Prison Project's population-based sample comprises the total inflow of male detainees put in pre-trial detention between October 2010 and March 2011 in houses of detention in The Netherlands. Inclusion criteria were: aged between 18 and 65 and born in The Netherlands (N=3.981). The *Dutch Prison Service* provided data from prison registration systems on all respondents, including data on background characteristics, offence information, and data from the Prevention of Recidivism Program registration database. Data regarding treatment readiness, and risk for reoffending were provided by the *Dutch Probation Service*. The RISc-database contained risk assessment data on 787 (88.8%) of the total sample of 886 offenders. Unfortunately, risk assessment data was not available on all respondents. This could be caused by the fact that risk assessment was not conducted if offenders were not willing to participate, or if there was a lack in available staff-members that could administer risk assessment, or if an offender was released early (unexpectedly).

Measures
To determine program participation, our dependent variables of interest in this chapter, the Prevention of Recidivism Registration System was consulted. In this database, all activities about participation and completion of the Prevention of Recidivism Program, including in-depth treatment information, is gathered. This registration system provides exact information regarding the status of an offender's program participation, which means that information could easily be retrieved. The system also provides some basic information regarding reasons for non-participation. Therefore, using

of the non-participation coding scheme (in which a large variety of reasons for non-participation are incorporated), a distinction could be made between non-participation caused by organizational circumstances (non-participation in which the offender had no influence; such as a lack of treatment places available, staff shortages or not enough time to get an offender enrolled in treatment because of a remaining prison sentence that was not long enough) and offender instigated non-participation (non-participation instigated by the offender; refusal).

Background characteristics included were age, ethnic background (native vs. non-native) and current offence (violent, property, damage, drug-related and other). Age was calculated from the prison registration systems by date of birth and the date of their prison entry. Ethnic background (non-native vs. native; Statistics Netherlands defines a person as having a non-native background if at least one of his/her parents was born abroad) was obtained from municipal data, and if not available, was subtracted from risk assessment data. Offence type was drawn from the Prison Registration system and was recoded in violent (violent offences) and non-violent (property, damage, drug related and other offences).

Treatment readiness was determined by assessing an offender's motivation to change deviant behavior and his or her willingness to participate in treatment as estimated by an experienced probation service worker during a personal interview (as part of the risk assessment instrument described in the following paragraph). Ready for treatment was coded as 1 and not ready for treatment was coded as 0.

To estimate risk factors, scores on the Dutch-language Recidivism Assessment Scales (RISc) were used, an instrument based on and highly comparable to the British Offender Assessment System (OASys; Howard, Clark & Garnham, 2003). The *RISc* is based on the RNR principles and was designed to (a) assess an offender's likelihood of recidivism (defined as a new conviction), (b) identify and classify offending-related needs, (c) assess an offender's responsivity to treatment, and (d) indicate the need for further risk evaluation (Adviesbureau van Montfoort & Reclassering Nederland, 2004). The RISc consists of 12 sections, each relating to a different criminogenic risk domain: (1) offending history, (2) current offence and pattern of offences, (3) accommodation, (4) education; work; and training, (5) financial management and income, (6) relationships with partner and relatives, (7) relationships with friends and other acquaintances, (8) drug misuse, (9) alcohol misuse, (10) emotional well-being, (11) thinking and behavior, and (12) attitudes/orientation. The scores on domains 1 and 2 are combined into one score concerning past and current offences. The overall risk level and criminogenic needs scores are calculated by summing weighted item scores within each section, with higher scores corresponding to higher need levels (Adviesbureau van Montfoort & Reclassering Nederland, 2004; Bosker, 2009; Van der Knaap et al., 2012). The RISc is administered by trained probation service workers and is used to advise the prosecutor and the court and to formulate supervision and rehabilitation plans (Van der Knaap, Leenarts,

Born & Oosterveld, 2012). Research has demonstrated the intraclass-reliability, internal consistency and predictive validity of the RISc to be adequate (Van der Knaap, Leenarts & Nijssen, 2007; Van der Knaap & Alberda, 2009). The weighted scale scores were included in statistical analyses.

Statistical analyses

To describe our study sample, subjects were divided into three groups: (1) detainees who had entered treatment (program participants; n = 541), (2) detainees who could not participate in treatment due to organizational constraints (non-participants: organizational reasons; n = 279), and (3) detainees who refused to participate in treatment (non-participants: refused; n = 66). After defining groups, bivariate descriptive analyses were used to describe the characteristics of the research population and to examine the relation between these characteristics and program participation. Multinomial logistic regression analyses was then applied to determine if treatment readiness and risk factors served as predictors of program participation (program participation was coded as 0, n = 541). The independent variables included were background characteristics (age, ethnicity and type of offence), treatment readiness, and weighted risk assessment scores (offending history, current offence and pattern of offences, accommodation, education, work, and training, financial management and income, relationships with partner, family, and relatives, relationships with friends and acquaintances, drug misuse, alcohol misuse, emotional well-being, thinking and behavior and attitudes and orientation).

4.6 Results

Bivariate analyses

Table 1 summarizes relevant sample characteristics for program participants (group 1), detainees who could not participate in treatment due to organizational reasons (group 2), and detainees who refused to participate in treatment (group 3). As shown in Table 2, 541 detainees (61.1%) of 886 candidates entered the treatment program: the program participants. A number of 279 offenders (31.5%) could not participate due to organizational circumstances, while 66 detainees (7.4%) who were eligible refused to take part.

As shown, group differences were found regarding age, ethnicity, type of offence, treatment readiness and the risk scale emotional well-being. Concerning age, it was shown that offenders who could not take part for organizational reasons were a slightly older (M=32.1) compared to offenders who did participate (M=29.8). Regarding ethnicity it was shown that offenders who had decided to take part in the program were more often from a native ethnic background (57.5%), compared to offenders who could not take part for organizational reasons (53.8%), or who refused to participate (43.9%). With respect to type of offence, results indicated that offenders who participated in treatment, were more often incarcerated for having committed a violent offence (62.7%), compared to offenders who could not participate for

organizational reasons, who were less often incarcerated for having committed a violent offence (45.5%). Concerning treatment readiness it was shown that offenders who refused to participate in treatment were, less often compared to participants (59.9%) and those who could not take part (46.2%), treatment ready (33.3%). Finally, it was shown that our treatment groups differed on the risk domain emotional well-being; offenders who could not participate in treatment due to organizational constraints had reported a small but significantly higher score regarding emotion problems (*M*=2.7), compared to offenders who did participate (*M*=2.2).

So in general, it was shown that those who ended up participating in treatment were generally somewhat younger, of native ethnic background, more often had committed a violent offence, and were more often deemed treatment ready. However, few differences were observed on another set of variables on which we would expect to see the groups differ; risk factors.

Table 1. Group characteristics participating and non-participating detainees (N=886)

	1. Participation (*n*=541)	2. Non-participation: organizational reasons (*n*=279)	3. Non-participation: refused (*n*=66)	Total (*N*=886)	
	M(SD)/%	*M(SD)*/%	*M(SD)*/%	*M(SD)*/%	Sig.
Age	29.8 (10.4)	32.1 (10.2)	31.0 (12.1)	30.6 (10.5)	*1/2
Ethnicity (native vs. non-native or unknown)	57.5	53.8	43.9	55.3	*** 1/2 1/3
Type of offence (violent vs. non-violent)	62.7	45.5	53.0	56.5	*** 1/2
Treatment readiness (ready vs. not or unknown)	59.9	46.2	33.3	53.6	*** 1/2 1/3
Risk factors					
Offending history & current offence (0-50)	18.8 (12.9)	18.2 (12.9)	21.8 (14.0)	18.8 (13.0)	
Accommodation (0-12)	4.0 (4.2)	4.1 (4.2)	4.8 (4.2)	4.1 (4.2)	
Education, work & training (0-20)	9.4 (6.6)	9.4 (6.7)	11.1 (7.4)	9.7 (6.7)	
Financial management & income (0-12)	5.0 (3.8)	4.9 (3.7)	4.5 (3.6)	4.9 (3.8)	
Relationships with partner & relatives (0-6)	2.7 (1.7)	2.8 (1.8)	3.0 (1.8)	2.7 (1.8)	
Relationships with friends & acq. (0-15)	6.4 (4.4)	6.1 (4.4)	6.7 (4.9)	6.3 (4.4)	
Drug misuse (0-15)	5.7 (5.2)	6.5 (5.6)	6.1 (6.1)	6.0 (5.4)	
Alcohol misuse (0-5)	1.6 (1.9)	1.7 (1.9)	1.5 (1.7)	1.7 (1.9)	
Emotional well-being (0-6)	2.2 (1.7)	2.7 (1.9)	2.5 (1.7)	2.4 (1.8)	*1/2
Thinking & behavior (0-12)	7.9 (3.1)	7.8 (3.3)	8.7 (3.2)	8.0 (3.1)	
Attitudes & orientation (0-15)	6.4 (4.6)	6.3 (4.6)	7.8 (4.9)	6.5 (4.7)	

Note: Behind significant levels it is demonstrated which groups differed. For example: 1/2 means post-hoc analysis showed there was a significant difference between group 1 and group 2.
* $p < .05$ ** $p < .01$ *** $p < .001$

Multivariate analysis

The results of the multinomial regression analysis, testing the influence of background characteristics, treatment readiness and risk factors on program participation are presented in Table 2. As shown, program participation (versus program non-participation for organizational reasons) was significantly associated with age, ethnicity, type of offence and the risk factor emotional well-being. Concerning type of offence it was shown that offenders who had committed a violent offence, were more often among program participants (OR=1.71), than among those who could not participate for organizational reasons. It was also shown that more (severe) emotional problems, as measured by the risk scale emotional well-being, increased odds of program participant group membership (OR=1.22), versus program non-participation for organization reasons group membership.

Table 2. Logistic regression model on program participation

	Participation (ref) VS non-participation: organizational reasons			Participation (ref) VS non-participation: refused		
	OR	CI	Sig.	OR	CI	Sig.
Age	1.01	[1.00 – 1.03]		1.01	[0.98 – 1.05]	
Ethnicity (native (ref) vs. nonnative)	0.96	[0.89 – 1.04]		0.94	[0.84 – 1.06]	
Type of offence (non- violent (ref) vs. violent)	1.71	[1.21 – 2.41]	**	1.29	[0.70 – 2.39]	
Treatment readiness	1.30	[0.91 – 1.86]		2.68	[1.43 – 5.03]	**
Risk factors						
Offending history and current offence	0.99	[0.98 – 1.01]		1.02	[0.99 – 1.04]	
Accommodation	0.97	[0.93 – 1.02]		1.04	[0.96 – 1.14]	
Education, work and training	1.02	[0.99 – 1.05]		1.02	[0.97 – 1.08]	
Financial management and income	0.97	[0.92 – 1.02]		0.90	[0.82 – 0.99]	*
Relationships with partner and relatives	1.01	[0.90 – 1.14]		1.09	[0.88 – 1.35]	
Relationships with friends and acquaintances	0.99	[0.94 – 1.03]		1.00	[0.92 – 1.08]	
Drug misuse	1.03	[1.00 – 1.07]		1.00	[0.93 – 1.06]	
Alcohol misuse	1.01	[0.92 – 1.12]		0.89	[0.75 – 1.06]	
Emotional well-being	1.22	[1.08 – 1.38]	**	0.94	[0.75 – 1.18]	
Thinking and behavior	0.95	[0.88 – 1.03]		1.08	[0.93 – 1.25]	
Attitudes and orientation	0.99	[0.94 – 1.04]		0.98	[0.90 – 1.08]	

Note: Overall model Wald χ^2 (53.894, 16), p <..001, Cox and Snell R^2 = .064, Nagelkerke R^2 = .078.
* p <.05 ** p < .01 *** p < .001

Program participation (versus program non-participation: refused) was also significantly associated with treatment readiness and the risk scale financial management and income. Offenders who were considered treatment ready were more often among program participants (OR=2.68), than among those who refused to participate. Additionally, a higher score on the scale financial management and income, decreased odds (OR=0.90) of being among offenders participated (versus those who refused).

The results indicate that, as was expected, treatment readiness plays an important role in a detainee's participation in a prison-based rehabilitation program. However, most risk factor domains do not seem to determine program participation, except for the scale emotional well-being and financial management and income. These results show that treatment readiness among offenders eligible for rehabilitation programs may be an important aspect to take into account for correctional rehabilitation workers.

4.7 Discussion

The purpose of the current study was to examine to what extent treatment readiness and risk factors were related to participation in a prison-based rehabilitation program. To answer the research questions raised in this article, data were used from a large-scale, longitudinal research project, studying the effect of imprisonment on the life of detainees and their families in The Netherlands (the Prison Project).

Explaining participation

Based on theoretical and empirical considerations, this contribution proposed a theoretical model in which program participation was predicted by two (domains of) variables, namely *treatment readiness* and *risk factors*.

Results have shown that treatment readiness, in line with the suggested hypothesis, was related to program participation. Offenders who were ready for treatment showed a higher likelihood of being among the group of offenders that participated in treatment, then among those that refused to participate. Regarding risk factors, it was hypothesized that a higher score on risk domains would decrease chances of participating in correctional treatment programs. Based on results however, it has to be concluded that the current study does not provide evidence to support this statement. Only two risk domains correlated with treatment participation. Firstly, more (severe) emotional well-being problems was shown to be related to increased participation rates, where having more (severe) problems regarding financial management and income decreased participation rates.

In conclusion, the current study provided important evidence concerning the hypothesized relationship between *treatment readiness* and program participation. These findings are consistent with the premise made based on the Multifactor Offender Readiness Model [MORM] (Ward et al., 2004), stating that treatment readiness is an important predictor of treatment engagement. The results provided no considerable evidence that an offender's risk assessment outcomes strongly influenced program participation. This was not in line with expectations based on outcomes of previous studies, which found that risk factors were significantly correlated with program completion (see Olver, Stockdale & Wormith, 2011). The current study did however not focus on treatment completion, and perhaps it therefore has to be concluded that risk factors are not related to treatment program entry.

Alternatively, the fact that risk scores do not predict treatment participation may also be explained by the lack of variance in risk scores between program participants and non-participants. It seems that the research population was quite homogeneous, as risk factors did not seem to differ much between groups.

Limitations and implications

This study had some limitations. First, the sample used only involved male detainees, between the age of 18 and 65, who were born in The Netherlands and entered prison in pre-trial detention. Although the research sample was large, and in most respects represented the overall prison population in the Netherlands (in terms of gender, age and entry in pre-trial detention), the fact that offenders were only included if they were born in The Netherlands means that the findings cannot be generalized to detainees who were born in other geographic locations, which is roughly 45 percent of the Dutch inmate population (Linckens & de Looff, 2015), making replication of this study among a broader research population required. A second limitation was caused by the fact that this study relied on official registration data. Although this had great advantages, since we were able to include a large research population, on which a broad range of data was available, it also meant we had to cope with the challenges of working with data that were never collected for research purposes. The RISc database for example, which fortunately consisted of every relevant criminogenic need scale required, only included a limited measure of treatment readiness; the clinical judgment of a trained probation officer. This implied that we could quite well explore the influence of risk factors on treatment participation, a relation expected based on the General Personality and Cognitive Social Learning Perspective of Criminal Behavior (Andrews & Bonta, 2006) and Good Lives Model (Ward & Brown, 2004), but could not precisely test the premises brought forward based on the *Multifactor Offender Readiness Model* (Ward, Day, Howells & Birgden, 2004). In future studies it would be preferable to combine registration data with panel data, in which a validated instrument, based on the model's four-component structure, is used to measure treatment readiness.

Despite the aforementioned limitations, the current study represents a major advancement in the largely neglected field of prison-based rehabilitation program participation, and a relevant contribution in the area of correctional treatment research and practice. First of all, outcomes suggest that few risk domains seem to correlate to treatment participation. This may be seen as an indication that treatment necessity is equally high among all offenders. Therefore, the correctional system should aim to include every offender in treatment. The results have also made clear, quite convincingly, that treatment readiness was a determinant of treatment participation. This indicates the importance of both assessing and (perhaps prior to program entry) enhancing an offender's treatment readiness to improve the likelihood that offenders will agree to participate in correctional treatment.

And finally, the number of offenders that could not enter treatment due to various types of organizational circumstances was substantial. These offenders did not refuse to take part, and were deprived of the opportunity to engage in and benefit from treatment aimed to help them desist from future criminal behavior. Again, these offenders were, based on their risk and need assessment outcomes, in an equally high need for treatment, which makes their inability to engage even more problematic.

5 Allocation of offenders to treatment modules■

5.1 Introduction

Each year, a large number of ex-detainees are released into society. Studies have indicated that prisoners returning to communities do so under far from optimal life circumstances. Research suggests that many ex-detainees experience physical and psychiatric problems, are struggling with drug and/or alcohol addictions, and face various social problems, such as unemployment; homelessness; and financial difficulties (Binswanger et al., 2007; Binswanger, Krueger & Steiner, 2009; Dirkzwager, Nieuwbeerta & Fisselier, 2004; Geller & Curtis, 2011; Hagan & Dinovitzer, 1999; Hammett, 2001; Lynch & Sabol, 2001; Petersilia, 2000; Travis, Solomon & Waul, 2001; Western, Kling & Weiman, 2001). Furthermore, former inmates often return to disadvantaged communities (Bushway, 2006; Clear, Rose & Ryder, 2001; Rose & Clear, 2003; Travis, Solomon & Waul, 2001) and face difficulties as a result of their poor conditions and the social stigma of being an ex-inmate (Becker, 1963; Braman, 2002; Holzer, 1996; Holzer, Raphael & Stoll, 2006; Kuzma, 1998; Pettit & Western, 2004; Uggen, Manza & Thompson, 2006).

Given the aforementioned it is not surprising that recidivism rates among ex-detainees are high. Studies have shown re-arrest rates of about sixty percent within three years after release and re-incarceration rates as high as fifty percent within that same period of time (Hughes & Wilson, 2002; Langan & Levin, 2002; SEU, 2002). In The Netherlands, research has shown that within six years, over seventy percent of released prisoners were reconvicted and almost fifty percent were again incarcerated (Wartna et al., 2010). Within this context, nowadays, an increasing amount of attention is being paid to what the prison system can do to prepare detainees for re-entry into society and to reduce re-offending after release. To achieve this, many Western countries have developed and implemented prison-based rehabilitation programs that aim to lower chances of future criminal behavior (Bonta & Andrews, 2007; Hannah-Moffat, 2005; Jolley & Kerbs, 2010; McSweeney, Turnbull & Hough, 2008).

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Correctional rehabilitation programs are generally based on the central principles of effective treatment, represented in the *Risk-Need-Responsivity* model of crime prevention and correctional rehabilitation, the *RNR-model* (Andrews et al, 1990; Bonta & Andrews, 2007). This model argues that treatment can be effective in reducing re-offending rates if it is matched to the characteristics of individual offenders. The model specifies *who* should be treated (high risk offenders), *what* should be treated (criminogenic needs; factors that were shown related to future re-offending), and gives direction to *how* offenders should be treated (in line with, for example their motivation, intelligence and learning style) (Andrews, 1995; Andrews & Bonta, 2010; Andrews, Bonta & Hoge, 1990; Andrews & Dowden, 1999; Lowenkamp & Latessa, 2005). Research has shown that treatment can be effective if it adheres to these principles, and that effectiveness increased if more principles are met (see e.g. Andrews et al., 1990; Cullen & Gendreau, 2001; Gendreau, 1996; Gendreau, Little & Goggin, 1996; Lipsey & Cullen, 2007; Lowenkamp, Latessa & Holsinger, 2006; Lowenkamp, Latessa & Smith, 2006).

As suggested by the RNR-model, correctional treatment can only effectively reduce future re-offending, if offenders are allocated to a program that is in line with their risk for recidivism and criminogenic needs. Latessa and others (2002) have compared the issue if allocating offenders to treatment resources to a hospital or doctor's office: The first step towards delivering effective treatment is diagnosing a patient's condition and its severity. If a diagnosis is absent, treatment will have no clear foundation and medicine would be a "lottery" in which a patient can only hope that he or she was referred to the proper type of treatment (Latessa, Cullen & Gendreau, 2002). Correctional treatment allocation works in a similar way. Effective treatment programs rely on a proper assessment of risk for future criminal behavior and criminogenic needs (Latessa, Cullen & Gendreau, 2002).

In order to effectively assess an offender's risk and needs, risk assessment tools were developed. Contemporary risk assessment tools (Andrews, Bonta, & Wormith, 2004; 2006; Bonta & Andrews, 2007) use a combination of static risk factors (such as criminal history) and dynamic factors (such as substance abuse problems). By applying these instruments, offenders can be classified regarding risk level, it can also be determined which type of criminogenic needs need to be targeted by correctional treatment. Previous work has however illustrated three issues regarding risk assessment (see Gendreau & Goggin, 1997; Latessa, Cullen & Gendreau, 2002; Taxman & Bouffard, 2000). First, it appears that risk assessment is not always applied (Latessa, Cullen & Gendreau, 2002; Taxman, Perdoni & Harrison, 2007). For example, a national study conducted in the U.S. has found that only 34.2 percent of correctional agencies use a standardized risk assessment instrument to place offenders in substance abuse treatment (Taxman, Perdoni & Harrison, 2007). Second, risk assessment is often conducted using unstandardized, non-validated, poorly designed and/or outdated instruments (see e.g. Matthews, Hubbard, and Latessa, 2001; Latessa, Cullen & Gendreau,

2002; Taxman & Marlowe, 2006). And third, if standardized and validated risk assessment instrument (such as a fourth generation tool, see Andrews, Bonta & Wormith, 2004; 2006) are used, outcomes are frequently ignored (Latessa, Cullen & Gendreau, 2002; Taxman & Bouffard, 2000). Consequently, some scholars have proclaimed a one-size-fits-all approach to referring all offenders to an often-limited number of programs and services (Taxman & Marlowe, 2006).

This supposed one-size-fits-all approach, which goes against existing policies based on knowledge on effectiveness as demonstrated by previous research, is not unique for correctional rehabilitation programming. In fact, policies are not being performed in practice, as they were designed, caused by the actions of public service employees in many (governmental) organizations (Lipsky, 1980); a phenomenon often referred to as *Street-level Bureaucracy* (Lipsky, 1980). The current study aims to address if this is also the case in a prison-based rehabilitation program applied nation-wide in The Netherlands.

Prison-based rehabilitation in The Netherlands

In The Netherlands, rehabilitation efforts were embedded within the *Prevention of Recidivism Program*: a prison-based rehabilitation program designed for detainees with a prison sentence of at least four months, implemented nation-wide in 2007. In line with the *Risk-Need-Responsivity* model, the Prevention of Recidivism Program aims to reduce re-offending rates among participants by focusing on two focal points: (1) assessing risk for recidivism and criminogenic needs by use of a standardized, validated risk assessment instrument, and (2) applying criminogenic need-specific treatment programs in line with risk assessment outcomes (Van der Linden, 2004). The program is voluntary. However, detainees who decide to participate can be placed in prison facilities with a lower security level where they are granted more freedom and are also eligible to spend up to one third of their sentence at home, under supervision of the Dutch Probation Organization (Dutch Prison Service & Dutch Probation Organizations, 2007).

To attain the first objective, proper assessment of risk for reoffending and criminogenic needs, the Dutch-language Recidivism Assessment Scales (RISc) was developed, an instrument based on and highly comparable to the British Offender Assessment System (OASys; Howard, Clark & Garnham, 2003). The *RISc* is based on the RNR principles and was designed to (a) assess an offender's likelihood of recidivism (defined as a new conviction), (b) identify and classify offending-related needs on twelve criminogenic risk domains, namely: (1) offending history and (2) current offense and pattern of offences; (3) accommodation; (4) education, work, and training; (5) financial management and income; (6) relationships with partner, family, and relatives; (7) relationships with friends and acquaintances; (8) drug misuse; (9) alcohol misuse; (10) emotional wellbeing; (11) thinking and behavior; and (12) attitudes and orientation, (c) assess an offender's responsivity to treatment, and (d) indicate the need for further risk evaluation (Adviesbureau

Van Montfoort & Reclassering Nederland, 2004; Bosker, 2009; Van der Knaap, Leenarts, Born & Oosterveld, 2012). Studies have demonstrated the intraclass-reliability, internal consistency and predictive validity of the RISc to be satisfactory (Van der Knaap, Leenarts & Nijssen, 2007; Van der Knaap & Alberda, 2009).

In light of the second objective, criminogenic need-specific treatment modules were developed, and were assessed for potential effectiveness by an accreditation committee that was set up by the Dutch Ministry of Justice and Safety. This committee assessed the potential effectiveness of behavioral interventions based on criteria derived from the *what works* literature (such as a adherence to risk and need factors, and treatment integrity). All interventions imposed within the Prevention of Recidivism Program have to be accredited by this committee. Accordingly, the two main treatment programs that are carried out within the scope of the Prevention of Recidivism Program are *Cognitive Skills training*, to improve the cognitive skills necessary to function in society and *Lifestyle training*, to help offenders cope with addiction to drugs or alcohol. Other available trainings are Job Skill training, to help offenders with limited work experience and/or problems with getting or maintaining a job and a Dutch version of the Aggression Replacement Training, to help offenders cope with violence and anger problems. However, research has shown that these types of training aren't applied regularly, combined only taking up about seven percent of the total number of executed treatment programs in The Netherlands (Bosma, Kunst & Nieuwbeerta, 2013).

Official guidelines, incorporated in several program manuals, state that risk assessment outcomes determine qualification for cognitive skill- and lifestyle training. For example, a moderate to high overall risk to re-offend (evidenced by a risk assessment score of at least 32), and cognitive deficits (evidenced by a weighted score on the risk assessment scale thinking and behavior of at least 4), qualifies an offender for cognitive skills training (Ministry of Justice, 2007), while drug-, alcohol- and or gambling-abuse problems (evidenced by a score on the risk assessment scales drug misuse of at least 3, and/or alcohol misuse of at least 2, and or financial management and income of at least 5, with a minimal score of 2 on item 5.4), qualifies an offender for lifestyle training (SVG Verslavingsreclassering, 2009). If an offender has no criminogenic needs (i.e. factors assumed to cause re-offending behavior), offenders can enter the Prevention of Recidivism Program and are eligible for phased re-entry and early release without having to complete specific treatment modules.

The problem with applying such guidelines however is that in practice; they are not always carried out as they were prescribed. This was exemplified by previous studies, indicating that risk assessment instruments aren't always used to allocate offenders to treatment (Latessa, Cullen & Gendreau, 2002; Taxman, Perdoni & Harrison, 2007; Taxman & Bouffard, 2000). If this is also the case in The Netherlands, was assessed by the current study.

5.2 Theoretical considerations

Several factors can contribute to policies not being performed in practice, as they were prescribed. In his highly influential reading; "*Street-level Bureaucracy: Dilemmas of Individuals in Public Services*", Lipsky (1980) sets forth a bottom-up approach to understanding public policy implementation, by arguing that a successful implementation of public policy is not solely determined by the quality of policy measures, but instead is for a large part dependent on the actions of those who carry out government policy, so-called *frontline workers*, or *street-level bureaucrats*. To understand how street-level bureaucrats have such a large influence on policy-implementation, there are five characteristics that need mentioning (see Maynard-Moody & Portillo, 2010). First, street-level bureaucrats public service employees who are de facto *frontline workers*; meaning that their organizational place is often at the bottom of the organizational hierarchy (Lipsky, 1980). Traditional examples of frontline workers are teachers, police officers and social workers, other officials such as court clerks (Yngvesson, 1988) and corrections officers (Guy, Newman & Mastracci, 2008) can however also be considered street level bureaucrats. Secondly, street-level bureaucrats often interact directly (face-to-face) with clients and citizens (Lipsky, 1980). In many cases, these individuals are non-voluntary clients (such as a citizen stopped by a police-officer for speeding), who did not choose the service of the specific governmental agency, and also cannot seek alternative services elsewhere (Maynard-Moody & Portillo, 2010). A third key-component of frontline workers relates to the fact that, although their work can be considered highly scripted, public service employees are allowed to vary in the extent to which they impose the rules and laws assigned to them. This *discretion* (see Davis, 1971), according to Lipsky (1980), is a result of the complex decisions that street-level bureaucrats have to make, in which they have to interpret and apply general policies in specific situations (Lipsky, 1980; 2010). Fourth, related to their extensive discretion, they also have considerable autonomy in making decisions, and often their activities are unsupervised. For example, a teacher is almost always alone in a classroom, with little to no direct management-supervision. A fifth and final key-characteristic of frontline-workers is that on paper, they are never considered part of the policy process, when in fact; they are perhaps the *ultimate policymakers* (Weatherly, 1979; 1980); they are the final policymaker, and perhaps have the greatest influence (Maynard-Moody & Portillo, 2010).

The work of street-level bureaucrats can be difficult and demanding; they often have to deal with working under great time pressure, with limited resources, and have to cope with expectations from both clients and their employer. To be able to do their job as efficiently as possible, it is argued that public service employees typically can resort to three modes of dealing with work pressure; coping, networking and activism (Hupe & van der Krogt, 2013). The first and most common response to dealing with the often inevitable gap between demands and recourses is the development of coping

strategies. In coping, a frontline worker basically accepts work pressure as a given and tries to make the best of it (Lipsky, 1980), usually by trying to decrease demands for services. Scholars have distinguished various coping strategies, such as making standardized or routine decisions for groups of clients (routinizing; which is often based on stereotypes); redefining tasks and priorities, in which priority is given to decisions that involve easier and manageable clients and cases (creaming); a frontline worker may also try to make services less attractive for clients (rationing), for example by creating longer waiting times (Ellis, 2011; Fineman, 1998; Lehmann-Nielsen, 2006; Lipsky, 1980; 2010; Moore, 1987; Tummers, Bekkers, Vink, & Musheno, 2015). Besides coping, street-level bureaucrats may also turn to a more professional response; networking, which involves dealing with work pressure by seeking feedback among co-workers and creating shared goals with colleagues, or may resort to activism, which means a frontline worker neither accepts nor tries to cope with work pressure, but instead choses to fight to try to better their work circumstances (Hupe & van der Krogt, 2013). Networking and activism in most cases do not (or hardly) affect clients and citizens, while coping frequently results in deviating from prescribed standards, biases the implementation of public policy and often negatively influences policy goals (Winter, 2002). It can, for example, result in a selective group of clients or citizens not receiving services.

In summary, street-level bureaucrats try to deal with an often enormous workload and experienced gap between work-demands and available resources, by using the discretion they are allowed to exercise and apply a broad range of coping mechanisms (Winter, 2002). As a consequence, trough the actions of street-level bureaucrats, discrepancies can occur between prescribed policy guidelines, and the actual implementation of these guidelines in practice, Lipsky (1980) refers to this phenomenon as "a gap between policy as written, and policy as performed". As put in Lipsky's words; "…*the decisions of street-level bureaucrats, the routines they establish, and the devices they invent to cope with uncertainties and work pressure, effectively become the public policies they carry out*." (Lipsky, 1980, p. xii).

Although perhaps never before considered as such, prison staff-members who make decisions about the allocation of offenders to treatment programs can be deemed to function as street-level bureaucrats. That is to say; prison employees who make these decisions are (a) operational staff-members (as opposed to middle or higher management); (b) are in direct (and face-to-face) contact with prisoners (a non-voluntary client); over whom they make decisions in which the (c) can exercise a considerable amount of discretion; and (d) have relative autonomy; consequently, they can be considered (e) the ultimate (as in final) policy makers in Dutch prison-based treatment implementation.

As prison staff members who decide upon the referral of offenders to treatment are considered street-level bureaucrats, they are expected to act accordingly. First, it is therefore expected that prison staff-members apply considerable discretion when making treatment referral decisions, result-

ing in treatment referrals not (fully) in line with risk- and need assessment outcomes. This may result in limited access to care for a (perhaps selective) group of offenders. Second, based on Street-Level Bureacracy Theory, it is hypothesized that prison staff-members, caused by (a) a gap between resources and demands and (b) as a result of a number of coping mechanisms, do not always allocate offenders to appropriate treatment programs (i.e. treatment based on their risk and need-assessment scores). Instead, as theory predicts, prison-staff members are expected to resort to standardized referrals of offenders to programs, with priority given to either the most manageable offenders whom are expected to remain and actively engage in treatment, or to those who are considered to be most in need of treatment, and for whom the best outcomes are expected. Since at the moment of making treatment referral decisions prison staff-members do not have access to in depth information regarding, for example, an offender's criminal history, or court-documentation on every aspect of their current offence (Inspectorate of Security and Justice, 2010), they typically have to rely on risk assessment outcomes to assess an offenders condition. To make attributions on who should (or should not) be referred to treatment, prison staff-members are expected to rely on the broad range of *risk assessment outcomes*, as assessed by the Recidivism Assessment Scales (scores regarding the domains: offending history, current offence and pattern of offences, accommodation, education; work; and training, financial management and income, relationships with partner and relatives, relationships with friends and other acquaintances, drug misuse, alcohol misuse, emotional well-being, thinking and behavior, and attitudes/orientation), with a more serious (or severe) risk and need assessment outcomes leading to either less or more treatment referrals. Additionally, in line with Street-Level Bureaucracy Theory (Lipsky, 1980), nonconformity with prescribed policies is expected to increase if there is a larger gap between the earlier mentioned resources and demands. Therefore, it is expected that certain *organizational circumstances* influence treatment referral decision-making processes. First, concerning the expected sentence length it is hypothesized that a longer prison sentence will make it easier to get an offender enrolled in treatment. Since research has shown that turnaround times for treatment programs can be extensive (Inspectorate of Security and Justice, 2010), it may be expected that a long expected sentence lead to an increase in treatment referrals. Second, it may be hypothesized that overcrowding and staff shortages will serve as an organizational constraint, limiting time and recourses to be spend on an individual detainee, thereby negatively influencing treatment referrals. It may therefore be expected that prison crowding – the number of detainees imprisoned versus the maximum prison occupation – as well as staff detainee ratios – the number of detainees versus the number of rehabilitation staff members – will influence treatment referrals. Finally, not every treatment program is on offer in every prison, so sometimes, referring an offender to a treatment program means the offender has to be relocated to another prison. It could be the case that

this will be viewed as a disadvantage, decreasing the number of treatment referrals. Consequently, it may be hypothesized that treatment availability will positively influence treatment referrals.

In summary, based on Street-Level Bureaucracy Theory (Lipsky, 1980) it is hypothesized that: (a) prison staff-members deviate from prescribed policies in referring offenders to treatment programs. In doing so, it is expected that: (b) they are influences by and offenders risk- and need assessment outcomes and a set of relevant organizational circumstances.

5.3 Previous studies

Street-Level Bureaucracy Theory was subjected to an immense body of empirical studies, which have found substantial empirical evidence for its applicability (for a summary of the work conducted, see e.g. Brodkin, 2012; Maynard-Moody & Portillio, 2010; Tummers et al, 2015), among different populations, including (but not limited to) teachers (Weatherley & Lipsky, 1977; Weatherley, 1979), social workers (Ellis, 2007), nurses (Mountain & While, 2005), police officers (Brown, 1981; Mastrofski et al, 1995; Maynard-Moody & Musheno, 2003) and judges (Cowan & Hitchings, 2007). These studies often find that formal policy is in most cases not identical to the policy as produced, or as stated by Brodkin (2012, p. 943): "*what you see may not be what you get*". Previous work has also specifically focused on some of the key-concepts central in Lipsky's (1980) work, i.e. discretion and coping.

Discretion (see e.g. Brodkin, 1997; Buffat, 2011; Gulland, 2011; Lindhorst & Padgett, 2005; Meyers et al., 1998; Smith & Donovan, 2003; Tummers & Bekkers, 2014; Tummers, Bekkers & Steijn, 2009) can be considered functional and often even necessary to be responsive to individual clients and their circumstances in various situations (Hupe & Hill, 2016), can make policies much more meaningful to clients, and can make a street-level bureaucrat more willing to implement a policy (Tummers & Bekkers, 2014), can however also lead to unwanted consequences (see e.g. Lindhorst & Padgett, 2005; Gulland, 2011; Maynard-Moody & Musheno, 2000; Smith & Donovan, 2003) such as a minimized access to services (Lindhorst & Padgett, 2005).

Coping, referring to the various ways street-level bureaucrats were theoretically believed to deal with the inevitable gap between work demands and resources available, was also issued in previous empirical work (see Brodkin, 1995; 1997; 2011; Meyers, Glaser & Mac Donald, 1998; Meyers & Vorsanger, 2002; Tummers et al., 2015). A systematic review into the coping behavior of frontline workers (Tummers et al., 2015) identified three types of coping strategies: moving towards clients, moving away from clients, and moving against clients. Moving towards clients, which means frontline workers adjust to meet the needs of clients (for example by bending/breaking the rules) was found the most frequent coping strategy. Moving away from clients, the previously mentioned routinizing (routine decision-making) and rationing (making services less accessible or attractive), however

also occurred rather frequently (See e.g. Meyers et al., 1998; Winters, 2002). The final coping strategy, moving against clients (such as rigid rule-following), was found infrequently applied (Tummers et al., 2015).

Traditional (empirical) studies into Street-Level Bureacracy Theory can roughly be divided in policy-focused studies, that focused on how public policies are shaped by street-level practices in various areas (i.e. welfare, education, health care, work, corrections etc.), and management and government studies, which have studied the influence of street-level bureaucracy on changes in governance, management and organizational practices. More recent however, and relevant to our current study, emerging fields of study extended the boundaries of the street-level philosophy (Brodkin, 2012), and focused on the influence of street-level practices on *access of services* for clients and civilians. Generally, these studies revealed that street-level bureacracy, causing nonconformity to prescribed policies, can lead to disparities in access to services and limited access to care for some (often disadvantaged) populations (see Brodkin & Majmundar, 2010; Monnat, 2010; Moynihan & Herd, 2010; Riccucci, 2005; Wenger & Wilkins, 2009). This may support our first hypothesis, stating that the population central to this study (incarcerated offenders), may also experience inadequate access to care as a result of prison employees not following the policy rules laid out.

The current studies second hypothesis makes assumptions about the factors that, as offenders are expected not be allocated to programs based on the official guidelines, instead influence the decisions made by prison-staff members; risk assessment outcomes (prioritizing those in more need for treatment, or those offenders who represent more manageable cases) and organizational circumstances (prioritizing cases in more optimal organizational conditions). Unfortunately, prison-based treatment referral decision-making has to date, not been studied along the lines of the street-level rationale, making it difficult to underpin our hypothesis with the results found in previous studies. To reinforce the second and third hypotheses brought forward, we are therefore forced to resort to previous studies in adjacent research areas, more specifically; decision-making by other actors in the criminal justice chain. Previous studies have demonstrated the relation between risk to re-offend and judicial decision-making. Criminal justice actors such as judges (Hannah-Moffat, 2012, see also Hartley, Madden & Spohn, 2007; Spohn, 2000; Zatz, 2000) and parole- and probation officers (Carroll & Burke, 1990; Meyer, 2001) often rely on (factors relating to) the risk for re-offending in their judicial decision-making. Earlier work has also shown the significance of organizational circumstances in judicial decision-making processes, as it has been shown that sentencing outcomes often vary between jurisdictional areas (see e.g. Kautt, 2002; Kautt & Spohn, 2002; Kramer & Ulmer, 1996; Ulmer & Johnson, 2004; Johnson, Ulmer & Kramer, 2008), and was found that bureaucracy (Engen & Steen, 2000; Johnson, Ulmer & Kramer, 2008), organization size (Eisenstein, Flemming & Nardulli, 1988), large caseloads (Dixon, 1995; Johnson, 2006; Johnson, Ulmer & Kramer, 2008; Ulmer & Bradley, 2006; Ulmer & Johnson, 2004), and prison

crowding (Johnson, 2006; Peterson & Hagan, 1984; Ulmer & Johnson, 2004) influenced judicial decision-making processes. For example, it was shown by Johnson (2006) that offenders were more often incarcerated in areas with more available jail space. Additionally, studies have shown that parole boards take factors such as prison crowding and resources available into account, with overcrowding and less available resources resulting in more lenience in parole decision-making (e.g. Glaser, 1985; Winfree et al., 1990).

In summary, there is an immense body of work to support Street-Level Bureacracy Theory, and its underlying concepts. This work has recently also been directed at issues relating to access to services, showing that, for some (disadvantaged) populations, access of services for certain clients and civilians is limited. This study aims to extend Street-Level Bureacracy Theory to a new area, by assessing if correctional rehabilitation policies in The Netherlands are delivered in practice, as they were formally designed, thereby studying if incarcerated offenders in The Netherlands have access to the care they are entitled to, and are enrolled in treatment programs fitting with their individual needs. To further examine this issue, this study also aims to study if these treatment referrals can be explained by factors related to risk- and need assessment outcomes, and organizational circumstances. These factors were theoretically expected to be related to the referral of offenders to treatment, but have not been confirmed by research in the field of correctional treatment allocation.

5.4 The current study

As mentioned, effective correctional treatment aimed at reducing re-offending among offenders relies on a proper assessment of risk for future criminal behavior and criminogenic needs, and guiding offenders to programs that fit these risk and need scores (see e.g. Andrews, Bonta & Wormith, 2004; 2006; Latessa, Cullen & Gendreau, 2002). Previous studies have however issued a number of concerns relating to the use of risk assessment instruments to guide offenders to appropriate treatment (Latessa, Cullen & Gendreau, 2002; Taxman & Bouffard, 2000). Street-level bureaucracy theory (Lipsky, 1980) suggests that this is because government employees do not always carry out policies as they were prescribed. It has however to date not been studied if this also applies to prison-based treatment referrals. The purpose of the current study was therefore to explore prison-based treatment referral decision-making processes. The following research questions were addressed: (1) how many offenders were allocated to what types of treatment? And (2) was the correct target population allocated to the right type of treatment? Our final research question read: (3) which factors influenced these treatment-allocation decision-making processes? Inspired by Street-Level Bureaucracy Theory, treatment allocation was supposedly influenced by risk assessment outcomes and variables tied to organizational circumstances. To answer our

research questions proposed, official data were analyzed from a large population-based sample of offenders who participated in a prison-based rehabilitation program in The Netherlands.

5.5 Methods

Sample and Procedure

To address the research question proposed in the current contribution, data were analyzed from a sample of 541 male offenders who, during their time in prison, entered the Dutch Prevention of Recidivism Program. This sample was drawn from a population-based research sample of the Prison Project, which is a large scale, longitudinal research project, studying the effect of imprisonment on the life of detainees and their families in The Netherlands. This sample included all male detainees put in pre-trial detention in The Netherlands between October 2010 and March 2011 who were: between the age of 18 and 65 and were born in The Netherlands (see Dirkzwager & Nieuwbeerta, 2016). Of the 3.981 offenders included in the Prison Project's sample, 3.095 did not meet criteria to qualify as a rehabilitation program candidate (due to not meeting the four month minimal prison sentence criterion) and 345 eligible offenders did or could not participate in the program. This leaves a sample of 541 respondents that entered the Prevention of Recidivism Program.

Several sources of information were used. First of all, risk assessment data were made available by the *Dutch Probation Service*. Second, the *Dutch Custodial Institutions Agency* provided registration data on all respondents. This included information from various prison registration systems and information on the Prevention of Recidivism Program. And finally, to gather organizational information, a telephone-administered questionnaire was held. All Dutch prisons where asked to provide information concerning their prison crowding rates (per prison and per location), staff numbers, and the availability of in-house rehabilitation programs in each year our sample potentially was imprisoned in their facility.

Dependent variables

Data on our dependent variable treatment type (neither; cognitive skill training; lifestyle training; or both) were collected using the Prison Registration System, in which in-depth information concerning the rehabilitation programs of every participant is registered. This involved information about all treatment programs included in an offender's individual rehabilitation program. As mentioned, two main treatment programs are offered within the Prevention of Recidivism Program: cognitive skills training and lifestyle training. Some additional (often non-structured) forms of treatment are offered within Dutch prisons as well, such as counseling by a social worker, but these were not included in the current study due to infrequent application and/or registration and the non-structured character of the treatment.

Treatment type was coded 0 for offenders who were not referred to cognitive skill or lifestyle training; coded 1 for offenders referred to cognitive skills training; coded 2 for offenders who were referred to lifestyle training; and coded 3 for offenders referred to both treatment programs.

Independent variables

Risk scores were drawn from the Dutch-language Recidivism Assessment Scales (RISc), a validated risk assessment tool based on the RNR principles used by probation officers and prisons in The Netherlands. With this instrument, an overall risk indication is made by summing item scores within twelve sections which weighted combine into one overall risk score, with higher scores corresponding to higher risk and need levels. The twelve subsections each relate to a different risk domain: (1) offending history, (2) current offense and pattern of offences (the scores on the first two domains are combined to form one score on past and current offences), (3) accommodation, (4) education; work; and training, (5) financial management and income, (6) relationships with partner and relatives, (7) relationships with friends and other acquaintances, (8) drug misuse, (9) alcohol misuse, (10) emotional well-being, (11) thinking and behavior, and (12) attitudes/orientation (Adviesbureau van Montfoort & Reclassering Nederland, 2004; Bosker, 2009; Van der Knaap, Leenarts, Born & Oosterveld, 2012). Previous studies have indicated that the internal consistency, intraclass-reliability, and predictive validity of the RISc are adequate (Van der Knaap, Leenarts & Nijssen, 2007; Van der Knaap & Alberda, 2009). As mentioned, risk assessment scores are supposed to be used to determine the type of treatment an offender requires. To be more specific: A high score on the criminogenic need scale thinking and behavior determines an offender's need for cognitive skills training. And, following the inclusion criteria for lifestyle training; scores on the domains drug misuse and alcohol misuse are supposed to indicate the need for lifestyle training (substance abuse treatment). However, because of the explorative nature of the current study, weighted scores on each of the twelve scales were included as independent variables in the current study.

Organizational circumstances that were included were remaining prison sentence, prison crowding rate, rehabilitation staff/detainee ratio, and treatment programs on offer (cognitive skill and lifestyle training). The length of an offender's prison sentence was drawn from the Prison Registration System. Prison crowding rate, rehabilitation staff/detainee ratio, and treatment programs on offer were all determined with the help of the Dutch prison service, which provided official records on each prison and each year studied. To determine prison-crowding rates, yearly maximum capacity and occupation numbers were assembled; by which crowding rates per year and per prison location could be calculated. Information regarding rehabilitation staff versus detainee ratios was calculated in a similar fashion.

Control variables

Offender characteristics accounted for in the current study included age, ethnic background (native vs. non-native) and type of offence (violent vs. non-violent). Age was calculated from the prison registration systems by subtracting date of birth from the date of their prison entry. Ethnic background (non-native vs. native) was obtained from risk assessment data (Statistics Netherlands defines a person as having a non-native background if at least one of his/her parents was born abroad). And lastly, offence type (non-violent vs. violent), was drawn from the Criminal Record Office's files.

Analyses

Subjects were first categorized into four mutually exclusive groups, based on the content of their treatment program (0 = standard program with no specific treatment modules; 1 = standard program plus cognitive skills training; 2 = standard program plus lifestyle training; and 3 = standard program plus cognitive skills training and lifestyle training). The percentages of offenders who were categorized into the four groups were calculated, group descriptive statistics on independent variables (risk and need factors, personal characteristics and organizational circumstances) were calculated and group differences analyzed.

To determine if offenders were allocated to the correct type of treatment, actual treatment allocation (made in light of participation in the Prevention of recidivism program) was compared to our own assessment of treatment allocation, determined based on risk and need assessment outcomes and treatments in- and exclusion criteria. In detail: offenders should be referred to cognitive skill training if: the overall risk for re-offending is moderate to high, evidenced by a score of at least 32; there are cognitive deficits, evidenced by a weighted score on the RISc-scale thinking and behavior of at least 4; and an offender is not excluded based on additional grounds[1] (Ministry of Justice, 2007). Offenders should be allocated to lifestyle training if they have drug-, alcohol- and or gambling-abuse problems, evidenced by a score on the RISc-scales drug misuse of at least 3, and/or alcohol misuse of at least 2, and or financial management and income of at least 5, with a minimal score of 2 on item 5.4; who are not excluded on additional grounds[2] (SVG Verslavingsreclassering, 2009). Other, more general criteria accounting for both types of treatment include being older than 18, having sufficient Dutch language skills and not being detained under hospital orders, however offenders in our research group had already qualified for entry in the

1 Which are; not being able to function in a group because of severe psychiatric problems, evidenced by a score of at least 2 on the RISc-item 10.2 or 10.4; great difficulties in family functioning, evidenced by a score of 2 on item 6.3; and severe drug- and or alcohol-misuse, evidenced by a score of 2 on scale 8.2 and or 9.2 (Ministry of Justice, 2007).

2 Which are; a negative attitude towards the sanction imposed, evidenced by a score of 2 on the item 12.2; severe psychiatric problems, evidenced by a score of 2 on the scale 10.2; and being able to function in (group-) treatment, evidenced by a score of 2 on the scale 11.3 (SVG Verslavingsreclassering, 2009).

Prevention of Recidivism Program and therefore already qualified on these grounds. Based on this assessment it was determined how many offenders were correctly and incorrectly allocated, after which group descriptive statistics on independent variables were calculated and group differences analyzed

To study which factors had influenced treatment allocation, bivariate analyses were used to describe the characteristics of the research population and to examine the relation between these characteristics and program allocation. Multinomial logistic regression analysis was then applied to test whether group membership (standard program vs. cognitive skill training; standard program vs. lifestyle training; standard program vs. both) depended on offender characteristics, risk factors and organizational circumstances. Because of the somewhat modest sample-size, and number of independent variables included in our hypothesized explorative model, a set of univariate multinomial logistic regression analyses was first performed to determine Wald and Odds Ratio statistics, after which, based on their p value, independent variables were included in a multivariate model. As suggested by Hosmer and Lemeshow (2000), a cutoff point for entry in the multivariate models of p <.15 was used. Presented results include odds ratios (OR) statistics. An OR, with values range from zero to infinity, greater than 1.00 indicates a higher probability of group membership, while OR of less than 1.00 indicate a decreased probability of group membership.

The independent variables that were included were control variables (age, ethnicity and type of offence), risk factors (offending history, current offense and pattern of offences, accommodation, education, work, and training, financial management and income, relationships with partner, family, and relatives, relationships with friends and acquaintances, drug misuse, alcohol misuse, emotional well-being, thinking and behavior and attitudes and orientation) and organizational circumstances (remaining prison sentence in days, prison crowding rate, rehabilitation staff vs. detainee ratio, and availability of cognitive skill training and lifestyle training).

5.6 Results

Consultation of the Prevention of Recidivism Program registration database showed that of our total research sample of 541 program participants, 50.3 percent of offenders (n=272) were not referred to any specific treatment program, whilst others were referred to cognitive skill training (n=126, 23.3%), lifestyle training (n=61, 11.3%), or both cognitive skill- and lifestyle training (n=82, 15.2%). Relevant sample characteristics for each of the four treatment groups; offenders without cognitive skill or lifestyle training (group 1), offenders who were referred to cognitive skill training (group 2), offenders who were referred to lifestyle training (group 3), and offenders who were referred to both types of treatment (group 4) are summarized in Table 1.

First, regarding our included control variables, it appears that offenders who were referred to cognitive skill training are slightly younger, and are more often of non-native ethnic background. The analyses conducted showed that, in general, offenders who were not referred to a criminogenic need-specific treatment module were older (*M*=31.5), compared to offenders who were referred to cognitive skill training (*M*=26.1), and both types of treatment (*M*=28.9). Furthermore, offenders referred to cognitive skill training were younger, compared to offenders who were referred to lifestyle training (*M*=31.0). Regarding ethnicity, post-hoc analyses showed that offenders with a non-native ethnic background were overrepresented in the cognitive skill-training group.

Second, it seems that the results on each criminogenic need scale are quite divers. In general however, it appears that offenders who were allocated to lifestyle training reported somewhat higher scores on a range of criminogenic need scales, and can therefore be considered somewhat more problematic. Additionally it must be mentioned that, perhaps contrary to what would be expected, it is not the case that offenders who were not referred to any program significantly and consequently score lower on the range of criminogenic need scales, compared to those who were referred to a criminogenic need-specific treatment module. In more detail; Table 1 shows that offenders with lower scores on the domain offending history and current offence,, were mostly among those that were not referred to any program (*M*=17.3), compared to offenders that were referred to lifestyle training (*M*=21.3) and both types of treatment (*M*=21.4). With respect to the risk scale accommodation, it was shown that offenders with the lowest scores, were mostly referred to cognitive skill training (*M*=3.2), compared to offenders that were referred to neither (*M*=4.1), or both (*M*=4.9). Next, regarding the scale financial management and income, post-hoc analysis pointed out that offenders who were not referred to treatment, scored lower (*M*=4.5), compared to offenders that were referred to lifestyle training (*M*=6.0), or both types of treatment (*M*=6.3). Offenders referred to cognitive skill training also scores lower (*M*=4.9), compared to offenders referred to both. Another scale on which groups were shown to differ is relationships with friends and acquaintances. Program participants were shown to score the lowest (*M*=5.8), compared to those referred to both cognitive skill training (*M*=6.8), types of treatment (*M*=8.0). Offenders who were referred to both, also differed significantly from those referred to lifestyle training (*M*=6.1). Further, our analyses pointed out a similar pattern for the risk scales drug misuse, and alcohol misuse. Offenders who were not referred to a specific treatment module, and therefore followed a standard treatment program, on average, scored higher (*M*=5.1 and *M*=1.5 respectively) compared to offenders that were referred to cognitive skill training (*M*=3.9 and *M*=1.1), but scored lower on drug and alcohol misuse than those referred to lifestyle training (*M*=8.4 and *M*=8.3), or both cognitive skill and lifestyle training (*M*=2.2 and *M*=2.3). The latter two also differed significantly from offenders

in the second (cognitive skill training) group. With respect to scores on emotional well-being, it was shown that offenders in the group referred to cognitive skill training, differed significantly (M=1.8), from offenders referred to neither types of treatment (M=2.4), lifestyle training (M=2.4), and both treatment types (M=2.3), with the cognitive skill-training group reporting the lowest scores. And finally, concerning the risk scale thinking and behavior, it was shown that offenders that were not referred to treatment, reported lower scores (M=7.3), compared to offenders referred to cognitive skill training (M=8.4), lifestyle training (M=8.4), and both (M=8.9).

A third and final set of variables that was tested for group differences regarded organizational circumstances. As shown in Table 1, the only group differences found concerned the remaining prison sentence. It was shown that offenders who were allocated to lifestyle training, reported lower remaining prison sentences (M=387.0) than offenders who were referred to neither (732.7), or both (735.1) types of treatment. Perhaps this is caused by the fact that these offenders (i.e. offenders who are addicted) committed specific types of crimes, for which they had received rather mild sentences. No other group differences were reported.

Table 1. Group characteristics offenders allocated to no treatment, cognitive skill training, lifestyle training and both (N=541)

	1. Neither (*n*=272)	2. Cognitive skill training (*n*=126)	3. Lifestyle training (*n*=61)	4. Both (*n*=82)	Total (*N*=541)	
	M(SD)/%	*M(SD)*/%	*M(SD)*/%	*M(SD)*/%	*M(SD)*/%	Sig.
Control variables						
Age (in years)	31.5 (11.1)	26.1 (8.3)	31.0 (10.0)	28.9 (10.0)	29.8 (10.4)	*** 1/2 1/4 2/3
Ethnicity (native)	61.8	41.3	60.7	65.9	57.5	*** 1/2 2/3 2/4
Offence type (non-violent offence)	61.3	64.5	63.9	65.9	63.0	
Risk factors						
Offending history & current offence (0-50)	17.4 (13.1)	18.8 (12.7)	21.3 (13.6)	21.4 (11.5)	18.8 (12.9)	* 1/3 1/4
Accommodation (0-12)	4.1 (4.3)	3.2 (3.5)	4.4 (4.1)	4.9 (4.4)	4.0 (4.2)	* 1/2 2/4
Education, work & training (0-20)	9.0 (6.9)	9.2 (6.1)	9.5 (6.6)	10.9 (6.3)	9.4 (6.6)	
Financial management & income (0-12)	4.5 (3.8)	4.9 (3.4)	6.0 (3.9)	6.3 (3.8)	5.0 (3.8)	*** 1/3 1/4 2/4
Relationships with partner & relatives (0-6)	2.7 (1.8)	2.4 (1.6)	2.9 (1.8)	2.8 (1.6)	2.7 (1.7)	
Relationships with friends & acq. (0-15)	5.8 (4.5)	6.8 (4.0)	6.1 (4.0)	8.0 (4.3)	6.4 (4.4)	** 1/2 1/4 3/4
Drug misuse (0-15)	5.1 (5.3)	3.9 (4.5)	8.4 (4.6)	8.3 (4.5)	5.7 (5.2)	*** 1/2 1/3 1/4 2/3 2/4
Alcohol misuse (0-5)	1.5 (1.9)	1.1 (1.6)	2.2 (1.9)	2.3 (2.0)	1.6 (1.9)	*** 1/2 1/3 1/4 2/3 2/4
Emotional well-being (0-6)	2.4 (1.8)	1.8 (1.4)	2.4 (1.6)	2.3 (1.6)	2.2 (1.7)	** 1/2 2/3 2/4
Thinking & behavior (0-12)	7.3 (3.5)	8.4 (2.3)	8.4 (2.8)	8.9 (2.4)	7.9 (3.1)	*** 1/2 1/3 1/4
Attitudes & orientation (0-15)	6.1 (4.8)	6.0 (4.3)	7.1 (4.7)	7.3 (4.5)	6.4 (4.6)	
Organizational circumstances						
Remaining prison sentence (in days)	732.7 (1132.2)	613.7 (561.2)	387.0 (429.6)	735.1 (780.8)	666.4 (916.8)	* 1/3 3/4
Prison crowding rate	0.9 (0.1)	0.9 (0.1)	0.9 (0.1)	0.9 (0.1)	0.9 (0.1)	
Rehabilitation staff/detainee ratio	116.9 (68.9)	107.3 (64.7)	103.7 (61.2)	109.8 (64.4)	112.1 (66.5)	
Cognitive skill training available (no)	21.0	15.1	16.4	17.1	18.5	
Lifestyle training available (no)	23.2	19.8	18.0	18.3	21.1	

Note: Behind significant levels it is demonstrated which groups differed. For example: 1/2 means post-hoc analysis showed there was a significant difference between group 1 and group 2.
* $p < .05$ ** $p < .01$ *** $p < .001$.

Correct treatment referrals based on risk scores

As mentioned, treatment referrals should be made based on risk and need assessment outcomes. We will now explore if offenders referred to a standard program, standard program plus cognitive skill training, standard program plus lifestyle training, or standard program plus both, were, based on their risk assessment scores, referred to the correct type of treatment.

An analyses of the risk assessment scores of our research group of 541 program participants has shown that, based on the official inclusion and exclusion criteria set, 215 offenders (39.7%) should have been referred to a standard program (no treatment), and 326 offenders (60.3%) should have been referred to either cognitive skill training, lifestyle training, or both. However, when comparing our assessment with the actual treatment programs that our research group of program participants was referred to however, great differences were revealed. As shown in Table 2, 72 offenders (26.8% of all offenders allocated) were allocated to treatment; while they did not qualify for either cognitive skill- or lifestyle training (or both) based on risk assessment outcomes. Second, 129 offenders (47.4 percent of all offenders not allocated) were not allocated to treatment; while they qualified for either cognitive skill- or lifestyle training (or both) based on risk assessment outcomes.

Table 2. Crosstab treatment allocation based on PoR program versus own analyses (N=541)

	Prevention of Recidivism Program		
	Allocated	Not allocated	Total
Should be allocated based on risk assessment outcomes	197 (64.9%)	129 (47.4%)	326
Should not be allocated based on risk assessment outcomes	72 (26.8%)	143 (52.6%)	215
Total	269 (100%)	272 (100%)	541

* A grey block indicates a wrongful in- or exclusion

A much more detailed overview of the type of treatment program (standard, standard plus cognitive skill training, standard plus lifestyle training and standard plus both) offenders were, and should have been referred to (based on our analysis) is provided in Appendix A, Table A1. This table revealed a third type of error, and showed that there were 101 offenders (51.3% of the total of 197 offenders allocated to a treatment program) who were referred to the wrong type of treatment. This was, for instance, the case when offenders qualified for lifestyle training based on risk assessment outcomes, and were referred to cognitive skill training by the Prevention of Recidivism Program. This leaves only 239 who could be considered correctly (not) allocated to treatment, this amounts to 44.2 percent of our research sample of 541 offenders.

To further explore the groups of correctly classified offenders and incorrectly classified offenders (incorrectly allocated, incorrectly not allocated and allocated to an incorrect treatment type), an analysis on background characteristics was conducted, the results of which are presented in Table 3. As shown, the group of correctly classified offenders differed from incorrectly classified offenders, on a considerable number of variables. In general, it was shown that offenders, who were referred to treatment in line with their risk and need assessment outcomes, were more often imprisoned for having committed a non-violent offence, than offenders who were incorrectly classified. They also differed on a large number of risk assessment domains, where they score lower (than incorrectly classified offenders) on the domains offending history and current offence; education, work and training; financial management and income; drug misuse; thinking and behavioral and attitudes and orientation. And finally, correctly classified offenders were, on average, imprisoned for slightly less days, than offenders who were incorrectly classified. In general, it appears that offenders who were correctly assigned to treatment represent a lower-risk group of offenders, who received a slightly less severe sentence for having committed a less severe crime.

Although our analyses make clear that inaccuracies seem to be present in referrals made, it must be mentioned that the analysis conducted was solely based on risk and need assessment outcomes; consequently, our analysis did not take into account any additional factors that may sometimes also influences treatment referrals, such as suitability for (group) treatment. These (not incorporated) factors may not be included in a risk assessment instrument, but could instead be observed in personal engagement with an offender, after which it can influence treatment referral decisions. The presented results are therefore perhaps a somewhat simplistic representation of correctional treatment referral practices, since we only had access to data, and could not interact with people. However, the fact that treatment was not in line with risk assessment outcomes in so many cases leaves us to wonder about the quality of current practices, and raises the question as to which factors *have* influenced treatment referrals.

Table 3. Group characteristics correctly classified offenders, and three types of incorrectly classified offenders (N=541)

	Correctly classified (*n*=239)	Incorrectly classified, incorrect allocation (*n*=72)	Incorrectly classified, incorrect non-allocation (*n*=129)	Incorrectly classified, incorrect treatment type (*n*=101)	Total (*N*=541)	
	M(SD)/%	*M(SD)*/%	*M(SD)*/%	*M(SD)*/%	*M(SD)*/%	Sig.
Offender characteristics						
Age (in years)	29.9 (10.8)	31.4 (12.0)	29.2 (10.3)	29.2 (8.4)	29.8 (10.4)	
Ethnicity (native)	55.2	58.3	62.0	56.4	57.5	
Offence type (non-violent offence)	30.4	23.9	45.7	50.5	37.0	***1/3 1/4 2/3 2/4
Risk factors						
Offending history & current offence (0-50)	17.0 (13.0)	19.7 (13.0)	19.3 (12.2)	21.6 (13.0)	18.8 (12.9)	*1/4
Accommodation (0-12)	3.9 (4.2)	5.9 (4.2)	3.5 (4.0)	3.8 (4.0	4.0 (4.2)	**1/2 2/3 2/4
Education, work & training (0-20)	8.4 (6.8)	11.7 (7.2)	9.8 (6.3)	9.6 (5.8)	9.4 (6.6)	**1/2 2/4
Financial management & income (0-12)	4.5 (3.7)	6.1 (3.9)	4.5 (3.8)	6.1 (3.6)	5.0 (3.8)	***1/2 1/4 2/3
Relationships with partner & relatives (0-6)	2.5 (1.9)	3.6 (1.9)	2.6 (1.5)	2.4 (1.4)	2.7 (1.7)	***1/2 2/3 2/4
Relationships with friends & acq. (0-15)	6.0 (4.6)	7.5 (4.7)	6.2 (4.1)	6.8 (4.0)	6.4 (4.4)	
Drug misuse (0-15)	4.7 (5.4)	7.4 (5.7)	5.4 (4.9)	7.2 (4.4)	5.7 (5.2)	***1/2 1/4 2/3 3/4
Alcohol misuse (0-5)	1.4 (1.9)	2.0 (2.1)	1.6 (1.8)	1.9 (1.7)	1.6 (1.9)	
Emotional well-being (0-6)	2.2 (1.8)	3.1 (1.9)	2.0 (1.5)	2.0 (1.3)	2.2 (1.7)	***1/2 2/3 2/4
Thinking & behavior (0-12)	7.4 (3.4)	9.2 (3.1)	7.8 (2.8)	8.6 (2.2)	7.9 (3.1)	***1/2 1/4 2/3 3/4
Attitudes & orientation (0-15)	5.6 (4.8)	8.1 (5.3)	6.7 (4.3)	6.8 (3.9)	6.4 (4.6)	**1/2 1/3 1/4 2/3
Organizational circumstances						
Prison sentence (in days)	774.3 (1083.3)	610.0 (720.5)	572.4 (855.2)	571.4 (624.8)	666.4 (916.8)	
Prison crowding rate	92.1 (10.2)	94.4 (6.0)	93.2 (9.6)	92.5 (10.9)	97.9 (9.8)	
Rehabilitation staff/detainee ratio	115.3 (67.0)	103.8 (52.7)	113.7 (70.9)	108.3 (67.7)	112.1 (66.5)	
Cognitive skill training available (no)	79.1	81.9	80.6	88.1	81.5	
Lifestyle training available (no)	76.6	81.9	78.3	83.2	78.9	

* p < .05 ** p < .01 *** p < .001.

Exploring decision-making processes: Bivariate analyses

As shown, treatment referrals made in light of the Prevention of Recidivism Program are not made fully in line with risk and need assessment outcomes. Therefore, we will now explore which factors have influenced these decision-making processes. Before turning to the results of our multivariate model, a set of univariate analysis was performed, to test each variable that, based on the theoretical framework, was believed to determine treatment referral decision-making processes. As mentioned, variables were included in the multivariate models explaining treatment referral decision making if they had a significant univariate test, as evidenced by a p value cutoff point of 0.15 (see Hosmer & Lemeshow, 2000). Based on the results presented in Table 4, the control variables age and ethnicity were included, all eleven risk factor domains were included, and organizational factors prison sentence in days, and prison crowding rate were included in our multivariate multinomial logistic regression analysis treatment group membership.

Exploring decision-making processes: Multivariate analyses

The results of the multinomial regression analysis, testing the influence of indicators of risk factors and organizational circumstances on treatment group membership, are presented in Table 5. Presented results above include odds ratios (OR) statistics. Offenders who were not referred to cognitive skill or lifestyle training (standard treatment) represent the reference group.

The results presented in Table 5 show that treatment group membership was significantly associated with age. Being older appeared to decrease chances of being referred to cognitive skill training, compare to not being referred to treatment (OR=0.97). Ethnic background did not seem to determine treatment group membership.

With respect to risk factors included in the multivariate model, a broad range of effects was found, each of which will be discussed by risk domain. First, concerning the risk domain education, work and training, results pointed out that a higher score on this domain, decreased referrals to substance abuse training (lifestyle training), compared to not being referred to treatment (OR=0.93). Concerning problem relating to financial management and income, it was shown that more (severe) risk scores increased chances of being referred to cognitive skill training (OR=1.11), lifestyle training (OR=1.11), as well as both types of treatment (OR=1.09). Contrary, higher scores in the area of relationships with friends and acquaintances appeared to lower chances of lifestyle training treatment group membership, compared to no treatment group membership (OR=0.91). Continuing, higher scores on the criminogenic need scale drug misuse decreased odds of cognitive skill training group membership by 6 percent per point lower scored (OR=0.94), whilst it increased odds of lifestyle training group membership by 18 percent per scored point (OR=1.18) and both treatment group membership by 12 percent per scored point (OR=1.12). With respect to alcohol misuse, it was shown that more severe problems increased chances of

being referred to both types of treatment, compared to not being referred (OR=1.24). Higher reported scores on the risk domain emotional well-being seemed to quite heavily decrease ones odd of being among the group of offenders referred to both cognitive skill training (OR=0.66), lifestyle training (OR=0.75), as well as both types of treatment (OR=0.68). Scores on the criminogenic need scale thinking and behavior increased chances of treatment referrals to cognitive skill training (OR=1.39), and to cognitive skill and lifestyle training (OR=1.29). And lastly, a higher score on the scale attitudes and orientation decreased chances of being referred to cognitive skill training, compared to being referred to neither types of treatment (OR=0.92).

Concerning context features, only one significant result was reported. A longer prison sentence (measured in days) increased odds of both types of treatment group membership, compared to not being referred to treatment (OR = 1.00). None of the remaining contextual features was associated with group membership.

The overall model was found to be statistically significant (p = .000). Statistics also indicated that the model was a good fit for the data, evidenced by Nagelkerke's R2 statistics of .31 and Cox and Snell statistics of .34.

Table 4. Bivariate Odds ratios independent variables on treatment allocation (N=541)

	Cognitive skill training VS standard program			Lifestyle training VS standard program			Cognitive skill training and lifestyle training VS standard program		
	OR	CI	*p*	OR	CI	p	OR	CI	*p*
Control variables									
Age (in years)	0.94	[0.92 – 0.97]	.000*	1.00	[0.97 – 1.02]	.748	0.98	[0.96 – 1.00]	.060*
Ethnicity (native)	2.30	[1.50 – 3.54]	.000*	1.05	[0.59 – 1.85]	.872	0.84	[0.50 – 1.41]	.502
Offence type (non-violent offence)	0.87	[0.56 – 1.35]	.535	0.89	[0.50 – 1.59]	.697	0.82	[0.49 – 1.38]	.452
Risk factors									
Offending history and current offence	1.01	[0.99 – 1.03]	.319	1.02	[1.00 – 1.05]	.033*	1.02	[1.01 – 1.04]	.015*
Accommodation	0.94	[0.89 – 1.00]	.038*	1.02	[0.95 – 1.09]	.561	1.05	[0.99 – 1.11]	.125*
Education, work and training	1.00	[0.97 – 1.04]	.805	1.01	[0.97 – 1.06]	.608	1.04	[1.01 – 1.09]	.032*
Financial management and income	1.03	[0.97 – 1.09]	.302	1.11	[1.03 – 1.20]	.006*	1.14	[1.07 – 1.22]	.000*
Relationships with partner and relatives	0.89	[0.78 – 1.01]	.074*	1.09	[0.93 – 1.28]	.309	1.02	[0.88 – 1.18]	.798
Relationships with friends and acquaintances	1.06	[1.01 – 1.11]	.030*	1.02	[0.95 – 1.09]	.578	1.13	[1.06 – 1.20]	.000*
Drug misuse	0.95	[0.91 – 1.00]	.032*	1.14	[1.07 – 1.21]	.000*	1.13	[1.07 – 1.19]	.000*
Alcohol misuse	0.86	[0.76 – 0.98]	.023*	1.19	[1.03 – 1.38]	.019*	1.23	[1.08 – 1.41]	.002*
Emotional well-being	0.79	[0.68 – 0.91]	.001*	1.02	[0.86 – 1.20]	.851	0.97	[0.84 – 1.13]	.706
Thinking and behavior	1.12	[1.04 – 1.21]	.003*	1.13	[1.02 – 1.24]	.020*	1.22	[1.10 – 1.34]	.000*
Attitudes and orientation	0.99	[0.95 – 1.04]	.803	1.04	[0.98 – 1.11]	.167	1.06	[1.00 – 1.11]	.053*
Organizational circumstances									
Remaining prison sentence (in days)	1.00	[1.00 – 1.00]	.245	1.00	[1.00 – 1.00]	.006*	1.00	[1.00 – 1.00]	.985
Prison crowding rate	0.56	[0.07 – 4.31]	.578	1.31	[0.07 – 23.29]	.855	26.24	[0.90 – 767.06]	.058*
Rehabilitation staff/detainee ratio	1.00	[0.99 – 1.00]	.194	1.00	[0.99 – 1.00]	.187	1.00	[1.00 – 1.00]	.423
Cognitive skill training available (no)	1.49	[0.85 – 2.64]	.167	1.35	[0.65 – 2.83]	.423	1.29	[0.68 – 2.46]	.442
Lifestyle training available (no)	1.22	[0.72 – 2.05]	.458	1.37	[0.67 – 2.79]	.385	1.35	[0.72 – 2.52]	.352

Note: if $p < .15$, the variable will be included in the multivariate model (*)

Table 5. Multinomial regression analyses on treatment allocation (N=541)

	Cognitive skill training VS standard program			Lifestyle training VS standard program			Cognitive skill training and lifestyle training VS standard program		
	OR	CI	Sig.	OR	CI	Sig.	OR	CI	Sig.
Control variables									
Age (18 – 65)	0.97	[0.94 – 1.00]	*	0.98	[0.95 – 1.02]		0.97	[0.94 – 1.00]	
Ethnicity (non-native)	0.98	[0.86 – 1.12]		0.93	[0.81 – 1.08]		1.02	[0.85 – 1.22]	
Risk indicators									
Offending history and current offence	1.02	[0.99 – 1.04]		1.01	[0.98 – 1.04]		1.00	[0.97 – 1.03]	
Accommodation	0.96	[0.88 – 1.03]		0.96	[0.87 – 1.05]		1.00	[0.92 – 1.09]	
Education, work and training	0.97	[0.93 – 1.03]		0.93	[0.87 – 0.99]	*	0.96	[0.90 – 1.01]	
Financial management and income	1.11	[1.03 – 1.20]	**	1.11	[1.00 – 1.22]	*	1.09	[1.00 – 1.19]	*
Relationships with partner and relatives	0.97	[0.81 – 1.17]		1.11	[0.88 – 1.39]		0.90	[0.73 – 1.12]	
Relationships with friends and acquaintances	1.06	[0.98 – 1.13]		0.91	[0.83 – 1.00]	*	1.05	[0.96 – 1.14]	
Drug misuse	0.94	[0.88 – 0.99]	*	1.18	[1.09 – 1.28]	***	1.12	[1.05 – 1.45]	**
Alcohol misuse	0.91	[0.78 – 1.06]		1.10	[0.93 – 1.32]		1.24	[0.54 – 0.86]	*
Emotional well-being	0.66	[0.54 – 0.82]	***	0.75	[0.58 – 0.97]	*	0.68	[1.09 – 1.49]	**
Thinking and behavior	1.39	[1.22 – 1.59]	***	1.16	[0.99 – 1.37]		1.28	[0.88 – 1.04]	**
Attitudes and orientation	0.92	[0.85 – 0.99]	*	1.00	[0.91 – 1.10]		0.96	[0.88 – 1.04]	
Context features									
Remaining prison sentence (in days)	1.00	[1.00 – 1.00]		1.00	[1.00 – 1.00]		1.00	[1.00 – 1.00]	**
Prison crowding rate	0.31	[0.03 – 3.54]		0.63	[0.02 – 19.16]		6.30	[0.15 – 274.24]	

Note: Overall model Wald χ^2 (183.964, 45), p <..001, Cox and Snell R^2 = .307, Nagelkerke R^2 = .336.
* p < .05 ** p < .01 *** p < .001.

5.7 Discussion

In order to effectively apply correctional treatment programs, offenders should be allocated to treatment based on risk and need assessment outcomes (Latessa et al., 2002). Studies have however shown that a number of problems exist regarding the implementation of risk assessment in correctional practices (see Gendreau & Goggin, 1997; Latessa, Cullen & Gendreau, 2002; Taxman & Bouffard, 2000), and have indicated that risk assessment may seldom be used to allocate offenders to treatment, even if policies describe such a risk and need-based approach (Latessa, Cullen & Gendreau, 2002; Taxman & Bouffard, 2000). Lipsky's Street Level Bureaucracy Theory (1980) suggests that this could be explained by the fact that public service employees do not always apply policies as prescribed. The goal of the study discussed in this chapter was twofold. First, this study aimed to determine if treatment referrals made in light of the Dutch Prevention of Recidivism were made in line with risk and need assessment outcomes, by means of which it was tested whether discrepancies were present between policy as prescribed, and policies as carried out in practice, as it was expected based of the work of Lipsky (1980). Second, this study aimed to assess which factors determined treatment allocation decision-making processes. Inspired by Street Level Bureaucracy Theory (1980) and supported by previous studies in the broad field of criminal justice research, risk assessment outcomes and organizational circumstances were expected to determine prison-based treatment-referrals. The research questions proposed were: (1) how many offenders were allocated to what types of treatment? (2) Was the correct target population allocated to the right type of treatment? (3) Which factors influenced treatment-allocation decision-making processes? To examine our research questions, registration data were analyzed from a sample of 541 male offenders who participated in the prison-based Prevention of Recidivism Program in The Netherlands.

Main results

The results presented in this Chapter first of all showed that over half of the detainees included in our sample were not referred to any specific treatment program. An analysis on background factors revealed that there were some differences between the groups of offender's allocated to different types of treatment, the most striking of which was perhaps the fact that offenders who were not referred to a criminogenic need-specific program did *not* score lower with respect to criminogenic need scales, compared to those who *were* referred to a criminogenic need-specific treatment module.

Second, the current study made clear that treatment allocation in light of the Prevention of Recidivism Program was not at all times in line with risk and need assessment outcomes. As a result, over half of our research group was incorrectly classified; i.e. not referred to a treatment program that was in line with their risk assessment outcomes. In most cases, this resulted in offenders than were referred to a standard treatment program (with

no criminogenic need-specific treatment modules) that should have been referred based on their risk and need assessment outcomes. Further examination of the characteristics of correctly and incorrectly classified offenders revealed that offenders who were imprisoned for having committed a less severe crime, who scored lower on several risk assessment subscales, were more often correctly classified. This leads us to conclude that high risk offenders were more often incorrectly (not) referred to treatment.

Subsequently it was studied which factors influenced treatment referrals to specific treatment programs. Results showed that control variables (demographics), in general, did not influence treatment group membership, with the exception of age; it was shown that an older age negatively influenced treatment referrals to cognitive skill training. A large number of risk factors did however influence treatment referrals. In general, it was shown that higher scores on the scales financial management and income, alcohol misuse and thinking and behavior increased referrals to treatment, were higher scores regarding the domains education, work and training, relationships with friends and acquaintances, emotional well-being and attitudes and orientation decreased referrals, while results concerning the scale drug-use were mixed. Additionally, organizational circumstances were not shown to be related to treatment-group membership, with the exception of a longer prison sentence, which increased referrals to a combination of cognitive skill and lifestyle training.

In conclusion, since treatment allocation practices were not fully in line with prescribed standards, this study supports the premise made by street-level bureacracy theory (Lipsky, 1980), suggesting that public service employees do not always apply policies as prescribed. This discrepancy between policy and practice was as hypothesized, and also congruent with the results of previous work in various public service areas (see Brodkin, 2012 for an overview). The consequence of this discrepancies with policy as written and policy as produced is that Dutch prisoners who qualify for (and are in need of) treatment, do not have access to the services their entitled to. This result is (sadly) in line with outcomes of previous work in the broad area of government services, concluding that vulnerable or disadvantaged populations often experience limited access to services and care (see Brodkin & Majmundar, 2010; Monnat, 2010; Moynihan & Herd, 2010; Riccucci, 2005; Wenger & Wilkins, 2009).

Additionally, relating to our third and final research question, it can be concluded that referrals made in as part of participation in the Dutch prison-based Prevention of Recidivism Program were *influenced* by a broad range of risk and need assessment scores. However, much broader then is prescribed (and perhaps allowed) by policy guidelines, whereby it was shown that offenders with a lower risk and/or less severe criminogenic needs, *easier* clients, were more often correctly classified. This was in line with our second hypothesis, and indicates coping, and *creaming* in particular; giving priority to decisions that involve easier and manageable clients and cases (Lipsky, 1980; 2010), which was also found to be applied in other areas of

public service (Tummers et al., 2015). Organizational circumstances were however, contrary to expected since factors such as prison overcrowding were shown to influence other criminal justice actors such as parole boards (Glaser, 1985; Winfree et al., 1990), not found to be of much influence on (correct and incorrect) treatment referrals. To finish, we have to conclude that a large proportion of the variance in treatment allocation between our studied groups remained unexplained. Consequently, it also appears that there are other factors involved, not included in this study, which no doubt also influenced treatment referral decision-making processes.

Since studies have shown that treatment can only be effective if it adheres to RNR-principles (for example, see Andrews et al., 1990; Cullen & Gendreau, 2001; Gendreau, 1996; Gendreau, Little & Goggin, 1996; Lipsey & Cullen, 2007; Lowenkamp, Latessa & Holsinger, 2006; Lowenkamp, Latessa & Smith, 2006), the fact that such a large proportion of offenders ended up in treatment not in line with their risk and need assessment scores leads us to temper our expectations regarding the effectiveness of treatment modules applied within the scope of the Prevention of Recidivism Program. Nonetheless, while shortcomings in a risk-need driven approach were certainly demonstrated, problems identified by previous work (see e.g. Latessa, Cullen & Gendreau, 2002; Taxman & Bouffard, 2000), proposing that proper risk assessment was often not conducted, and was seldom used to allocate offenders to treatment, were not found.

Limitations

Although this study represents a major advancement in the field of correctional rehabilitation research, there are some limitations that should be mentioned. A first shortcoming is perhaps related to the explorative model presented in the current study. Inspired by Street Level Bureaucracy Theory, it was tested if variables tied to two specific domains were related to prison-based treatment referral decision-making processes. Because of the innovatory nature of this study, the current study could not rely on variables appointed by theory and previous studies, and therefore had to create a set of variables that were believed to be salient. Although well substantiated, since the selected variables were based on similar studies conducted in adjacent research fields, other factors could have also contributed to treatment referral processes. It requires further study to develop the model introduced in this study, and to fully comprehend prison-based treatment referral decision-making processes.

A second set of limitations were related to the study's data and design. Firstly, this study was conducted in The Netherlands, and studied a sample of male detainees that were born in The Netherlands. The results can therefore not be generalized to rehabilitation programs implemented in other geographic regions, or to offenders detained in The Netherlands who were born abroad. Second, our measures included were limited to official registration (risk assessment) data and did not include background information on prison staff members making treatment referrals. Also measures of orga-

nizational circumstances were fairly broad and limited. It would be a great advancement if future research could incorporate more specific measures on both prison staff-members, and prisons.

Appendix A: Tables

Table A1. Crosstab treatment referrals based on PoR program versus own analysis

	Prevention of Recidivism Program referrals				
	Standard	Cog. Skill training	Lifestyle training	Both	Total
Eligible for standard program, based on risk scores	143 (52.6%)	29 (23.0%)*	18 (29.5%)	25 (30.5%)	215
Eligible for cog. skill training, based on risk scores	58 (21.3%)	47 (37.3%)	13 (21.3%)	16 (19.5%)	134
Eligible for lifestyle training, based on risk scores	33 (12.1%)	12 (9.5%)	17 (27.9%)	9 (11.0%)	71
Eligible for both, based on risk scores	38 (14.0%)	38 (30.2%)	13 (21.3%)	32 (39.0%)	121
Total	272 (100%)	126 (100%)	61 (100%)	82 (100%)	541

* A grey block indicates a wrongful in- or exclusion

6 Completion of a prison-based treatment program▪

6.1 Introduction

Correctional treatment programs can contribute to the successful re-integration of ex-detainees in communities and can decrease re-offending rates among offenders. This was confirmed by a large number of empirical studies (see e.g. Andrews, 1995; Andrews & Bonta, 1994; Andrews et al., 1990; Cullen & Gendreau, 2001; Day & Howells, 2002; Gendreau, 1996; Gendreau, Little & Goggin, 1996; Lipsey & Cullen, 2007; Lipsey & Wilson, 1993; Palmer, 1992). As treatment was shown to be a viable option, in an attempt to tackle high re-offending rates among ex-detainees, prison-based rehabilitation programs were implemented throughout Northern America en Western Europe (see Hannah-Moffat, 2005; Jolley & Kerbs, 2010; McSweeney, Turnbull & Hough, 2008). In The Netherlands, for example, attempts to reduce re-offending rates among ex-detainees resulted in the implementation of the *Prevention of Recidivism Program*, a prison-based rehabilitation program aimed to help offenders desist from future criminal behavior (Dutch Prison Service & Dutch Probation Organizations, 2007).

Effective prison-based offender rehabilitation programs are typically developed in line with the principles included in the *Risk-Need-Responsivity* model [RNR] of crime prevention and correctional rehabilitation (Andrews, Bonta & Hoge, 1990). This model, which has become the standard for the assessment and treatment of offenders (Blanchette & Brown, 2006; Ward, Mesler & Yates, 2007), rests on three core principles: The *risk* principle rests on the notion that criminal behavior can be predicted and suggests that treatment intensity should be adjusted to the extent to which there is risk for reoffending. The *need* principle asserts that correctional programs should address factors that have shown to be related to repeated offending (see Bonta, Law & Hanson, 1998; Hanson & Morton-Bourgon, 2004 & Gendreau, Little & Goggin, 1996). And the *responsivity* prescribes how behavioral pro-

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grams should be delivered, meaning that programs are best delivered in line with an offender's abilities, treatment readiness, and other personal characteristics (see Andrews, 1995; Andrews & Bonta, 2010; Andrews, Bonta & Hoge, 1990; Andrews & Dowden, 1999; Lowenkamp & Latessa, 2005). An immense body of work has shown that correctional treatment programs are most effective if they adhere to the RNR principles, and have demonstrated that effectiveness increases if more principles were met (for example, see Andrews et al., 1990; Cullen & Gendreau, 2001; Gendreau, 1996; Gendreau, Litlle & Goggin, 1996; Lipsey & Cullen, 2007; Lowenkamp, Latessa & Holsinger, 2006). In the case of prison-based programs (in contrast to program delivered in the community), studies have shown that decreases in recidivism rates of 17 percent can be achieved (Andrews & Bonta, 2006; Lipsey & Wilson, 1993). This treatment effect may perhaps seem trivial, but is certainly not marginal in comparison to the success rates of other (more accepted) forms of treatment, such as chemotherapy in case of breast cancer (treatment effect of .11) or bypass surgery in case of a cardiac event (treatment effect of .15; see Andrews & Bonta, 2006; Lipsey & Wilson, 1993).

Although we know how to design programs in order to reach a maximum treatment effect, correctional treatment programs can only be effective if offenders eligible for treatment actually engage in and complete such treatment programs. Unfortunately, previous studies have suggested that attrition (or drop-out) rates in correctional rehabilitation programs are substantial. Even in the case of prison-based programs, where one may assume that it is easier to get offenders to complete their program, as was shown by a recent meta-analysis by Olver, Stockdale and Wormith (2011), in which it was concluded that a considerable number of those who participated in treatment failed to complete. The focus of this chapter is therefore on (determinants of) treatment completion in a correctional (prison-based) treatment program that was implemented nation-wide in The Netherlands; the aforementioned Prevention of Recidivism Program.

Imprisonment and prison-based treatment programs in The Netherlands

The *Prevention of Recidivism Program* is a prison-based rehabilitation program meant for incarcerated offenders with a prison sentence of at least four months, which was implemented nation-wide in 2007 (Dutch Prison Service & Dutch Probation Organizations, 2007).[1] In line with the above-mentioned RNR principles, the key components of the Prevention of Recidivism Program are: (1) proper assessment of risk for recidivism and criminogenic needs, (2) application of criminogenic need-specific behavioral interventions that fit an offender's risk and need assessment scores (Van der Linden, 2004).

1 Note that the program was replaced by a new policy measure that was implemented in March 2014, which uses the same risk/need based approach, but in which offenders can only take part of they have earned the right to engage, by expressing their willingness to change their criminal ways, and by showing pro-social behavior for a minimum of 6-weeks straight.

Currently, the two main types of behavioral interventions implemented in Dutch prisons are *cognitive Skills Training* and *Cognitive Skills Plus Training* (an extended version meant for detainees with limited mental capacities), aimed to improve cognitive skills that are necessary in order to independently live, develop and function in society, and a standard and long version of the *lifestyle Training for Addicted Offenders*, designed to help offenders cope with alcohol- and/or drug addictions. Two other criminogenic need-specific programs include *Job Skill Training,* meant for offenders with limited work experience and/or problems with getting or maintaining a job, and a Dutch version of the *Aggression Replacement Training*, which aims to help offenders cope with violence and anger. However, the latter two are applied rarely (Bosma, Kunst & Nieuwbeerta, 2013). As mentioned, offenders are allocated to criminogenic need-specific treatment modules based on risk and need scores. If risk and need scores are low, they may not qualify for any program. If this is the case, the can take part in the Prevention of Recidivism Program without being referred to further (specialized) treatment. Note that all government-funded correctional treatment programs in The Netherlands are only implemented after being accredited by the *Judicial Behavioral Intervention Accreditation Committee*, installed by the Dutch Ministry of Justice and Safety in 2005.[2] This committee (modeled after the British accreditation panel; see Maguire, Grubin, Losel & Raynor, 2010), assesses the potential effectiveness of behavioral interventions based on criteria derived from the RNR-model and *What Works* literature.

Participation in the Prevention of Recidivism Program is voluntary. However, detainees who participate in the program are eligible for placement in prison facilities with a lower security level where they are granted more freedom and are entitled to go on leave. They also qualify for phased re-entry, which means they are gradually granted more freedom until the moment of (early) release. Detainees are required to spend a minimum of one-third of their prison sentence in a fully guarded facility; the remainder of their sentence can be served in a facility with a lower security level (Dutch Prison Service & Dutch Probation Organizations, 2007; Van der Linden, 2004). Detainees who decline participation will have to spend the remainder of their detention period in a fully guarded facility where they are not allowed furlough and are not entitled to phased re-entry (Dutch Prison Service & Dutch Probation Organizations, 2007).

Each year, around five thousand Dutch inmates are eligible for participation in the program (Bosma, Kunst & Nieuwbeerta, 2013). As shown in chapter 4, in which treatment participation in the Prevention of Recidivism Program was studied, non-participation rates were shown to be around forty percent. Program-completion was however not studied.

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2 Note that the *Judicial Behavioral Intervention Accreditation Committee* was replaced by the *accreditation committee interventions* in 2015 (Parliamentary Papers, 2014/15).

Prison-based treatment (non-)completion

Program non-completion is a major problem in correctional rehabilitation practices (see e.g. Brocato & Wagner, 2008; Hollin et al., 2002; McMurran & Theodosi, 2007; Nielsen & Scarpitti, 2002; Wormith & Olver, 2002). In a recent meta-analysis on offender treatment attrition, dropout rates between 27.1 percent (general offender programs) and 37.8 percent (specific offender programs) were documented (Olver, Stockdale & Wormith, 2011).

Treatment non-completion in correctional programs is of great concern for several reasons. First, an offender's risk of recidivism cannot be adequately targeted if detainees fail to complete treatment programs aimed at helping them desist from future criminal behavior. Second, if participants dropout halfway through the program, expensive treatment places will be wasted. This is particularly problematic if other potential participants remain untreated because they could not enter the program due to a limited number of places and/or funding (Polaschek, 2010). Third, previous studies suggest that offenders who do not complete treatment programs are often the ones most in need of correctional treatment (Nunes & Cortoni, 2006a; Polaschek, 2010; Wormith & Olver, 2002). Moreover, reoffending rates appear to be higher for offenders who do not complete treatment than for those who do not enter treatment at all, even despite similarity in criminal propensity (McMurran & Theodosi, 2007). And fourth and final, the selectivity of non-completion forms a problem for assessing the effectiveness of rehabilitation programs. When selective non-completion is not adequately taken into account, effectiveness of treatment programs may be overestimated in effect studies. Knowledge on determinants of treatment completion is therefore important when assessing a treatment program's effectiveness (see also Nunes & Cortoni, 2006a; Polaschek, 2010; Wormith & Olver, 2002).

Since non-completion rates in correctional programs appear to be substantial and are possibly selective, and because completion of prison-based rehabilitation treatment programs is of great societal importance, this study focused on studying the determinants of treatment (non-) completion in the Dutch Prevention of Recidivism Program.

6.2 Theoretical framework

Taking part in a correctional treatment program means an offender has to attend sessions, obey imposed rules and restrictions, disclose personal thoughts and feelings, and finally alter their problem behavior. This requires a certain amount of *motivation* from the offender (Drieschner & Verschuur, 2010). Literature suggests that successful engagement in correctional rehabilitation programs may be best explained by focusing on an offender's willingness (or motivation), and suitability to participate in treatment (see e.g. Howells & Day, 2003; Ward, Day, Howells & Birgden, 2004; Williamson, Day & Howells, 2003), i.e. *treatment readiness*. Additionally, studies suggest that predictors of treatment non-completion may be similar to factors that are

believed to predict recidivism (Chamberlain, 2012; Polaschek, 2010; Olver, Stockdale & Wormith, 2011; Wormith & Olver, 2002), i.e. *risk factors*, such as social achievement and family factors (Gendreau, Little & Goggin, 1996). The relationship between treatment readiness and treatment completion and risk factors and treatment completion will now be further elaborated on.

Treatment readiness

As abovementioned, at present, leading scholars suggest that treatment readiness is related to program completion. The supposed relation between treatment readiness and treatment (non-)completion has been theorized in various ways. Because of the alleged significance of the concept, and the fact that the concept of treatment readiness is not the same as some of the more common approaches to treatment engagement, such as readiness to change, or motivation, and we therefore enter somewhat uncharted territory, we consider it to be vital to first go over some of the more traditional approaches.

The dominant theoretical approach to understanding readiness to change (Povey et al., 1999; Zemore & Ajzen, 1014) is perhaps the Transtheoretical Stages of Change model (Prochaska & DiClemente, 1984); a model that has been widely applied in the field of various health-related and addictive behaviors such as smoking, eating disorders, drug and alcohol abuse, mental health and also offender rehabilitation (Casey, Day & Howells, 2005). The Stages of Change model asserts that change does not occur abruptly but is a process that is characterized by a prescribed pattern of events. It describes behavioral change as a five-stage model; pre-contemplation (unawareness of a problem and the need to change), contemplation (weighting the pros and cons for change), preparation (when the pros outweigh the cons), action (in which efforts are made to change behavior) and maintenance (relapse prevention, see Marlatt & Gordon, 1985). Each stage must be attained in order to move on to the next (for further reading regarding the five stage model (see e.g. Levy, 1997; Prochaska & DiClemente, 1984; Tucker, Donovan & Marlatt, 1999). In line with the model, treatment non-completion may occur when offenders who took part in treatment, did not yet attain the action stage; the stage of change needed to be engaged in treatment.

Some major concerns have however been emphasized concerning the Stages of Change model. First, it is questioned whether or not decision making and motivational processes occur in a series of identifiable stages of change (e.g. Bandura, 1997; Kraft, Sutton & Reynolds, 1999; Littell & Girvin, 2002; Sutton, 2001). Second, the suitability of the model for the use in offender rehabilitation practices has been debated. This is especially relevant in custodial settings, where treatment may not be voluntary and can influence sentencing, parole and/or early release decisions (Casey, Day & Howells, 2005). Several models were therefore proposed that overcome such concerns, such as the theory of Planned Behavior (Ajzen, 1988; 1991), and Multifactor Offender Readiness Model (Ward, Day, Howells & Birgden, 2004).

Existing evidence has shown the value of the Theory of Planned Behavior (Ajzen, 1988; 1991) in modeling treatment completion. In short; humans plan to engage in an action (in this case a treatment program), in which they can follow through, or not follow through. In social and health psychology this function of human behavior is often explained by referring to the Theory of Planned Behavior, which asserts that the decision to engage in any type of behavior is determined by the *intention* to engage in behavior. This intention is in turn determined by three factors; the attitude towards performing that behavior, the perceived social pressure to perform or not perform that behavior (the subjective norm), and the degree of perceived behavioral control. If a person has a positive attitude towards behavior, feels that others have positive attitudes towards that behavior (and cares about what others think), and perceives the task at hand as achievable, the likelihood of that behavior occurring is believed to increase. The Theory of Planned Behavior has been successfully applied to a wide range of (health related) behaviors, such as engagement in exercise programs (see Hagger, Chatzisarantis & Biddle, 2002), medication regimes (see Conner, Black & Stratton, 1998), and substance abuse treatment (see Zemore & Kaskutas, 2009).

The theory of planned behavior essentially asserts that behavior achievement is a function of one's *intention* (or motivation, produced by the attitude towards behavior and perceived social pressure), and one's *ability* to persist in behavior (reflected by the perceived behavior control; Ajzen, 1985). A similar reasoning is captured in the *Multifactor Offender Readiness Model* [MORM] (Ward et al, 2004). According to the MORM, behavioral change can occur when an offender is treatment ready (Casey, Day, & Howells, 2005; McMurran & Ward, 2010; Ward et al, 2004); which can be described as "the presence of characteristics within the client and/or therapeutic situation which is likely to endorse therapeutic engagement and, therefore, behavioral change" (Howells & Day, 2003). Offenders are ready for treatment if they are motivated, are able to respond to treatment, find treatment meaningful and have the capacities to successfully enter the program (Howells & Day, 2002; 2003; McMurran & Ward, 2010; Ward et al., 2004). According to the MORM, an offender's treatment readiness is determined by a number of internal (personal) characteristics (such as believes, emotions and experiences, goals, skills and capacities) and external (contextual) factors (such as treatment characteristics, staff characteristics and support from family and friends), which if present allow offenders to effectively participate in and benefit from correctional treatment programs (Ward et al., 2004). These internal and external factors are believed to determine whether an offender will engage in and consequently benefit from correctional treatment programs (McMurran & Ward, 2010; Ward et al., 2004).

The aforementioned models all, though perhaps in a different manner, explain the mechanisms through which motivation relates to (correctional) treatment completion. Based on the above described theoretical models it can therefore be hypothesized that offenders with less treatment readiness will be less likely complete treatment programs that aim to help them desist from criminal behavior.

Risk factors

In addition to treatment readiness, it has been proposed that non-completion may be determined by *risk factors* (Chamberlain, 2012; Polaschek, 2010; Olver, Stockdale & Wormith, 2011; Wormith & Olver, 2002). This can be explained by the General Personality and Cognitive Social Learning Perspective of Criminal Behavior (Andrews & Bonta, 2006), a model often used to ground the previously mentioned RNR-model (Andrews, Bonta & Hoge, 1990). According to this theory, criminal behavior is learned within a social context, through multifaceted interactions between personality-; cognitive-; emotional-; and biological factors, and is governed by the expected and actual costs and rewards of criminal behavior. These costs and rewards can be delivered by others (partners, family members, friends, colleagues), can stem from within (such as happiness or shame), or can be provided by the (criminal) behavior itself (an adrenaline rush when committing an armed robbery; see Andrews & Bonta, 1998; 2006; Bonta, 2002; Bonta & Andrews, 2007). Behavior for which a reward is expected is likely to occur, while behavior that is not expected to be rewarded (or is expected to be punished), is not likely to occur. The model suggests that risk factors are characteristics and circumstances of people that influence the likelihood that pro-social and/or antisocial behavior are rewarded (Andrews, Bonta & Wormith, 2011). To exemplify this; if a person is involved in an antisocial peer-group, criminal behavior is likely to be rewarded. In accordance with the General Personality and Cognitive Social Learning Perspective of Criminal Behavior, a correctional treatment program should be directed at reducing or removing these risk factors. The described mechanism, clarifying how risk factors influence (future) criminal behavior may however also be marshalled to explain how a similar cost- and benefit analyses influences an offenders decision to continue to take part in treatment programs that aim to help them desist from future criminal behavior (Wormith & Olver, 2002). To exemplify this; an offender who was allocated to substance abuse treatment, may – influenced by risk factors such as addiction, unemployment, and financial debt – not see the benefits of successfully finishing a treatment program aimed at coping with addictive behavior, but instead will anticipate numerous difficulties and perhaps even failure. Consequently, based on the General Personality and Cognitive Social Learning Perspective of Criminal Behavior, it is expected that offenders with a more severe risk and need assessment outcomes, will be less likely to complete treatment aimed at helping them desist from criminal behavior.

6.3 Previous research

A recent systematic review of the literature suggests that 25 studies have investigated determinants of treatment completion in prison-based treatment programs in the past decades (1990 – 2010; Olver, Stockdale & Wormith, 2011). These studies confirm that offenders with less treatment

readiness are less likely to complete correctional programs performed within the walls of prison (Nunes & Cortoni, 2006a; Nunes & Cortoni, 2006b; Ogloff, Wong & Greenwood, 1990; Pelissier, 2007; Wormith & Olver, 2002).

Additionally, previous work additionally suggests that risk factors for reoffending are related to treatment engagement. For example, it has been shown that offenders with a higher overall risk for reoffending are less likely to complete correctional treatment programs (Berman, 2005; Nunes & Cortoni, 2006a; Nunes & Cortoni, 2006b; Nunes & Cortoni, 2008; Olver & Wong, 2009; Wormith & Olver, 2002). Similarly, having more (severe) criminogenic risk factors decreases one's chances of completing a correctional treatment program (Nunes & Cortoni, 2006b; Olver & Wong, 2009; Walters, 2004). In more detail; it has been shown that offenders with more extensive criminal histories and more severe current offences (i.e. offences for which they are detained) are less likely to complete correctional treatment programs (Berman, 2005; Geer, Becker, Gray & Krauss, 2001; McGrath, Cumming, Livingston & Hoke, 2003; Moore, Bergman & Knox, 1999; Nunes & Cortoni, 2008; Seager, Jellicoe & Dhaliwal, 2004). To exemplify this, a study conducted by Geer and others (2001), examining factors that increase the likelihood that sex-offenders complete a correctional sex-offender treatment program, showed that the number of previous incarcerations lowered the odds of completing the treatment program by almost thirty percent (Geer et al., 2001). Factors relating to offenders' work history and education level have also been found to impact upon engagement in correctional treatment programs (Geer, et al., 2001; Olver & Wong, 2009; Pelissier, 2007; Seto & Barbaree, 1999; Shaw, Herkov & Greer, 1995; Wormith & Olver, 2002). For example, a study by Palissier (2007) showed that the number of educational years was associated with treatment retention (Palissier, 2007). The influence of social risk factors has also been addressed in earlier studies. Among other things, previous research has pointed out that single marital status and substance abuse was associated with lower completion rates (Moore, Bergman & Knox, 1999; Olver & Wong, 2009; Shaw, Herkov & Greer, 1995). Finally, more (severe) psychological risk factors have also been linked to lower completion rates (McMurran, Huband & Duggan, 2008; Moore, Bergman & Knox, 1999; Nunes & Cortoni, 2006b; Ogloff, Wong & Greenwood, 1990; Olver & Wong, 2009; Polaschek, 2010; Shine, 2001). This can be illustrated by referring to a study conducted by McMurran, Huband and Duggan (2008), which examined indicators of treatment completion amongst detained offenders. The authors found that more rational and less impulsive offenders were more likely to complete their treatment programs (McMurran, Huband & Duggan, 2008).

Despite the fact that the number of studies that examined determinants of prison-based treatment completion is considerable, the vast majority of available studies suffer from various limitations. In particular, many of them were not theory driven, studied relatively small numbers of respondents, focused on specific types of offender (e.g. sex-offenders or batterers), and used sub-optimal analytical strategies (i.e. predominantly univariate instead

of multivariate analyses). The current study aims to address several of these shortcomings. Additionally, all studies were conducted in Northern American samples. To assess if the results of these studies also hold true in different legal and social circumstances, replication is needed.

6.4 The current study

Given the aforementioned, the purpose of the current study was to examine treatment completion among correctional rehabilitation program candidates in The Netherlands. Three research questions were addressed: (1) how many offenders completed the Prevention of Recidivism Program? (2) What were their characteristics? And (3) which factors determined program completion? Based on theoretical and empirical considerations, it was expected that offenders with less treatment readiness would be less likely to complete prison-based treatment programs. Additionally it was expected that offenders with more (severe) risk factors would be less likely to complete prison-based treatment programs. To answer the research question proposed, data were used from the Prison Project: a unique longitudinal research project about the consequences of incarceration in The Netherlands that included a population-based research sample.

6.5 Methods

Sample and Procedure

To address the proposed research questions, data were analyzed from a sample of 541 male offenders who were candidate for the Prevention of Recidivism Program in The Netherlands and were included in the population-based research sample of the Prison Project. Participants in the Prison Project included the total inflow of male detainees who had entered the Dutch penitentiary system between October 2010 and March 2011, were between the age of 18 and 65 and who were born in The Netherlands (Dirkzwager et al., 2016). The use of a research sample of detainees who entered prison in pre-trial detention is favorable, because previous research suggests that incarceration times for offenders who have entered prison in pre-trial detention are longer compared to offenders who enter prison on other legal grounds (Linckens & de Looff, 2015). Considering the relatively short prison sentences imposed in The Netherlands (Kalidien & Zuiderwijk van Eijk, 2010; Linckens & De Looff, 2015), and the length of stay criteria set for entry in the Prevention of Recidivism Program, offenders who entered detention on other grounds than pre-trial detention are less likely to qualify for program entry (and would consequently not represent an optimal research population). Because some offenders were sentenced to fairly long prison sentences, they had not yet left prison at the time of data collection. These offenders were still taking part in treatment, and could therefore still complete, or drop out of treat-

ment in the future. Therefore, these offenders (n = 33) were removed from the current study's research sample, which leaves a final research sample of 508 offenders.

Several sources of information on the persons included in the sample were gathered to answer the research question proposed. The *Dutch Custodial Institutions Agency* provided registration data on all persons in the sample, including data on background characteristics (Prison Registration System) and in depth information regarding rehabilitation trajectories (Prevention of Recidivism Registration System). Finally, risk assessment data on the offenders included in the sample were made available by the *Dutch Probation Service*. This database contained risk assessment data on 480 (94.5%) of the total sample of 508 offenders.

Dependent variable: program completion

The dependent variable included in the current study was program completion (1 = yes; 0 = no). To determine program completion, the *Prevention of Recidivism Registration System* was consulted. This administrative database is accessible and used in every prison in The Netherlands and provides exact information regarding the status of an offender's program participation. Information could therefore easily be retrieved. Additionally, the registration system also provides information regarding reasons for non-completion. Consequently, in line with Chapter 4, it could be examined if an offender had dropped-out of the program because of circumstances beyond his control (for example, if an offender was suddenly released, or if a prison was confronted with staff-shortages and therefore had to terminate programs), which in light of this study is referred to as *non-completion for organizational reasons*, or if an offender dropped-out of the program at his own request (for example, because of a lack of motivation), which is named *non-completion – own decision.*

Furthermore, the administrative database provides information on an offender's treatment program, and the specific criminogenic-need focused modules that an individual offender was referred to. As shown in the previous chapter, about half of our sample (n = 272, 50.3%) was not referred to a treatment module, while 126 offenders (23.4%) were referred to cognitive skill training, 61 offenders (11.3%) to lifestyle training, and 82 offenders (15.2%) to both cognitive skill and lifestyle training. Examination of the Prevention of Recidivism Registration System, however, learned that in some cases, treatment modules were not completed (or had not been started at all). And similar to non-completion in the overarching program, treatment modules were in some cases non-completed because of circumstances, such as a lack of treatment places or sudden termination of a prison sentence, or because an offender actually wanted to dropout because of a lack of motivation to engage and finish.

To make the above mentioned fully transparent, a cross table was created in which Prevention of Recidivism Program completion status and treatment module completion status were displayed (see Table A1 in Appendix A). As shown in Table A1, there are cases where the Prevention of Recidi-

vism Program was considered successfully completed, in which offenders did not complete the treatment module they were allocated to. For instance, 6 offenders did not complete cognitive skill training (own decision), but were considered successful program Prevention of Recidivism completers. This was also the case for offenders who did not complete cognitive skill training because of organizational circumstances (n = 32), they were still considered program completers by the registration system. Because the current study aims to assess which variables determine program completion, we believe that offenders that did not complete the program (for both organizational reasons and as a result of their own decision), or did not complete the most significant part of their Prevention of Recidivism Program (treatment modules that target their criminogenic needs, again for both organizational reasons and as a result of their own decision), should not be considered program completers. Therefore, based on both overall program status and treatment module status, a new program completion variable was created. Program completion status was considered leading, however, in cases were offenders did not complete the criminogenic need-specific treatment module they were referred to, program completion was recoded into program non-completion. Again, a distinction was made between offenders that did not complete their treatment module because of organizational circumstances and offenders that did not complete treatment as a result of their decision. Following these guidelines, a second cross table was created in which Prevention of Recidivism Program completion status and criminogenic need-specific treatment module status were displayed (see Table A2 in Appendix A). This shows a much more cohesive representation of program completion, in which offenders that were removed from either the overarching Prevention of Recidivism Program or the treatment module(s) incorporated in their re-integration plan were both considered program non-completers.

Independent variables

Treatment readiness and risk for reoffending were assessed by using scores on the Dutch-language Recidivism Assessment Scales (RISc). The RISc, modeled after the British Offender Assessment System (OASys; Howard, Clark & Garnham, 2003), is a standardized risk assessment instrument based on the RNR principles that consists of 12 scored subdivisions, each relating to a different risk domain: (1) offending history, (2) current offence and pattern of offences, (3) accommodation, (4) education; work; and training, (5) financial management and income, (6) relationships with partner and relatives, (7) relationships with friends and other acquaintances, (8) drug misuse, (9) alcohol misuse, (10) emotional well-being, (11) thinking and behavior, and (12) attitudes/orientation. Each RISc item is rated on a three-point scale (0 = *no problems*, 1 = *some problems*, and 2 = *significant problems*). The scores on the first two domains are combined into one score concerning past and current offences. The overall risk level and criminogenic needs scores are calculated by summing and weighting item scores within each section, with higher scores corresponding to higher risk and need levels (Adviesbureau

van Montfoort & Reclassering Nederland, 2004; Bosker, 2009; Van der Knaap, Leenarts, Born & Oosterveld, 2012). Research has shown that the intraclass-reliability, internal consistency and predictive validity of the RISc are adequate (Van der Knaap, Leenarts & Nijssen, 2007; Van der Knaap & Alberda, 2009). In this study treatment readiness was used, which was estimated by an experienced probation service worker who, by means of a personal interview, determines an offender's motivation to change, and his willingness to participate in treatment. Ready for treatment was coded as 1 and not ready for treatment was coded as 0. Weighted scores on the twelve risk domains were also included.

Covariates

Background characteristics included age, ethnic background (native vs. non-native) and current offence (violent, property, damage, drug-related and other). Age was calculated from the prison registration systems by date of birth and the date of their prison entry. Ethnicity was obtained from municipal data, and if missing was drawn from the risk assessment database (in line with Statistics Netherlands a person is defined as having a non-native background if at least one of his/her parents was born abroad). Additionally, the prison registration system was used to identify a detainee's current offence, which was coded as violent (violent offences) and non-violent (property, damage, drug related and other offences). Criminogenic need-specific treatment modules included in an offender's treatment plan can differ from one detainee to another. Therefore, using the registration system, a detainee's individual *treatment content* (criminogenic need-specific behavioral interventions) was also recorded and added as a control variable.

Statistical analyses

In order to study program completion, our sample of treatment participants was divided into three groups: (1) detainees who had completed treatment (program completion); (2) detainees did not complete treatment for organizational reasons (non-completion for organizational reasons); (3) detainees who did not complete treatment based on their own decision (non-completion – own decision). Next, bivariate descriptive analyses were used to describe the characteristics of the research population and to examine the relation between these characteristics and program completion. A multinomial logistic regression analysis was then conducted to determine if treatment readiness and risk factors served as predictors of program completion (program completion was coded as 1, n = 420), versus both types of program non-completion. Because of our modest sample size, and relatively large set of independent variables, a series of univariate multinomial logistic regression analyses was first performed to determine Wald and Odds Ratio statistics, after which, based on their p value, a selective set of independent variables were included in a multivariate model. As suggested by Hosmer and Lemeshow (2000), a cutoff point for entry in the multivariate models of p <.15 was used.

The independent variables that were included were covariates (background characteristics age, ethnicity and type of offence, and treatment content), treatment readiness, and risk scores (offending history, current offence and pattern of offences, accommodation, education, work, and training, financial management and income, relationships with partner, family, and relatives, relationships with friends and acquaintances, drug misuse, alcohol misuse, emotional well-being, thinking and behavior and attitudes and orientation).

Theoretically, expectations only focused at treatment non-completion. The fact that non-completion could be divided in offender instigated non-completion, and non-completion for organizational circumstances was not foreseen (and was also not anticipated on based on previous research conducted), but was a consequence of prison-based rehabilitation delivery in The Netherlands. Nonetheless, since we do not with certainty know that personal characteristics are unrelated to organizational non-completion (for example, because the prison service puts less effort in providing treatment for offenders who are less willing to take part, of who are considered particularly high risk, and consequently excludes these offenders based on organizational justifications) we decided to not only test our independent variables on offender who did not complete as a result of their own choice (i.e. the hypothesized relations), but also on offenders who did not complete for organizational reasons.

6.6 Results

Table 1 summarizes relevant sample characteristics for program completers (group 1), consisting of 369 persons (72.6%); program non-completers who did not finish because of organizational circumstances (group 2), consisting of 96 offenders (18.9%); and program non-completers who did not finish based on their own decision (group 3), consisting of 43 persons (8.5%),

With respect to treatment type allocated to, group differences were reported between program completers and both types of non-completers, as well as between non-completers due to organizational circumstances and offender instigated non-completers. In general, program-completers, compared to non-completers were more than half of all cases referred to a standard program with no criminogenic need-specific treatment modules (59.3%), compared to non-completers due to circumstances (14.6%) and non-completers due to dropout (37.2%). Both groups of non-completers were more often allocated to cognitive skill training (40.6%, 34.9%), or both cognitive skill- and lifestyle training (26.0%, 18.6%), compared to completers (19.0%, 11.4% respectively). Lastly, non-completers due to organizational circumstances were more often referred to lifestyle training (18.8%), compared to completers (10.3%), and non-completers that had dropped out (9.3%).

Table 1. Group characteristics program completers and program non-completers for organizational reasons and own decision (n=508)

	1. Program completion (*n*=369)	2. Program non-completion: organizational reasons (*n*=96)	2. Program non-completion: own decision (*n*=43)	Total (*N*=508)	
	M(SD)/%	*M(SD)*/%	*M(SD)*/%	*M(SD)*/%	Sig.
Age	29.6 (10.3)	30.5 (10.1)	27.4 (10.3)	29.6 (10.3)	n.s.
Ethnicity (native vs. non-native or unknown)	59.3	56.3	46.5	57.5	n.s.
Type of offence (violent vs. non-violent)	60.2	59.4	65.1	60.4	n.s.
Treatment type allocated to					*** 1/2 1/3 2/3
None	59.3	14.6	37.2	49.0	
Cognitive skill training	19.0	40.6	34.9	24.4	
Lifestyle training	10.3	18.8	9.3	11.8	
Cognitive skill and lifestyle training	11.4	26.0	18.6	14.8	
Treatment readiness (ready vs. not or unknown)	61.2	61.5	48.8	60.2	n.s.
Risk factors					
Offending history & current offence (0-50)	18.1 (13.0)	19.8 (11.7)	22.5 (11.7)	18.8 (12.7)	n.s.
Accommodation (0-12)	4.0 (4.2)	4.4 (4.4)	4.0 (3.8)	4.1 (4.2)	n.s.
Education, work & training (0-20)	9.0 (6.7)	10.0 (6.3)	11.1 (6.4)	9.4 (6.6)	n.s.
Financial management & income (0-12)	5.2 (3.9)	4.7 (3.6)	5.1 (3.5)	5.1 (3.8)	n.s.
Relationships with partner & relatives (0-6)	2.6 (1.7)	2.8 (1.9)	2.7 (1.4)	2.6 (1.7)	n.s.
Relationships with friends & acq. (0-15)	6.4 (4.4)	6.3 (4.1)	7.5 (4.5)	6.5 (4.3)	n.s.
Drug misuse (0-15)	5.6 (5.3)	6.0 (5.1)	6.7 (4.8)	5.8 (5.2)	n.s.
Alcohol misuse (0-5)	1.6 (1.9)	1.8 (1.9)	1.5 (1.8)	1.6 (1.9)	n.s.
Emotional well-being (0-6)	2.2 (1.7)	2.2 (1.7)	2.3 (1.3)	2.2 (1.7)	n.s.
Thinking & behavior (0-12)	7.6 (3.2)	8.6 (2.4)	9.3 (2.3)	7.9 (3.0)	*** 1/2 1/3
Attitudes & orientation (0-15)	6.1 (4.5)	7.0 (4.8)	8.6 (4.5)	6.5 (4.6)	** 1/3

Note: Behind significant levels it is demonstrated which groups differed. For example: 1/2 means post-hoc analysis showed there was a significant difference between group 1 and group 2.
* $p < .05$ ** $p < .01$ *** $p < .001$

As shown, group differences were reported with regards to the risk scales thinking and behavior, and attitudes and orientation. Also, the treatment modules completed differed between our treatment groups. Concerning the risk scale thinking and behavior, post-hoc analyses showed that program completers had reported lower scores (M=7.6), indicating less (severe) problems, compared to both groups of non-completes (M=8.6 and 9.3). With regards to the risk domain attitudes and orientation, results indicated that offenders who were grouped under offender-instigated dropout, reported more (severe) problems (M=8.6), compared to program completers (M=6.1). However, although group differences on two risk domains were reported, it must be mentioned that these are differences are relatively small. To exemplify this; concerning the scale attitudes and orientation (scores ranging from 0 to 15), results show that program completers have only slightly lower average scores (M=6.1) than offenders who dropped-out (M=8.6).

With respect to background characteristics and treatment readiness, no differences were reported between the three groups studied.

Table 2 shows the results from a series of univariate analysis of each variable that, based on theoretical and empirical considerations, was believed related to treatment completion. As mentioned, variables having a significant univariate test, as evidenced by a p value cutoff point of 0.15 (see Hosmer & Lemeshow, 2000), were included in the multivariate model explaining treatment completion. Based on the results presented in Table 2, ethnicity, treatment readiness, and the risk domains offending history and current offence, education, work and training, relationships with friends and acquaintances, thinking and behavior, attitudes and orientation, and treatment module referred to, were included in the multinomial logistic regression model explaining program completion.

Table 2. Bivariate Odds ratios independent variables on program completion

	Completion (ref; n=369) VS non-completion: organizational reasons (n=96)			Completion (ref; n=369) VS non-completion: own decision (n=43)			
	OR	CI	*p*	OR	CI	*p*	
Age	1.01	[0.99 – 1.03]	.450	0.98	[0.94 – 1.01]	.167	
Ethnicity	1.14	[0.72 – 1.79]	.583	1.68	[0.89 – 3.17]	.109	*
Type of offence	1.03	[0.65 – 1.63]	.888	0.81	[0.42 – 1.57]	.530	
Treatment type allocated to							
None	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	
Cognitive skill training	8.72	[4.47 – 16.99]	.000	2.93	[1.38 – 6.24]	.005	*
Lifestyle training	7.41	[3.40 – 16.14]	.000	1.44	[0.46 – 4.54]	.533	*
Cognitive skill and lifestyle training	9.31	[4.47 – 19.38]	.000	2.61	[1.05 – 6.48]	.039	*
Treatment readiness	0.99	[0.63 – 1.57]	.970	1.66	[0.88 – 3.12]	.119	*
Risk factors							
Offending history and current offence	1.01	[0.99 – 1.03]	.256	1.03	[1.00 – 1.05]	.033	*
Accommodation	1.03	[0.97 – 1.08]	.359	1.01	[0.93 – 1.09]	.897	
Education, work and training	1.02	[0.99 – 1.06]	.214	1.05	[1.00 – 1.10]	.060	*
Financial management and income	0.97	[0.91 – 1.03]	.342	1.00	[0.91 – 1.08]	.918	
Relationships with partner and relatives	1.09	[0.96 – 1.25]	.194	1.05	[0.87 – 1.26]	.643	
Relationships with friends and acq.	1.00	[0.95 – 1.05]	.928	1.07	[0.99 – 1.15]	.102	*
Drug misuse	1.01	[0.97 – 1.06]	.542	1.04	[0.98 – 1.11]	.213	
Alcohol misuse	1.07	[0.95 – 1.21]	.258	0.97	[0.82 – 1.16]	.746	
Emotional well-being	0.99	[0.86 – 1.13]	.833	1.02	[0.84 – 1.24]	.823	
Thinking and behavior	1.12	[1.03 – 1.22]	.007	1.27	[1.10 – 1.47]	.001	*
Attitudes and orientation	1.05	[0.99 – 1.10]	.087	1.13	[1.05 – 1.21]	.001	*

Note: if $p < .15$, the variable will be included in the multivariate model (*)

The results of a multinomial regression analysis, testing the influence of ethnicity, treatment readiness, five risk domains and treatment type referred to, which were assigned by a set of univariate analyses, on program completion, are presented in Table 3.

First, it was shown that the treatment type an offender was allocated to appear to have influenced treatment completion rates. Offenders that were referred to cognitive skill training were shown more likely to have not completed treatment due to organizational circumstances (OR=9.76), as well as non-completion caused by offender-instigated dropout (OR=2.42). Offenders who were referred to lifestyle training, and who were referred to cognitive skill and lifestyle training were also shown more likely to be among the group of program non-completers do to circumstances (OR=6.67, and OR=8.73), than among the group of program completers. This effect is perhaps somewhat self-evident; it is easier to complete a program without any

content, then to complete a program for which behavioral programs need to be attended.[3]

Table 3. Multinomial regression model on program completion

	Completion (ref; n=369) VS non-completion: organizational reasons (n=96)			Completion (ref; n=369) VS non-completion: own decision (n=43)		
	OR	CI	Sig.	OR	CI	Sig.
Ethnicity	1.05	[0.72 – 1.76]	n.s.	1.86	[0.94 – 3.69]	n.s.
Treatment type allocated to						
None	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
Cognitive skill training	9.76	[4.76 – 20.01]	***	2.42	[1.07 – 5.48]	*
Lifestyle training	6.67	[2.94 – 15.15]	***	1.15	[0.35 – 3.71]	n.s.
Cognitive skill and lifestyle training	8.73	[3.99 – 19.11]	***	2.09	[0.81 – 5.38]	n.s.
Treatment readiness	0.94	[0.54 – 1.65]	n.s.	1.36	[0.65- 2.85]	n.s.
Risk factors						
Offending history and current offence	1.00	[0.98 – 1.02]	n.s.	1.01	[0.98 – 1.04]	n.s.
Education, work and training	1.01	[0.97 – 1.06]	n.s.	0.99	[0.94 – 1.06]	n.s.
Relationships with friends and acquaintances	0.92	[0.86 – 1.00]	*	0.97	[0.88 – 1.06]	n.s.
Thinking and behavior	1.05	[0.92 – 1.21]	n.s.	1.16	[0.95 – 1.43]	n.s.
Attitudes and orientation	1.05	[0.97 – 1.14]	n.s.	1.07	[0.96 – 1.19]	n.s.

Note: Overall model Wald χ^2 (89.971, 14), p <.001, Cox and Snell R^2 = .171, Nagelkerke R^2 = .218.
* p <.05 ** p < .01 *** p < .001

Next, it appears that our independent variables included in the multivariate model explaining program completion, treatment readiness and risk factors, did not appear to be related to program completion. Only one variable showed significantly associated to completion: Program completion versus program non-completion due to circumstances was significantly related with the risk scale relationships with friends and acquaintances: Offenders that had reported higher scores on this risk assessment scale were less often among those that did not complete for organizational reasons, then among

3 Note that the fact that some offenders were classified as program non-completers because they did not complete the criminogenic need-specific program they were allocated to (while the Prevention of Recidivism Program registration system had classified them as program-completers, a procedure which was described extensively on page 135) could have potentially caused offenders assigned to a treatment module to have a higher odds of being among the group of program non-completers. To examine if this was the case, the conducted regression analysis was repeated using the original program completion-status. The results of this additional analysis were comparable to the one presented in Table 3, meaning that the results were not an artifact of our decision to re-classify some offenders as program non-completers.

offenders that completed treatment (OR=0.92). Though statistically significant, we do not consider this relationship relevant, since we cannot think of any logical mechanism that would explain a relationship between problems relating to having (and maintaining) healthy, pro-social relationships with ones friends and acquaintances, and the (externally forced) drop-out for organizational circumstances.

The variables included in the model explained little model pseudo-variation as evidenced by the Cox and Snell pseudo-R^2 of .171 and Nagelkerke pseudo-R^2 of .218. These results seem to indicate that risk factors and treatment readiness did not relate to treatment (non-) completion. Rather, treatment (non-) completion, appeared to be influenced by the type of treatment program that had to be carried out: if this program was standard, odds of program completion increased, while a non-standard program, in which treatment modules had to be carried out, increased the chances of not completing treatment.

6.7 Discussion

The purpose of the current study was to study program completion among participants in a prison-based rehabilitation program implemented nationwide in The Netherlands: the Prevention of Recidivism Program. Three research questions were addressed: (1) how many offenders completed the Prevention of Recidivism Program? (2) What were their characteristics? And (3) which factors determined program completion? To answer the research questions raised, population-based data were used from a large-scale, longitudinal research project, studying the effect of imprisonment on the life of detainees and their families in The Netherlands (the Prison Project).

Program completion

First, it was shown in this study that offender-instigated non-completion rates were limited, certainly when comparing these to non-completion rates found in previous studies (see Brocato & Wagner, 2008; Hollin et al., 2002; McMurran & Theodosi, 2007; Nielsen & Scarpitti, 2002; Wormith & Olver, 2002). However, non-completion due to various (organizational) circumstances was shown to be substantial. This type of non-completion is perhaps less favorable than offender-instigated dropout, because it is a waste of treatment potential among well-willing offenders in need of treatment. With respects to the characteristics of program completers and both groups of non-completers, it was concluded that groups were fairly comparable on most background variables. The three groups did however differ in the treatment type they were allocated to. Overall it was shown that offenders who completed treatment more often had been referred to a standard program, were those who did not complete for organizational reasons more often were allocated to some type of criminogenic need specific program.

In general it appeared that those were successful in completing, had less to do, in comparison to those who had been unsuccessful. Additionally, the groups differed on two risk assessment domains (thinking and behavior, and attitudes and orientation), in which program completers had reported s lower scores.

To study the factors that determined program completion, a theoretical model was proposed in which, based on theoretical and empirical considerations, treatment program completion was predicted by two (domains of) variables, namely *risk factors* and *treatment readiness*. Again, our independent variables may be unrelated to organizational non-completion, but since we cannot be sure, we tested the influence of our independent variables on both types of non-completion. Results have shown that treatment readiness did not, contrary to the hypothesis, prove to be related to program completion. Offenders who were ready for treatment did not show a higher likelihood of completing their program (versus either type of non-completion) compared to offenders who were not classified as treatment ready. Regarding risk factors, it was hypothesized that a higher score on risk domains would decrease chances of completing a correctional treatment program. Based on results, however, it has to be concluded that the current study does not provide evidence to support this statement. Only one risk domain correlated with treatment completion (relationships with friends and acquaintances), but we believed this relation to be random and irrelevant. There was one factor that did appear salient in predicting treatment completion: the type of treatment program an offender was referred to. Offenders that were referred to a program that contained criminogenic need-specific treatment modules were more often among those that did not complete treatment. This was especially the case in non-completion that was caused by organizational circumstances. In other words; if an offender had little to do (i.e. no criminogenic need-specific treatment module to attend) the likelihood of program completion increased, and vice versa.

In conclusion, the current study did not provide any evidence concerning the hypothesized relationship between treatment readiness and risk factors, and program completion. These findings are inconsistent with premises made based on the Multifactor Offender Readiness Model [MORM] (Ward et al., 2004), which indicate that treatment readiness is an important predictor correctional treatment program engagement. Outcomes were also inconsistent with result from previous studies, concluding that treatment readiness was related to treatment completion (Nunes & Cortoni, 2006a; Nunes & Cortoni, 2006b; Ogloff, Wong & Greenwood, 1990; Pelissier, 2007; Wormith & Olver, 2002). The results also did not provide any evidence concerning the relationship between an offenders risk assessment outcomes and program completion. This was not in line with expectations based on the General Personality and Cognitive Social Learning Perspective of Criminal Behavior (Andrews & Bonta, 2006), and neither with outcomes of previous studies, which found that risk factors were significantly correlated with program completion (see e.g. Olver, Stockdale & Wormith, 2011).

This suggests that our theoretical framework did not quite suit our data, which would indicate that treatment readiness and risk factors are not related to treatment completion. It could however also been caused by suboptimal research methods and/or data, such as a modest research sample, and (in some cases rather small) number of observations within groups, or an inadequate measure of treatment readiness (the clinical assessment of a probation worker, instead of a validated instrument). Although we tried to be as careful as possible in our analyses, for example by only including a limited number of variables in our multivariate model, we cannot be sure that this could not have influenced the lack in results found. Consequently, this study (being the first to study the determinants of treatment completion in a prison-based treatment program in The Netherlands) cannot with certainty state that treatment readiness and risk factors are unrelated to treatment completion in The Netherlands, meaning that future research is necessary to further examine our hypotheses postulated.

Additionally, based on this study, it was concluded that referrals to criminogenic need-specific treatment modules decreased chances of treatment completion. Although not tested (because data were lacking), perhaps non-completion among offenders with a more elaborate treatment program was caused by the difficulties that arise when treatment modules have to be carried out within the walls of prison. As was shown by a previous study conducted by the Inspectorate of Security and Justice (ISJ), the complex structure of the Prevention of Recidivism Program, and the criminogenic need-specific behavioral modules part of the program, were shown to cause great delays in individual program trajectories (ISJ, 2010). Although the Inspectorate of Security and Justice merely concluded that Prevention of Recidivism Program-trajectories were hampered, and in many cases, delayed by execution problems, it could perhaps also be an explanation for (organizational) program non-completion, as shown in the current study. Higher non-completion rates among offenders who were allocated to a broader treatment program are problematic, because the mere fact that offenders are referred to such programs, indicate their need for treatment. If offenders considered in greater need for treatment, compared to offenders who were assigned a standard program, are more likely to not complete their program, questions could be raised concerning the impact of non-completion on post-release re-offending among this specific group of offenders.

Limitations

Although the current study certainly contributes to the field of rehabilitation program completion in a prison-based setting; a research area in which studies are sparse, especially compared to studies conducted in a community context. There are some limitations that may have slightly hampered the current studies results.

First of all, although the current study set off with a population-based research sample of 3.981 offenders, due to program non-candidacy (elaborated on in Chapter 3) and non-participation (discussed in Chapter 4), the

current study ended up with a group of program participants that consisted of 541 offenders. Because this study revealed there were two types of non-completion, and because some offenders were removed from the sample because they were serving relatively long prison sentences and were still incarcerated at the moment of data-collection, the treatment groups studied in this chapter were rather small. This is especially true for the non-completers drop-out group, which only consisted of 43 prisoners. On a similar note, potentially caused by the Prevention of Recidivism Program's main inclusion criteria of a prison sentence of at least four months, the (already small) group of program participants also represented a somewhat homogeneous group of high-risk offenders. Both factors may have biased the current study's findings. Second, although out initial sample was large, it only included male detainees who were born in The Netherlands and were put in pre-trial detention, which indicates that the findings cannot be generalized to, for example detainees from other geographic locations, making replication of this study required.

Third, this study used data that were not specifically collected for research purposes. Using registration data has advantages, since a broad range of data was available on a large offender population, without respondents actually having to engage in a study (with the option of selective non-response). There are however also pitfalls, as some of the measures included were somewhat inadequate, such as treatment readiness, which was assessed by the clinical judgment of a trained probation officer. A previous study indicated that treatment readiness measured by a validated instrument was shown a better predictor of treatment engagement, than a measure clinically assessed by a trained probation worker (see Bosma, Kunst, Dirkzwager & Nieuwbeerta, 2015). Future studies should therefore use a validated instrument to measure treatment readiness. Lastly, a future study may want to include several contextual factors in the model. Some researchers consider contextual factors a better predictor of treatment engagement than personal characteristics (e.g. Broome, Knight, Hiller & Simpson, 1996). Therefore, in future research, it would be an improvement if background information regarding treatment context was added to study if this related to treatment completion.

Conclusion

Despite these limitations, we consider the results of this study important for correctional rehabilitation practices. Perhaps this study was not able to provide a definite answer to the question whether treatment readiness and risk factors are associated with treatment completion, it did point to two important factors: First, in literature, a distinction is usually made between program completion and program non-completion. Because of a richness of data used in this study, it was uncovered that most offender non-completion in a prison-based rehabilitation program was not caused by offender-instigated dropout, but was rather a result of a subset of organizational and circumstantial factors. This is a serious matter that should be taken into

account in future studies. And second, treatment non-completion (especially the type of non-completion that was caused by organizational circumstances) was greatest among offenders who were referred to a program that included criminogenic need-specific treatment modules. This is problematic, and should certainly be addressed.

Appendix A: Tables

Table A1. Crosstab Prevention of Recidivism Program completion status versus treatment module completion status

		Prevention of Recidivism Program				
		Completion	Non-completion organizational reasons	Non-completion own decision	*Still Incarcerated*	Total
Standard program		219	14	16	23	272
Cognitive skill training	Completion	70	4	3	1	78
	Organizational reasons	32	3	5	-	40
	Own decision	6	-	1	-	7
	Yet to be implemented	-	-	-	1	1
	Total					126
Lifestyle training	Completion	38	2	-	-	40
	Organizational reasons	16	-	1	-	17
	Own decision	3	-	-	-	3
	Yet to be implemented	-	-	-	1	1
	Total					**61**
Both	Completion: both	22	3	2	2	29
	Completion: cognitive skill training; non-completion: lifestyle training	10	3	-	-	13
	Completion: lifestyle training; non-completion: cognitive skill training	10	-	1	-	11
	Non-completion: both, for organizational reasons	19	-	4	-	23
	Non-completion: both, own decision	-	1	-	-	1
	Yet to be implemented	-	-	-	5	5
	Total					**82**
Total		**445**	**30**	**33**	**33**	**541**

Table A2. Crosstab Prevention of Recidivism Program completion status versus treatment module completion status revised

		Prevention of Recidivism Program				
		Completion	Non-completion organizational reasons	Non-completion own decision	*Still Incarcerated*	Total
Standard program		219	14	16	23	272
Cognitive skill training	Completion	70	4	3	1	78
	Organizational reasons	-	35	5	-	40
	Own decision	-	-	7	-	7
	Yet to be implemented	-	-	-	1	1
	Total					**126**
Lifestyle training	Completion	38	2	-	-	40
	Organizational reasons	-	16	1	-	17
	Own decision	-	-	3	-	3
	Yet to be implemented	-	-	-	1	1
	Total					**61**
Both	Completion: both	22	3	2	2	29
	Completion: cognitive skill training; non-completion: lifestyle training	10	3	-	-	13
	Completion: lifestyle training; non-completion: cognitive skill training	10	-	1	-	11
	Non-completion: both, for organizational reasons	-	19	4	-	23
	Non-completion: both, own decision	-	-	1	-	1
	Yet to be implemented	-	-	-	5	5
	Total					**82**
Total		**369**	**96**	**43**	**33**	**541***

* Note that, based on this column, offenders who took part in the program were divided in six groups: offenders who completed a standard program (n=219); offenders who completed a standard program plus cognitive skill training (n=80); offenders who completed a standard program plus lifestyle training (n=48); offenders who completed a standard program plus cognitive skill training and lifestyle training (n=22); offenders who did not complete the program for organizational reasons (n=96); and offenders who did not complete the program – own decision (n=43). These groups are also represented in Chapter 7, Figure 1, on page 184.

7 Recidivism after a prison-based treatment program

7.1 Introduction

In the course of the last few decades, the correctional climate has changed dramatically in many Western countries (Lynch & Sabol, 1992; 2000). The decline of the rehabilitative ideal (Allen, 1981), starting in the 1970s, has led to a major increase in prison populations worldwide; some scholars even speak of *mass-incarceration* (Garland, 2001). This is evidenced by both growing inmate populations, and increases in length of confinement (Sutton, 2004; Tonry, 2007; Western, 2006). The substantial growth in imprisonment rates has resulted in a large number of ex-inmates returning to communities, often doing so under far from optimal life circumstances, facing physical, psychological and economic difficulties (Bushway, 2006; Dirkzwager, Nieuwbeerta & Fiselier, 2009; Geller & Curtis, 2011; Hagan & Dinovitzer, 1999; Lynch & Sabol, 1992; 2001; Petersilia, 2000; Rose & Clear, 1998; Travis, Solomon & Waul, 2001).

Studies that have explored post-release re-offending rates among ex-detainees have indicated that prisons fail to turn offenders away from future criminal behavior. Re-offending rates among ex-detainees are high, both in the United States and Europe. In the U.S. and U.K, research has shown that well over sixty percent of ex-prisoners are re-arrested within two to three years after release (Hughes & Wilson, 2002; Langan & Levin, 2002; SEU, 2002). In The Netherlands, studies have shown that over seventy percent of released prisoners were reconvicted within six years after having left a Dutch penitentiary institution. Almost fifty percent of them were re-sentenced to prison in that same period of time (Wartna et al., 2010).

For a long time, the general belief was that correctional treatment did not help to reduce re-offending among ex-detainees (Lipton, Martinson & Wilks, 1975; Martinson, 1974). However, with the introduction of meta-analytic methods during the 1980s and 1990s, factors were identified that were associated with a decrease in recidivism. This shifted criminal justice thinking from *nothing* works to *what* works (Andrews, 1995; Andrews & Bonta, 1994; Andrews et al., 1990; Gendreau, 1996; Gendreau, Little & Goggin, 1996; Lipsey & Wilson, 1993; MacKenzie, 2000; 2006). Within this context, several Western – initially particularly Anglo-American – countries started to focus on reducing post-release re-offending rates by better preparing detainees for re-entry into society. Consequently, prison-based rehabilitation programs aimed at lowering chances of future criminal behavior and improving the life-circumstances of ex-detainees have been developed and implemented

throughout the Western World (Bonta & Andrews, 2007; Hannah-Moffat, 2005; Jolley & Kerbs, 2010; McSweeney, Turnbull & Hough, 2008). In The Netherlands, this has led to the nation-wide implementation of an integration approach to prison-based rehabilitation: The Prevention of Recidivism Program (Van der Linden, 2004).

Correctional rehabilitation efforts can and should be, just as medical interventions, evidence based (Latessa et al., 2002). In the last decades, a large number of empirical studies have focused on examining factors that influence the effectiveness of correctional programs. This has resulted in a framework that has been the basis of many (prison-based) correctional rehabilitation programs. A lot is still unknown however about the effectiveness of prison-based rehabilitation programs (Latessa, Cullen & Gendreau, 2002; Latessa, 2004). While it is vital that we know which factors have influenced the effectiveness of correctional programs in past empirical studies, to help further the field of correctional rehabilitation research and practice, it is important that we continue to empirically evaluate rehabilitation programs in various populations in different geographic regions – especially since most research has been conducted in Canada, the US and UK – and that we advance our understanding of the mechanisms through which effective interventions work (Lipsey & Cullen, 2007; Pawson & Tilly, 1997; 1998). The current study therefore aims to assess to what extent the national Dutch Prevention of Recidivism Program is effective in reducing six-month post-release re-offending rates among ex-detainees. To date, no such study has been conducted.

7.2 Correctional rehabilitation in The Netherlands

As mentioned, prison-based treatment efforts in The Netherlands are embedded within a national *Prevention of Recidivism Program*. This is an intramural rehabilitation program, implemented in 2007, meant for detainees with a prison sentence of at least four months (i.e. remaining after being sentenced by a judge).[1] The Prevention of Recidivism Program aims to lower re-offending rates amongst participants by offering the offender a chance to follow an individualized treatment program that addresses the specific criminogenic needs of the individual offender (Dutch Prison Service & Dutch Probation Organizations, 2007). Participation in this program is voluntary. However, detainees who decide not to take part are not gradually placed in prison facilities with a lower security level (where they can be granted more freedom) and have no ability to go on leave. They are also not

1 Note that the program was replaced by a new policy measure that was implemented in March 2014, which uses the same risk/need based approach, but in which offenders can only take part of they have earned the right to engage, by expressing their willingness to change their criminal ways, and by showing pro-social behavior for a minimum of 6-weeks straight.

eligible to spend up to one third of their sentence at home, under supervision of the Dutch Probation Organization. So there is a strong incentive to participate.

Each year, around five thousand Dutch inmates meet the length-of-sentence criterion and are therefore eligible for participation in the program. This amounts to eleven percent of the total inflow of detainees in Dutch correctional institutions (Bosma, Kunst & Nieuwbeerta, 2013). A computerized registration system automatically selects offenders after their sentence has been imposed based on their remaining prison sentence (> 4 months) and objective criteria (certain groups of detainees are excluded, such as offenders who are sentenced to prison for life, offenders who were placed in psychiatric facilities or penitentiary hospitals and illegal aliens). If an offender qualifies for program entry, subjective criteria (motivation and sufficient Dutch language skills) are verified and the offender is officially asked to participate in the program. If an offender decides to participate, a risk assessment instrument is administered. This instrument is based on and highly comparable to the British Offender Assessment System (OASys) (Howard, Clark & Garnham, 2003). With this instrument an offender's risk for recidivism is determined, and criminogenic needs are assessed concerning twelve specific subdomains: (1) offending history; (2) current offence and pattern of offences; (3) accommodation; (4) education; work; and training; (5) financial management and income; (6) relationships with partner and relatives; (7) relationships with friends and other acquaintances; (8) drug misuse; (9) alcohol misuse; (10) emotional well-being; (11) thinking and behavior and (12) attitudes/orientation (Adviesbureau van Montfoort & Reclassering Nederland, 2004). Based on an offender's risk for recidivism, and criminogenic needs, a customized rehabilitation program is formed, discussed with the offenders, and finally executed.

This individualized rehabilitation program can, if indicated by risk and need scores, contain specific treatment programs. In Dutch corrections, behavioral interventions can only be applied after being accredited by the "Ministry of Justice Accreditation Committee for Behavioral Interventions".[2] This committee (modeled after the British accreditation panel; see Maguire, Grubin, Losel & Raynor, 2010) was set up in 2005 and assesses the potential effectiveness of behavioral interventions (Boone, 2011). At the moment, the two main types of prison-based behavioral interventions that have been accredited and are applied within the scope of the Prevention of Recidivism Program are *Cognitive Skills Training*, and *Lifestyle Training*.

Cognitive Skills training is a Dutch version of Enhanced Thinking Skills (ETS) program (Clark, 2000); a program that was developed for offenders who experience difficulties with the cognitive skills that are necessary to independently function in life, and aims to improve cognitive skills that are necessary in order to independently live, develop and function in society,

2 Note that the *Judicial Behavioral Intervention Accreditation Committee* was replaced by the *accreditation committee interventions* in 2015 (Parliamentary Papers, 2014/15).

by focusing on four key-objectives: impulse-control, perspective taking, problem solving and moral insight. Cognitive skill training is offered as a standard version and a plus version, which was designed for offenders with limited mental capacities. The standard version consists of 22 group sessions for 10 to 12 participants. The plus version consists of 32 group meetings. The course was designed to target offenders with (at least) a moderate to high recidivism risk, evidenced by a risk assessment score of at least 32; who have shown impaired cognitive skills (evidenced by a weighted score on the RISc-scale thinking and behavior of at least 4); and who were not excluded based on additional grounds, which are: not being able to function in a group because of severe psychiatric problems (evidenced by a score of at least 2 on the RISc-item 10.2 or 10.4); great difficulties in family functioning (evidenced by a score of 2 on item 6.3); and severe drug- and or alcohol-misuse (evidenced by a score of 2 on scale 8.2 and or 9.2; Ministry of Justice, 2007).

Lifestyle Training is an addiction treatment program designed to help offenders cope with alcohol-, drug- and/or gambling addiction(s). The training relies on a cognitive behavioral approach, and focuses on motivation, self-control and relapse prevention. There are two versions, a regular version that consists of 15 sessions, and a longer version meant for offenders with more severe addiction problems, consisting of 21 group-meetings. The training aims to target offenders with drug-, alcohol- and or gambling-abuse problems (evidenced by a score on the RISc-scales drug misuse of at least 3, and/or alcohol misuse of at least 2, and or financial management and income of at least 5, combined with a score of 2 on item 5.4); not excluded on additional grounds, which are a negative attitude towards the sanction imposed (evidenced by a score of 2 on the item 12.2); severe psychiatric problems (evidenced by a score of 2 on the scale 10.2); and being able to function in group-treatment (evidenced by a score of 2 on the scale 11.3; SVG Verslavingsreclassering, 2009).

Other accredited and available trainings are Job Skill training, meant to help offenders with getting or maintaining a job and Aggression Replacement Training, to help offenders cope with violence and anger problems. However, research has shown that these types of training are applied sparsely, combined only taking up about seven percent of the total number of executed treatment programs in The Netherlands (Bosma, Kunst & Nieuwbeerta, 2013). Depending on risk and need scores, some offenders may not qualify for any of these treatment programs. If this is the case, they can participate in the Prevention of Recidivism Program without allocation to any treatment-module.

7.3 Theoretical framework

Rehabilitation theories start from the premise that the purpose (or at least one of the purposes) of punishment is rehabilitation, turning law-breaking citizens into law-abiding ones, as opposed to retribution, incapacitation, or

deterrence, which is primarily characterized by getting even with an offender, removing an offender from society to prevent further criminal behavior, or the use of imprisonment to discourage offenders from committing further crimes. The rehabilitative viewpoint is reinforced by a massive amount of empirical studies that suggest that treatment programs can be an effective instrument to help decrease recidivism, if they are directed at factors that are the cause of re-offending behavior (see e.g. Andrews, 1995; Andrews & Bonta, 1994; Andrews et al., 1990; Cullen & Gendreau, 2001; Day & Howells, 2002; Gendreau, 1996; Gendreau, Little & Goggin, 1996; Lipsey & Cullen, 2007; Lipsey & Wilson, 1993; Palmer, 1992). This decrease in re-offending rates could theoretically be explained by two (rehabilitation) theories: the Risk-Need-Responsivity- (Andrews & Bonta, 1994; Andrews, Bonta & Hoge, 1990), and Good Lives Model (Ward & Brown, 2004).

Risk, Need, Responsivity

The Risk-Need-Responsivity [RNR] model of crime prevention and correctional rehabilitation is a theoretical framework that outlines some general principles that are believed (based on empirical studies) to influence the outcomes of correctional rehabilitation programming; risk, need and responsivity (Andrews & Bonta, 1994; Andrews, Bonta & Hoge, 1990). The *risk* principle asserts that treatment intensity should be adjusted to the extent to which there is risk for re-offending. The *need* principle suggests that correctional programs should address criminogenic needs, that is, dynamic characteristics (such as substance abuse) associated with repeated-offending. And finally, the *responsivity* principle indicates that interventions should match an offender's characteristics, such as his/her learning style and treatment readiness. In other words, the model suggests *who* should be treated (risk), *what* should be treated (need) and *how* it should be treated (responsivity) (Andrews & Bonta, 2010; Andrews, Bonta & Wormith, 2006; Andrews et al, 1990; Andrews & Dowden, 1999; Lowenkamp & Latessa, 2005).

Besides defining some general principles that influence the effectiveness of correctional treatment, the work of Andrews and Bonta (1994; 1998; 2003; 2006; 2010) also addresses some of the central causes of persistent criminal behavior (Polaschek, 2012). This makes the RNR-model not only useful to explain *whether* correctional programs work, but also indicates its value in explaining *how* programs work. The RNR-model is theoretically grounded in the *General Personality and Cognitive Social Learning Perspective of Criminal Behavior* (Andrews & Bonta, 2006), which is largely based on a social learning perspective of criminal behavior. According to Andrews and Bonta (2006), criminal behavior is *learned* within a social context, and is the result of balancing the (expected) rewards and costs of behavior. This cost-benefit analysis assumed to be influenced by interactions between biological and personality characteristics, cognitions, and emotions. An individual can adopt antisocial sentiments, goals and behaviors by interacting with others, through a combination of learning processes, such as classical conditioning (learning through innate responses; Pavlov, 1927), operant conditioning

(learning through reinforcement and punishment; Skinner, 1938), and observational learning. If an individual sees that antisocial behavior is reinforced for others (if the benefits surpass the costs), antisocial sentiments, goals, and behaviors are strengthened (Andrews & Bonta, 2003), and vice versa. To exemplify this: if a person sees that a friend or relative benefits greatly from crime (for example by earning a lot of money from it, getting a huge kick out of it, or by receiving a lot of positive reinforcement from others), this strengthens his or her attitude towards crime. The costs and benefits of criminal behavior can be derived from various sources: They can be delivered by others (such as family members), can stem from within the person (such as feeling of pride), or can be automatically provided by the criminal behavior itself (such as a financial reward; see Andrews & Bonta, 1998; 2006; Bonta, 2002; Bonta & Andrews, 2007). Personal and circumstantial characteristics of individuals can encourage or discourage criminal behavior, by influencing cost- and benefit analyses. These personal and circumstantial characteristics are, according to Andrews and Bonta, *risk factors* (such as cognitive skill deficits or substance abuse problems; Andrews, Bonta & Wormith, 2011).

In line with the above described, a correctional treatment program that focuses on modifying or eliminating risk factors (i.e., criminogenic needs – factors that influence future re-offending) can effectively decrease the chances for future criminal behavior. In this manner, prison-based treatment programs can effectively reduce post-release re-offending.

The good lives model

A different but related model that aims to explain how rehabilitation can be effective in reducing recidivism rates is the *Good Lives Model* [GLM] of offender rehabilitation (Ward & Brown, 2004). This theory starts from the premise that a focus on risk-reduction is not enough to get people motivated to alter their behavior. The model therefore focuses on personal goals, and is more strength-based (Whitehead, Ward & Collie, 2007) in nature compared to the RNR-model. The GLM suggests that future criminal behavior can be reduced if an offender's capability's to reach *primary* human goals are enhanced (Ward & Stewart, 2003). These personal goals are activities; experiences; states of affairs; and states of mind that every individual wants to achieve, and that increase our wellbeing if fulfilled (Ward & Brown, 2004). For example, a primary goal might be work satisfaction or having a loving relationship. These goals can be realized by means of *secondary* goods. For example, if an individual wants to have a relationship (a primary goal), he or she needs a partner (a secondary good) in order to achieve this.

The GLM further proposes that an offender's capacity to achieve these personal goals depends on his or her internal capabilities (skills, attitudes, beliefs) and external conditions (opportunities, support). Reaching a primary goal can be frustrated or blocked by the presence of risk factors (criminogenic needs; factors that influence future re-offending) (Ward & Gannon, 2006; Ward, Melser & Yates, 2007; Ward & Stewart, 2003). For example, a severe substance abuse problem (a risk factor) may make it difficult to get

and maintain a job, making it impossible to achieve the goal of achieving work satisfaction.

Consistent with the GLM model, an effective correctional treatment program should focus on broadening an offender's capacities to attain secondary goods and primary goals. Goals can however only be reached, according to Ward and Brown (2004), if risk factors are attenuated or eliminated (since these can frustrate or block attaining secondary and primary goods). In this manner, a prison-based treatment program can effectively reduce post-release re-offending by enhancing an offender's skills to acquire primary goals and secondary goods, and by modifying or eliminating risk factors that prevent this.

Summarizing, based on both the RNR-model and the GLM we expect that prison-based treatment programs will reduce post-release criminal behavior. This decrease in re-offending is reached by addressing risk factors and by stimulation of protective factors. We therefore expect that ex-detainees who have been engaged in a prison-based rehabilitation program will have lower re-offending rates, compared to offenders who were not engaged in treatment during imprisonment.

Theoretically, the effectiveness of the Prevention of Recidivism Program, a program aimed to target an offenders risk for recidivism and criminogenic needs by applying behavioral modules designed to target an offenders criminogenic needs, can be explained by the above mentioned (rehabilitation) theories. The specific treatment modules applied (cognitive skill training and lifestyle training) do, theoretically, however rely on their own set of theoretical fundaments. It was shown that there is a fundamental difference between effective and ineffective programs, dependent on the model of change on which a program relies and through which it is supposed to reach its aims (Fabiano, Porporino & Robinson, 1990).

Theoretical basis for cognitive skill training

Cognitive skill training relies on a theoretical framework that is grounded in social learning theory (Bandura, 1986; Ross & Fabiano, 1985), and cognitive social learning theory (McGuire, 2004). In essence, these models rely on the notion that, in interaction with environmental influences and opportunities for crime, a number of individual factors (or characteristics) is associated with persistent involvement in juvenile and adult criminal behavior. These factors include: adherence to antisocial attitudes and beliefs; a pattern of deficits in (social-interactive) problem-solving; a lack in social perspective; and problems concerning self-management (Andrews & Bonta, 2003; McGuire, 2004; Ross & Fabiano, 1990). According to Ross and Fabiano (1990), these different types of inadequacies in cognitive skills lead to behavioral tendencies that hinder an offender to function in a pro-social matter, with specific deficits leading to specific (criminal) tendencies. First, adherence to anti-social attitudes and believes, which can manifest in deeply rooted beliefs with respect to antisocial behavior, the law and criminal justice system, can prohibit offenders from reflecting on their own anti-social or

criminal behavior. The inability to critically reflect on their own behavior can also cause offenders to often blame others for their own actions. Second, inadequacies in (social-interactive) problem solving cause offenders to lack the ability to see that problems can develop (instead of just appear), and make it difficult for offenders to resolve problems and to visualize ways in which they can do so. Instead, offenders accept situations, even if those situations involve great risk. Third, deficits' relating to social perspective causes delinquents to lack empathy, misinterpret social situations, be unaware of other human beings' feelings and cannot differentiate between their own needs and needs of another person. And fourth, problems with respect to self-management cause a tendency towards action-oriented behavior and impulsive behavior.

Cognitive skill training was developed to target deficiencies or shortcomings with respect to these four problem areas. If cognitive patterns with respect to antisocial attitudes and beliefs, problem solving, social perspective, and self-management are altered, pro-criminal tendencies and conducts are expected to reduce. Therefore, it is expected that cognitive skill training will reduce post-release criminal behavior among offenders with cognitive-skill deficits.

Theoretical basis for lifestyle training

Lifestyle training (treatment directed at addictive behavior) is based on the notion that addictive behavior (as well as criminal behavior) is learned in a social environment, and is determined by biological, psychological and social factors and consequences. It aims to reduce the odds of future criminal behavior, by decreasing problematic substance abuse, and aims to do so relying on the relapse prevention model (Marlatt & Gordon, 1985). Three types of models can be cited to describe the association between substance abuse and crime.

The first perspective asserts that *substance use leads to crime*. This can be explained by referring to the psychopharmacological properties of drugs and alcohol, stating that intoxication (undermining judgment and self-control, causing paranoid thoughts or distorting inhibitions and perceptions) may lead to aggression (due to, for example, withdrawal or sleep deprivation; Virkkunen & Linnoila, 1993) and can cause criminal behavior (Collins, 1981; Fagan, 1990; Withe & Gorman, 2000). It can also be clarified by referring to the economic motivation to get drugs or alcohol, in which drug and alcohol users are inevitable designated to non-legally acquired income to supply in their (often growing) demand (frequently referred to as pharmacological determinism, which asserts that people who were once exposed to drugs, often require this in increasing amounts; Alexander, 1984). Lastly, it can be explained by a systemic model (Goldstein, 1985), which draws on the fact that substance abuse is fundamentally connected with violent crime. The second perspective assumes that *crime leads to substance abuse*. This explanation claims that involvement in a criminal subculture provides the context, reference group and situations that increase the odds of coming

into contact with drugs (White, 1990; White & Gorman, 2000). Additionally, aspects of a professional criminal lifestyle may be linked to heavy drinking and drug use, because of the unstructured nature of criminal activity, the lack of ties (such as a marriage or children), and geographically mobility (Collins & Messerschmidt, 1993; Walters, 1994). The third and final perspective to explain the link between substance abuse and criminal behavior refers to a model in which a relation is explained by *a shared common cause*, such as personality traits, antisocial personality disorder, parental drug and/or alcohol misuse, and poor relations with parents (White, 1990; White, Brick & Hansell, 1993), which cause both substance abuse and criminal conduct.

As mentioned, lifestyle training aims to influence an offender's problematic addictive behavior, in order to reduce odds of future criminal re-offending. This mainly draws to the first theoretical perspective of substance abuse and criminal behavior, the assumption that substance abuse causes crime. Based on this model, it is expected that lifestyle training will reduce post-release criminal behavior among offenders with substance abuse problems.

7.4 Previous studies

Studies on prison-based treatment in general

Based on two theoretical (rehabilitation-) models presented we anticipated that prison-based rehabilitation programs can effectively reduce post-release re-offending rates among ex-detainees. A large amount of empirical work has focused on the effectiveness of such treatment programs. Literarily hundreds of studies have been conducted investigating the effects of a broad range of treatment modalities on recidivism among both juvenile and adult offenders in both residential and community settings (Andrews & Bonta 2006; Andrews et al., 1990; Bonta & Andrews 2007; French & Gendreau, 2006; Garret, 1985; Gendreau & Ross, 1987; Gendreau, Smith & French, 2006; Landenburger & Lipsey, 2005; Lipsey & Cullen, 2007; Lowenkamp, Latessa & Holsinger, 2006; Polaschek, 2012; Sherman et al., 1997).

To combine the results of this enormous (and diverse) body of work, and to identify patterns among study results, meta-analytic studies have been conducted. A broad overview of such meta-analytic studies on the effect of (various types of) correctional interventions can be found in Lipsey and Cullen (2007), in which a systematic review of meta-analytic studies is presented. This systematic review of meta-analytic studies has shown that rehabilitative correctional interventions, on average, have shown positive (but small to moderate) results, while supervision and sanctioning have shown more moderate or – in some instances – negative (small to moderate) results.

Four of the meta-analyses included in the Lipsey and Cullen (2007) review have specifically focused on the effect of treatment in general (Andrews et al., 1990; Cleland, Pearson, Lipton & Yee, 1997; Illescas, Sanchez-Meca & Genovés, 2001; Petrosino, 1997), as opposed to the effect of pro-

grams and trainings for a specific type of offenders, such as a sex-offender programs, or specific treatments or training programs, such as boot-camps or cognitive behavioral therapy, and are therefore considered interesting in light of our current study. Firstly, in a meta-analytic study by Andrews and others (1990), in which 88 studies were included (juveniles and adults, community and residential settings) positive treatment effects were found. Reductions in re-offending rates for offenders who received treatment were relatively small (around 14 to 22 percent) but significant. The study also showed that the magnitude of impact upon re-offending was mainly dependent on the extent to which service was in line with the principles of risk, need, and responsivity (Andrews et al., 1990). A second meta-analysis, the Petrosino (1997) study, which covered 115 previously conducted studies (including juveniles and adults, community, and residential settings), found a similar treatment effect. However, larger effects were found for rehabilitation programs focusing on reducing recidivism for juvenile offenders in comparison to effects on adult offender re-offending (Petrosino, 1997).

These higher drops in re-offending rates for juvenile offenders were confirmed by a meta-analysis by Cleland and others (1997). This study included 515 previous studies on both juveniles and adults, in community, and residential settings. Although recidivism drops for juvenile offenders were larger, this study also confirmed that adult offenders who received treatment re-offended less compared to adult offenders who had not received treatment (Cleland et al., 1997). The last meta-analytic study that focused on the effects of treatment in general was conducted by Illescas, Sanchez-Meca and Genovés (2001). This study included 22 empirical studies (including juveniles and adults, community, and residential settings), and again confirmed that correctional treatment could effectively reduce re-offending rates among adult offenders (Illescas, Sanchez-Meca & Genovés, 2001).

Studies on specific programs: cognitive skill- and substance abuse treatment

Second, based on more specific theories explaining the mechanism through which cognitive skill training an lifestyle (substance abuse) training were believed to reach recidivism reductions, the expectation was brought up claiming that cognitive skill training and lifestyle training can effectively reduce post-release re-offending rates offenders in need of these types of treatment (i.e. offenders with cognitive deficits and/or substance abuse problems). These assumptions can be supported by previous work that has focussed on the effectiveness of these specific types of correctional treatment programs.

Studies focusing on the effectiveness of cognitive skills programs in reducing the reoffending of ex-prisoners have found a significant treatment effect (see e.g. Friendship, Blud, Erikson & Travers, 2002; Lipsey, Chapman & Landenburger, 2001; Robinson, 1995; Sadlier, 2010; Travers, Wakeling, Mann & Hollin, 2013; Joy Tong & Farrington, 2006; 2008). For example, a review study conducted by Lipsey Chapman and Landenburger (2001), in which studies were included that met standards 4 and 5 of the Maryland

Scientific Methods Scale (i.e. an experimental, or quasi-experimental design; Farrington, Gottfredson, Sherman & Welsh, 2002), revealed that recidivism rates for program participants were approximately four-fifths of that for control samples. In light of our theoretical framework, it was also shown that structured programmatic interventions that relied on principles derived from cognitive social learning theory (McGuire, 2004), showed to achieve the largest and most consistent effect sizes in reducing criminal recidivism (Goggin & Gendreau, 2006; McGuire, 2005).

With respect to the effectiveness of substance abuse treatment, a meta-analysis was conducted (Irvin, Bowers, Dunn & Wang, 1999) that included studies assessing the effectiveness of substance abuse programs that relief on relapse prevention (Marlatt & Gordon, 1995), a model on which lifestyle training was based. Results showed that relapse prevention was effective in increasing the psychosocial functioning of offenders, and (although in lesser extent) was able to decrease substance abuse among program participants, especially with regards to those addicted to alcohol and poly drug-addictions.

In conclusion, the results of these meta-analytic studies have confirmed our previously stated hypothesis, that correctional rehabilitation programs can effectively reduce re-offending rates among ex-detainees. For adult offenders, participating in correctional treatment programs can lead to small but relevant reductions in criminal re-offending (around 14 to 22 percent drops were reported; Andrews et al., 1990; Cleland et al., 1997; Illescas, Sanchez-Meca & Genovés, 2001; Petrosino, 1997). Our hypotheses concerning the premise that cognitive skill training and substance abuse treatment can contribute to reducing re-offending among program participants in need of such specific treatment modules were also confirmed by previous work conducted. However, these large-scale meta-analytic studies have mainly included studies that were conducted in Anglo-Saxon/common law countries; it must be empirically assessed if similar results are found in other geographic regions or countries, with perhaps a different legal, socio-economical and/or cultural context, such as The Netherlands.

7.5 The current study

The purpose of the current study was to examine the effectiveness of the Prevention of Recidivism Program: A national prison-based treatment program in The Netherlands that aims to lower re-offending rates among participants by administering an individualized treatment program that addresses the criminogenic needs of an individual offender. A previously conducted literature review (Bosma, Kunst & Nieuwbeerta, 2013) revealed that (parts of) this program has been subjected to nine empirical evaluation studies (Barendregt & Wits, 2014; Balogh & Jans, 2009; Ferwerda, Van Wijk, Arts & Kuppens, 2009; Fischer, Captein & Zwirs, 2012; Inspectorate of Security and

Justice, 2010; Kuppens, Van Wijk & Klőne, 2012; Nas, Van Ooyen-Houben & Wieman, 2011; Schoenmakers, Van Leiden, Bremmers & Ferwerda, 2012; Van Bostelen, Davio, Mehlkopf & Woerlee, 2005; Van Poppel, Tackoen & Moors, 2005). These studies have however mainly focused on program integrity, and merely aimed to assess the implementation and execution of (parts of) prison-based rehabilitation efforts in The Netherlands. No study evaluated the effectiveness of the national Prevention of Recidivism Program. Therefore, based on the current state of empirical research, it is unknown if this program is effective in reducing post-release re-offending rates among participants. The following research question was therefore addressed: To what extent was the Prevention of Recidivism Program effective in reducing 6, and 24-month post-release re-offending rates among program participants? This research question was studied by analyzing official prison data, risk assessment data, and re-offending records of a large population-based sample of males that were incarcerated in The Netherlands. To study re-offending among our research sample, two analytical approaches were applied. First, group differences between the several research-groups central in this dissertation were analyzed, after which post-release re-offending was studied by use of logistic regression analyses. Second, the current study applied a propensity score method (proportional weighting within strata) to rule out any concerns regarding selection effects that may have occurred and could perhaps not be properly accounted for by use of regression analyses.

7.6 Methods

Data

To study the effect of rehabilitation efforts on incarcerated offenders in The Netherlands, a research sample was drawn from the Prison Project, a large scale, national population-based longitudinal research project, studying the effect of imprisonment on the life of detainees and their families in The Netherlands. The Prison Project included the total population of male detainees put in pre-trial detention in The Netherlands between October 2010 and March 2011. Additional inclusion criteria were that offenders had to be between the age of 18 and 65 and were born in The Netherlands (see Bosma et al., 2014). A number of 3.983 offenders met these qualifications and were included in the Prison Project (Dirkzwager & Nieuwbeerta, 2016).

Several sources of information on the persons included in the sample were gathered to answer the research question proposed. First of all, the *Dutch Custodial Institutions Agency* provided registration data from several prison registration systems on all persons in the sample, including data on background characteristics (Prison Registration System), in depth information regarding rehabilitation trajectories (Prevention of Recidivism Registration System), and incarceration details such as in and outflow, transfers between prisons, departments, and cells (Prison Registration System). Second, risk assessment data on the persons in the sample were made available

by the *Dutch Probation Service*. Third, the *Research and Documentation Centre* of the Dutch Ministry of Security and Justice provided data from the General Documentation Files (GDF) of the Criminal Record Office. These data contain detailed information on all registered crimes and convictions up to December 2015, and provide information about the offender's criminal history, current offence and registered re-offending behavior six months after release. Finally, information on the sentencing process and outcomes was made available by the Dutch Prosecution Office. These data contained trial information and (sentencing) outcomes on each detainee's criminal case.

As mentioned, 3.981 offenders were part of the Prison Project research sample. Because we study recidivism over a (maximum of) 24-month follow-up period in this study, and recidivism data were only available until the end of December 2015, only those detainees were only included in the current study that had left prison before the end of December 2013. This way, each offender has been released from prison for (at least) 24 months. Consequently, 145 offenders had to be excluded from the sample. Additionally, 1 offender was excluded from the sample because data from the General Documentation Files (GDF) of the Criminal Record Office was missing, which meant no criminal record information was available. By removing these offenders, 3.835 offenders formed the current study's sample (see Figure 1).

Dependent variables

The dependent variable used in the current study was registered criminal re-offending within 6- and 24 months after release. This was measured by including charges that were drawn from the General Documentation Files. All criminal charges were included except for those that ended in acquittal or were dismissed. This resulted in two dichotomous variables (0 = not charged within 6 / 24 months post-release, 1 = charged within 6 / 24 months post-release).

Independent variable: treatment group

Treatment groups were based on data retrieved from the official Prevention of Recidivism Registration System. This administrative database, which is accessible and used in every prison in The Netherlands, provides in-depth information on all activities (including program status) regarding the Prevention of Recidivism Program. Information regarding an offender's status could therefore easily be retrieved, without having to interpret or recode variables. The registration system also provides information regarding reasons for non-participation and non-completion. By consulting this database, 9 treatment groups could be distinguished (determinants of each of which had already been studied in the preliminary chapters): (1) program non-candidates; (2) program non-participants: organizational reasons; (3) program non-participants: refused; (4) program completers: standard treatment program; (5) program completers: standard program plus cognitive skill training; (6) program completers: standard program plus lifestyle training; (7) program completers: standard program plus cognitive skill and lifestyle

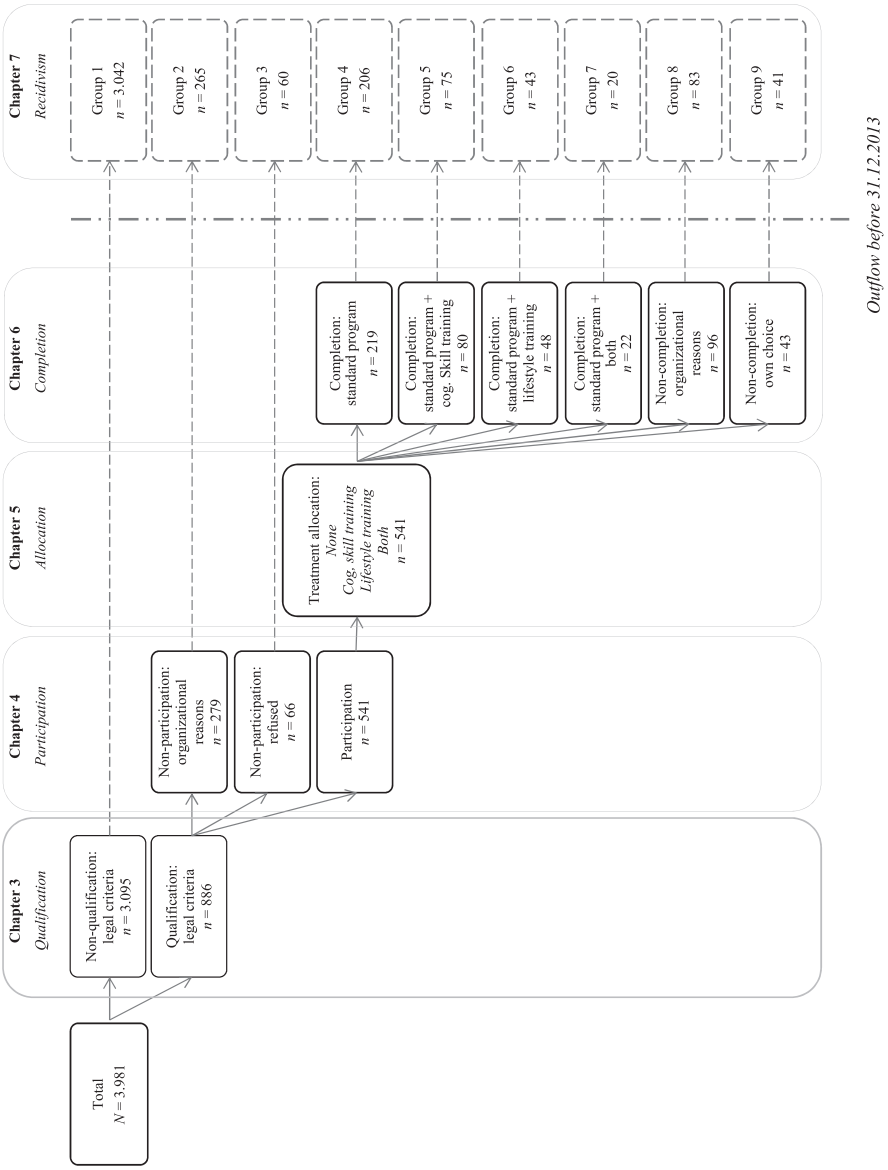

Figure 1. Overview of research sample

training; (8) non-completers: organizational reasons; and (9) non-completers: own choice (see Figure 1). To further clarify our treatment groups, case descriptions of fictive group-members were included in Appendix A.

Since some program completers have been assigned a rehabilitation program, which was not in line with their risk, and need assessment outcomes (as shown in Chapter 5), program completers (group 4, group 5, group 6 and group 7) were divided in offenders who were correctly classified, and offenders who were incorrectly classified. This was done by determining if an offender was allocated to criminogenic need-specific treatment in line with their risk and need assessment outcomes (similar to our assessment of correct allocation described in Chapter 5). This resulted in two groups, offenders who were correctly assigned (1), and offenders who were not (0).

Covariates

In studying the impact of treatment on post-release re-offending rates, it is important to take into account other factors that could have potentially also influenced treatment, as well as post-release recidivism. Fortunately, the various registration files that were available made it possible to include a wide range of covariates in our analyses. We incorporated a long list of variables that may have influenced treatment group membership and/or re-offending behavior, which were grouped under demographics, criminal history, current offence, and risk assessment outcomes.

Demographics accounted for in the current study included age and ethnic background. Age (in years) was calculated from the prison registration systems by subtracting date of birth from the date of their prison entry. Ethnic background (non-native vs. native; Statistics Netherlands defines a person as having a non-native background if at least one of his/her parents was born abroad) was obtained from municipal data, and if not available, was subtracted from risk assessment data.

Several variables related to criminal history were also included in the analyses, namely the age of onset; number of prior convictions for a violent crime (ever and in the last five years); number of prior convictions for a property crime (ever and in the last five years); number of prior convictions for other crimes (ever and in the last five years); and number of previous prison sentences (ever and in the last five years). All criminal history variables were extracted from General Documentation Files (GDF) of the Criminal Record Office.

To control for the influence of an offenders current offence, the type of offence (violent; sex; violent property; property; damage; drug related or other/unknown) and total imposed sentence (duration, not including a conditional sentence) was included. Offence type was drawn from the General Documentation Files (GDF) of the Criminal Record Office and imposed sentence length was drawn from data provided by the Dutch prosecution office.

Finally, variables used to indicate an offender's criminogenic needs were also incorporated. In Dutch corrections, risk and needs are determined using the Dutch-language Recidivism Assessment Scales (RISc).

This instrument, which is based on the British Offender Assessment System (OASys) (Howard, Clark & Garnham, 2003), screens offenders on twelve risk domains: (1) offending history and (2) current offence and pattern of offences; (3) accommodation; (4) education, work, and training; (5) financial management and income; (6) relationships with partner, family, and relatives; (7) relationships with friends and acquaintances; (8) drug misuse; (9) alcohol misuse; (10) emotional wellbeing; (11) thinking and behavior; and (12) attitudes and orientation (Van der Knaap, Leenarts, Born & Oosterveld, 2012). Weighted scores on each of the twelve risk domains were included in the propensity score analyses. Including these risk assessment variables provide a unique opportunity to control for the selection criteria that are also used to refer offenders to treatment.

7.7 Analyses

The main objective of the current study was to determine the extent to which participation in the prison-based Prevention of Recidivism Program reduced 6- and 24-month post-release re-offending rates among program participants. In order to study the effectiveness of the Prevention of Recidivism Program among our entire research sample, two analytical approaches were applied. The first involved the entire research sample of 3.835 offenders who were divided in nine treatment groups. Group recidivism rates were analyzed, after which the effect of treatment on post-release re-offending was studied by use of logistic regression analyses. Because it was shown in previous chapters that participating offenders were in some cases incorrectly allocated to treatment, it was also studied if recidivism rates of correctly classifies program participants (offenders that completed a program that was in line with their risk- and need assessment outcomes) were different from those who were incorrectly classified (those who completed a program that was not in line with their risk- and need assessment outcomes).

Second, offenders that completed treatment were compared to a group of offenders that did not. A simple comparison between post-prison re-offending rates of the treatment group with the control groups would however not be sufficient, because treatment group membership may be confounded with factors that affect both treatment inclusion, but also influence post-release re-offending. Also, selection effects that may have occurred could perhaps not be properly accounted for by use of regression analyses. The current study therefore assessed the effectiveness of treatment by applying a propensity score method (proportional weighting within strata) to eliminate the influence of measurable pre-treatment covariates that may have otherwise influenced results (Austin, 2011; Posner & Ash, 2012). By obtaining balance between groups in covariates, any differences in post-imprisonment re-offending outcomes can be assumed to be the result of a treatment effect (Winship & Morgan, 1999). This method will be described in detail below.

Treatment and control condition selection

First, a group of offenders was identified that had successfully completed the Prevention of Recidivism Program (the treatment group, consisting of offenders that had completed a standard program, or a standard program with cognitive skill training, lifestyle training or both see Figure 1; treatment group 4, 5, 6 and 7), which consisted of 344 offenders. These offenders were, based on their remaining prison sentence at the moment of conviction (> 4 months), selected as a program candidate, had decided to participate and had completed an individualized treatment program that had addressed their specific criminogenic needs.

In light of the current study, the treatment group was compared to an appropriate control group. In several previous quasi-experimental (treatment) effect studies, a control group of offenders was created by selecting offenders who decided not to participate (see e.g. McGrath, Cumming, Livingston & Hoke, 2003; Worling & Curwen, 2000), or dropped-out during treatment (see e.g. Wexler et al., 1999). This, however, is not an optimal control condition, since previous studies have shown that offenders who do not engage in or complete treatment can generally be seen as a high risk group of offenders (Polaschek, 2010; Wormith & Olver, 2002). Selecting these potentially high-risk offenders as a control group may therefore lead to over-estimating treatment effects (McMurran & Theodosi, 2007; Polaschek, 2010; Wormith & Olver, 2002).

The current study therefore selected a control-group consisting of offenders that were, based on the program's inclusion criteria (the most important of which being a remaining sentence length of at least four months at the moment of conviction), assigned a candidate for the program, but could not participate due to organizational reasons (for example caused by a lack in available treatment places, or staff shortages). This was determined based on information included in the official Prevention of Recidivism Registration System. This control group consisted of 265 offenders (see Figure 1; treatment group 2).

Imposed prison-sentences can vary greatly in length, (usually) based on the crime committed by and the criminal history of the individual offender. Offenders with lower prison sentences will generally have committed less serious crimes, resulting in less severe penalties and possible indicating a lower criminal propensity. Although offenders included in our sample were not imprisoned for longer than 38 months (inflow was only after October 2010, outflow before January 2014), the average duration of their prison sentence differed greatly. To rule out as much variety as possible between our treatment and control condition, resulting in comparable groups regarding crime severity, sentence type and duration, the current study added an additional legal inclusion criterion to select offenders for the treatment and control condition. In The Netherlands, criminal cases can be referred to two types of criminal courts: single judges and multi judge-panels. Multi-judge panels, consisting of at least three judges, generally rule on more complex and severe cases, whereas less complicated cases are referred to a single

judge. A criminal case is only referred to a multi judge-panel if the public prosecutor proposes a prison sentence of at least 12 months. If shorter prison sentences (or alternative sanctions or fines) are demanded, offenders are referred to a single-judge panel (De Jongste & Decae, 2010; Ten Velden & De Wilde, 2013). Therefore, to achieve comparable groups, the current study only selected those offenders whose criminal case was referred to and sentenced by a multi judge-panel. This (legal) inclusion criterion was believed an accurate way to include cases that are relatively equal concerning offence severity and sentencing outcome. After selecting offenders sentenced by a multi-judge panel, the treatment group consisted of 322 offenders (15 offenders of 344 were referred to a single judge and were therefore removed, for 7 the type of judge(s) was unknown, these offenders were therefore also removed from the treatment group), and the control group consisted of 189 (69 offenders of 265 were referred to a single judge and were therefore removed, for 7 the type of judge(s) was unknown, these offenders were also removed).

Offenders in our treatment condition each completed a different treatment program (i.e. a standard program, a standard program plus cognitive skill training, a standard program plus lifestyle training, and a standard program plus both), this provided a perfect opportunity to not only asses the effectiveness of the Prevention of Recidivism Program, but to also address if program effectiveness differed among groups of offenders that completed different types of treatment. Accordingly, three treatment groups were formed: (1) offenders that completed a standard program (n = 188); (2) offenders that completed a standard program plus cognitive skill training (n = 93); and (3) offenders that completed a standard program plus lifestyle training (n = 61).[3] These groups were each compared to an appropriate control group of offenders, for whom potential treatment module candidacy was determined based on their risk for recidivism and criminogenic needs (in line with the inclusion criteria for cognitive skill and lifestyle training, described in this chapter). This resulted in three control conditions; (1) offenders that qualified for a standard program (n = 99); (2) offenders that qualified for a standard program plus cognitive skill training (n = 59); and (3) offenders that qualified for a standard program plus lifestyle training (n = 54).

Propensity score analysis

The first step in our propensity score analyses involved an assessment of group differences on background characteristics. Table B1, B2 and B3, presented in Appendix B, show the results of an un-weighted comparison on variable means that were included in the current study, for our treatment and control group referred to (or qualified for) a standard program, a stan-

3 Offenders that completed both (n = 20) represent such a minor treatment group that statistical analyses would proof to be difficult. Therefore, these offenders were added to both the cognitive skill training treatment group, as well as the lifestyle training treatment group.

dard program plus cognitive skill training, and a standard program plus lifestyle training. Group differences between the treatment and control group were statistically tested for significance using appropriate techniques (Chi-Square, T-Test and ANOVA).

As shown in Table B1, the treatment group and control group (standard program) differed significantly regarding their age, ethnicity (unknown), the number of prior other convictions in their criminal history, and risk assessment outcomes concerning the scales relationships with partner and relatives, emotional wellbeing, and thinking and behavior, and the total prison sentence imposed. Regarding group differences between our second treatment group and control group (standard program plus cognitive skill training) results, which are presented in Table B2, show that these groups differ with respect to the risk scales financial management and income, and emotional wellbeing, and also with regards to the total prison sentence imposed. Table B3 shows a final comparison, made between the current study's third treatment group and control group (standard program plus lifestyle training), which showed that group differences were reported with respect to the number of prior other convictions in the last 5 years, type of offence (violent), and the total prison sentence imposed.

In conclusion, the characteristics on the un-weighted data presented in Table B1, B2 and B3, indicate that there are group differences between our three treatment conditions and control conditions. In order to be able to compare the re-offending rates of offenders that received either of three types of programs, with offenders in our control condition, balance needed to be created on covariates. This procedure involved several steps. The first step was to generate predicted probabilities of treatment versus control group membership by applying a logistic regression analysis, the results of which are presented in Appendix B (see Table B4, B5 and B6).[4]

A second step (that was executed for treatment and control group 1, 2 and 3) involved sorting data into ten strata, based on each subjects so-called propensity score (i.e. the predicted probability obtained from the logistic regression analyses in step 1). The number of observations within each group was then calculated and a weight was assigned to each observation within each group (the weight within each stratum is equal to the proportion of observations in that stratum group [treatment or control group] relative to the total number of observations in that stratum; see Austin, 2011; Posner & Ash, 2012)). The final step was to rescale the weights so that the sum of all weights within each treatment group was equal to the total sample size of each treatment group.

4 Because group differences regarding sentence length were relatively large, this variable was not included in the propensity score model, but was controlled for in a multiple logistic regression analyses.

After applying this technique, weighted means of the characteristics were calculated (also presented in Table B1, B2 and B3) to once again compare the three treatment- and control groups on each propensity score variable, and to assess if balance was created using the proportional weighting technique. A group comparison on weighted means between our first treatment group and control condition (standard program) shows that balance on all covariates was created, with the exception of ethnicity. There were no weighted group differences reported on the other included pre-treatment covariates, indicating an appropriate control condition with minimal (observable) confounding of covariates that may have influenced results. Concerning the group comparison between our second treatment group and control condition (standard program plus cognitive skill training) balance was lacking on the covariates number of prior property convictions ever and the risk scale accommodation. Again, this control group seemed appropriate, with minimal (observable) confounding of covariates. With respect to a group comparison between our third treatment group and control condition (standard program plus lifestyle training), it was shown that no weighted group differences were reported on any of our pre-treatment covariates included. This indicated an appropriate control condition, with no (observable) confounding of covariates.

By use of our weighting technique, the current study was able to account for a large number of covariates that may have influenced both treatment group membership as well as post-release re-offending outcomes. Group differences regarding sentence length were however considered relatively large and were therefore not included in the propensity score models. In order to properly account for sentence length, a set of logistic regression analyses were performed in which sentence length in months was included and controlled for. Unfortunately, balance was not created on some of our covariates included. Therefore, in order to rule out influence of these covariates, these were included and controlled for by use of logistic regression analyses, the outcomes of which are presented in the result section.

7.8 Results

Studying program effectiveness by use of regression analysis

As mentioned, the first method applied to determine the effectiveness of the Prevention of Recidivism Program was to study the post-release re-offending rates among our entire research sample of 3.835 offenders. These offenders were divided in nine treatment groups, based on their program candidacy status: (1) program non-candidates; (2) program non-participants: organizational reasons; (3) program non-participants: refused; (4) program completers: standard treatment program; (5) program completers: standard program plus cognitive skill training; (6) program completers: standard program plus lifestyle training; (7) program completers: standard program plus

cognitive skill and lifestyle training; (8) non-completers: organizational reasons; and (9) non-completers: own choice.

First, it was assessed if our treatment groups differed with respect to 6- and 24-months post release re-offending (shown in Table 1 and visually represented in Figure 2). As shown, both 6- and 24-month post-release re-offending rates were shown the highest for program non-candidates (treatment group 1). Furthermore, it was shown that program non-participants and non-completers reported slightly higher re-offending rates. Offenders in treatment group 4 (who completed a standard program) re-offended the least often in the 6- and 24-months following their release (except for offenders in treatment group 7, who reported exceedingly low 6-months post-release recidivism rates), followed by offenders in treatment group 5 (who completed a standard program plus cognitive skill training), and treatment group 7 (who completed a standard program plus cognitive skill and lifestyle training). In general, it appeared that program completers re-offended slightly less in the 6- and 24-months post-release, compared to offenders that did not qualify for, participate in or complete treatment.

Table 1. 6- and 24-month post-release recidivism rates treatment group 1 to 9 (n=3.835)

		6-month post-release recidivism (yes)	24-month post-release recidivism (yes)
	n	%	%
Group 1: non-qualification	3.042	35.3	65.8
Group 2: non-participation: organizational reasons	265	27.2	55.8
Group 3: non-participation: refused	60	26.7	65.0
Group 4: completion: standard program	206	17.5	40.3
Group 5: completion: standard program plus cognitive skill training	75	18.7	50.7
Group 6: completion: standard program plus lifestyle training	43	30.2	58.1
Group 7: completion: standard program plus both	20	5.0	50.0
Group 8: non-completion: organizational reasons	83	24.1	59.0
Group 9: non-completion: own choice	41	17.1	56.1
Total	3.835	32.6	63.0
Sig.		*** 1/2 1/4 1/5 1/7 1/8 1/9 2/4 2/7 6/7	*** 1/2 1/4 1/5 2/4 3/4 4/6 4/8

Note: Behind significant levels it is demonstrated which groups differed. For example: 1/2 means post-hoc analysis showed there was a significant difference between group 1 and 2
* $p < .05$ ** $p < .01$ *** $p < .001$.

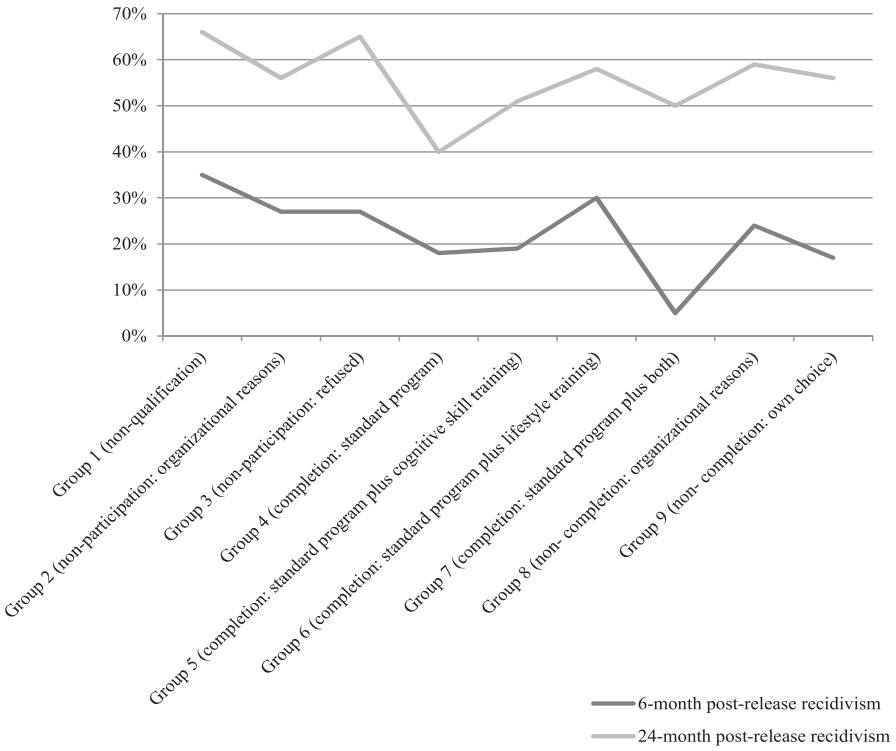

Figure 2. 6- and 24-month post-release recidivism rates treatment group 1 to 9 (n=3.835)

As it was shown in previous Chapters, program completers had not always been correctly included in the program (see chapter 3), and were not always allocated to appropriate treatment modules, in line with risk and need assessment outcomes (see Chapter 5). Because this could potentially influence treatment outcomes (in which case we would have to distinct between correctly and incorrectly classified offenders in further analyses), it was first assessed if correctly and incorrectly classified offenders (treatment groups 4, 5, 6 and 7) differed with respect to 6- and 24-months post release re-offending rates. As shown in Table 2, this is not the case. Correctly and incorrectly classified program completers did not differ in registered re-offending behavior, both 6- and 24-month post-release. This indicates that groups do not need to be separately analyzed.

Table 2. 6- and 24-month post-release recidivism rates correctly and incorrectly classified program completers (n=344)

	Correctly classified program completers (*n*=163)	Incorrectly classified program completers (*n*=181)	**Total** (*N*=344)	
	%	%	%	Sig.
6-month post release recidivism (yes)	19.6	17.1	18.6	n.s.
24-month post release recidivism (yes)	43.6	47.0	45.3	n.s.

As shown in Table 1, 6- and 24-month post-release re-offending rates differed between our treatment groups. This does however not mean that treatment was (in-) effective, since it could very well be the case that these differences in post-release re-offending rates were caused by other (confounding) factors. Therefore, group differences on a large number of background characteristics were analyzed, the results of which are presented in Table 3. As shown, group differences were reported regarding age; ethnicity; the age of onset (age at which an offender was first convicted); the type of offence committed; and the risk assessment scales offence history and current offence; education, work and training; financial management and income; relationships with friends and acquaintances; drug misuse; alcohol misuse; emotional wellbeing; attitudes and orientation; and lastly, the total prison sentence imposed.

With respect to demographics, it was shown that offenders in treatment group 5, 6, and 9 were slightly younger than average, while offenders in treatment group 2, 3, and 4 were slightly older than average. Concerning ethnic background, it was shown that treatment group 4 and treatment group 7 consisted if more offenders with a native ethnic background compared to other treatment groups. Regarding the age at which an offender had first been convicted, it was shown that offenders in treatment group 4 were slighter older than average, whilst offenders in treatment group 5 up to treatment group 9 were somewhat younger. Concerning type of offence committed, results have indicated that offenders in treatment group 6 and 7, and in lesser extent treatment group 9, were more often incarcerated for having committed a violent offence, and were underrepresented in other (perhaps less serious in nature) type of offences. There were also group differences reported regarding nine risk assessment scales, namely offending history and current offence; education, work and training; financial management and income; relationships with friends and acquaintances; drug misuse; alcohol misuse; emotional wellbeing; thinking and behavior; and attitudes and orientation. However, differences do not seem to follow a distinct pattern, in some cases, offenders who were not eligible, took part in treatment, or completed treatment scored higher, while in other cases offenders who did complete treatment scored higher. Finally, the total prison sentence imposed also differed between our treatment groups. Perhaps as expected, since sentence length is the main inclusion criteria for entry in the Prevention of Recidivism Program, offenders in treatment group 1 showed the lowest scores, while offenders who were eligible and took part in treatment reported the highest scores.

Table 3. Group characteristics treatment groups 1 to 9† (n=3.835)

	Group 1 (*n*=3.042)	Group 2 (*n*=265)	Group 3 (*n*=60)	Group 4 (*n*=206)	Group 5 (*n*=75)	Group 6 (*n*=43)	Group 7 (*n*=20)	Group 8 (*n*=83)	Group 9 (*n*=41)	Total (*n*=3.835)	
	M(SD)/%	*M(SD)*/%	*M(SD)*/%	*M(SD)*/%	*M(SD)*/%	*M(SD)*/%	*M(SD)*/%	*M(SD)*/%	*M(SD)*/%	*M(SD)*/%	Sig.
Covariate: Demographics											
Age	30.6 (10.8)	32.0 (10.2)	31.1 (12.3)	31.2 (11.0)	26.2 (8.5)	26.9 (7.7)	30.1 (10.1)	30.6 (10.6)	27.2 (10.3)	30.6 (10.7)	**
Ethnicity (native vs. non-native/unknown)	41.9	53.2	45.0	67.5	48.0	46.5	65.0	57.8	48.8	44.8	***
Covariate: Criminal history											
Age of onset	17.4 (6.4)	17.3 (6.5)	17.4 (7.3)	18.3 (7.8)	15.6 (3.3)	15.4 (2.9)	16.2 (4.4)	15.9 (4.7)	15.3 (2.9)	17.3 (6.4)	**
Nr. prior violent conv. last 5 y	0.5 (0.9)	0.5 (0.9)	0.5 (0.9)	0.5 (1.0)	0.4 (0.9)	0.3 (0.7)	0.8 (2.0)	0.5 (1.0)	0.4 (0.7)	0.5 (0.9)	n.s.
Nr. prior property conv. last 5 y	1.3 (2.6)	1.4 (2.6)	1.4 (2.1)	0.9 (2.6)	0.8 (1.7)	1.3 (2.5)	0.6 (1.4)	1.3 (2.8)	1.5 (2.2)	1.3 (2.6)	n.s.
Nr. prior other conv. last 5 y	0.6 (1.1)	0.8 (1.2)	0.9 (1.5)	0.7 (1.2)	0.4 (0.9)	1.0 (1.3)	0.6 (0.9)	0.7 (1.2)	0.7 (1.4)	0.7 (1.2)	n.s.
Nr. prior prison sentences last 5 y	1.2 (2.6)	1.4 (2.9)	1.6 (2.6)	1.0 (2.7)	0.7 (2.1)	1.1 (2.3)	1.1 (2.5)	1.3 (2.8)	1.1 (1.9)	1.2 (2.6)	n.s.
Covariate: Current offence											
Type of offence											***
Violent	40.2	44.2	51.7	58.3	57.3	72.1	70.0	56.6	63.4	43.1	
Property	38.4	32.1	28.3	18.0	17.3	16.3	15.0	24.1	19.5	35.4	
Damage	6.8	3.4	0.0	1.9	2.7	2.3	5.0	3.6	2.4	5.9	
Drug-related	10.6	14.3	13.3	17.0	18.7	7.0	10.0	13.3	7.3	11.4	
Other	4.0	6.0	6.7	4.9	4.0	2.3	0.0	2.4	7.3	4.2	
Risk factors											
Offence hist. & current offence	18.1 (12.3)	17.8 (12.4)	21.9 (13.9)	16.3 (12.8)	19.9 (12.6)	21.2 (14.6)	16.6 (9.5)	19.5 (11.7)	22.2 (11.7)	18.2 (12.4)	*
Accommodation	3.9 (3.9)	4.0 (4.2)	5.1 (4.3)	4.2 (4.5)	3.7 (3.9)	4.0 (3.7)	3.4 (4.0)	4.3 (4.4)	3.9 (3.8)	3.9 (4.0)	n.s.
Education, work & training	10.5 (7.0)	9.9 (6.8)	11.0 (7.4)	8.8 (6.9)	9.6 (6.1)	10.0 (6.1)	6.5 (6.6)	9.8 (6.3)	11.2 (6.3)	10.3 (6.9)	**
Financial management & income	4.5 (3.6)	4.8 (3.7)	4.5 (3.6)	4.6 (3.9)	6.1 (3.5)	5.8 (4.1)	5.4 (3.8)	4.5 (3.4)	5.3 (3.5)	4.6 (3.6)	**
Relationship partner and relatives	2.8 (1.8)	2.8 (1.8)	3.1 (1.8)	2.6 (1.8)	2.3 (1.5)	3.0 (1.7)	2.1 (1.7)	2.8 (1.9)	2.8 (1.4)	2.8 (1.8)	n.s.
Relationship friends and acquaintances	6.0 (4.5)	6.1 (4.4)	6.6 (4.8)	5.8 (4.5)	7.4 (4.0)	6.7 (4.1)	7.3 (4.2)	6.5 (4.0)	7.6 (4.4)	6.1 (4.5)	*
Drug misuse	6.4 (5.5)	6.6 (5.7)	5.9 (6.0)	5.2 (5.4)	5.4 (4.9)	8.8 (4.4)	7.0 (4.8)	6.3 (5.1)	6.6 (4.9)	6.3 (5.4)	**

Alcohol misuse	1.9 (1.9)	1.8 (1.9)	1.4 (1.7)	1.6 (1.9)	1.0 (1.6)	2.2 (2.2)	2.4 (2.0)	2.0 (1.9)	1.6 (1.8)	1.8 (1.9)	**
Emotional wellbeing	2.6 (1.8)	2.6 (1.9)	2.4 (1.7)	2.4 (1.8)	1.8 (1.3)	2.4 (1.5)	1.8 (1.4)	2.2 (1.8)	2.3 (1.3)	2.5 (1.8)	*
Thinking and behavior	8.1 (3.4)	7.7 (3.3)	8.7 (3.1)	7.1 (3.4)	8.3 (2.4)	8.3 (2.9)	8.1 (2.9)	8.5 (2.5)	9.3 (2.4)	8.0 (3.3)	**
Attitudes and orientation	6.7 (4.8)	6.1 (4.6)	7.9 (4.6)	5.7 (4.7)	6.2 (4.1)	6.5 (4.4)	6.3 (4.7)	6.9 (4.8)	8.5 (4.6)	6.6 (4.8)	**
Sentence length											
Total sentence imposed (in months)	3.1 (6.4)	9.1 (9.9)	12.8 (12.6)	17.5 (14.3)	19.9 (12.9)	14.3 (13.3)	23.1 (17.1)	15.8 (12.9)	21.8 (9.6)	5.6 (9.7)	***

* $p < .05$ ** $p < .01$ *** $p < .001$

† Groups: (1) non-qualification; (2) non-participation: organizational reasons; (3) non-participation: refused; (4) completion: standard program; (5) completion: standard program plus cognitive skill training; (6) completion: standard program plus lifestyle training; (7) completion: standard program plus both; (8) non-completion: organizational reasons; and (9) non-completion: own choice.

In order to assess the influence of treatment group membership, on 6- and 24-months post-release re-offending, while controlling for a large set of background variables, a logistic regression analysis was conducted, the results of which are shown in Table 4.

With respect to *6-month* post-release re-offending rates, the results indicated that the covariates age of onset, number of prior prison sentences in the last five years, offence type, and several risk assessment scales (offending history and current offence; education, work and training; and alcohol misuse) and total sentence imposed were shown significantly to post-release re-offending behavior. With respect to age of onset it was shown that offenders who started their criminal career at a later age were less likely to re-offend in the 6-months after release from prison (OR=0.97). Furthermore, having a higher number of previous prison sentences was shown to increase odds of recidivism in the 6 months post-release (OR=1.09). Concerning type of offence, results indicated that having committed a violent offence, increases chances of re-offending behavior in the 6 months after release from prison (OR=1.47). With respect to the risk assessment domains offending history and current offence; education, work and training; and alcohol misuse, it was shown that higher scores increased chances of recidivism in the 6 months following release (OR=1.01; OR=1.02; OR=1.06). And finally, it was shown that a longer imposed prison sentence slightly decreased odds of future criminal behavior in the 6 months after release, evidenced by odds ratio statistics of 0.98.

Taken into account these covariates, it was shown that treatment group membership was in most cases not related to 6-month post-release re-offending behavior. Offenders who completed a standard treatment program did not differ significantly from other treatment groups, except for offenders who did not qualify for treatment, who were shown more likely to re-offend in the 6-months following release (OR=2.27), compared to offenders who completed a standard treatment program. No other group-differences were reported; indicating that engagement in the Prevention of Recidivism Program had no effect on post-release recidivism rates in the 6 months following release from prison.

Looking at the influence of our covariates included on *24-month* post-release re-offending, it was shown that age, age of onset, the number of property convictions in the last 5 years, offence type, and the risk scales offending history and current offence and attitudes and orientation, and sentence length had influenced post-release recidivism. First, concerning age, it was shown that an older age negatively influenced post-release re-offending. In other words: offenders who were older were less likely to re-offend in the two years after they had been released from prison, as evidenced by an odds ratio statistic of 0.98. Second, concerning factors relating to criminal history, results had indicated that an older age of onset negatively influenced post release re-offending, which means that offenders who had started their criminal career at an older age were less likely to re-offend post-imprisonment (OR=0.97). With respect to the number of property con-

viction in the last 5 years it was shown that these positively influenced post-release re-offending. Offenders convicted of more property crimes in the last 5 years, were more likely to have re-offended in the 24-months after having been released from prison (OR=1.13). Third, the type of offence committed (violent vs. non-violent) influenced recidivism. Offenders, who had been incarcerated for having committed a violent offence, were more likely to have re-offended post-incarceration, compared to offenders who were imprisoned for a non-violent offence, evidenced by an odds ratio statistic of 1.40. Fourth, two risk scales appeared salient in determining post-release re-offending. It was shown that a more serious offending history and current offence increased chances of recidivism in the 24 months following release (OR=1.02), while more severe problems regarding attitudes and orientation also increased 24-month post-release re-offending rates (OR=1.04). Finally, our covariate sentence length was also shown a significant predictor of post-release re-offending among our research population. A longer prison sentence (in months) appeared to slightly reduce chances of recidivism following imprisonment, evidenced by odd ratio statistics of 0.98.

These factors taken into account, our independent variable included in the multivariate model explaining post-release recidivism, was shown statistically significant. This indicated that treatment group membership appeared to be related to 24-month post-release re-offending. Compared to our reference group of offenders who had completed a standard treatment program, offenders who were not eligible for treatment were more likely to have re-offended after release, evidenced by an odd ratio statistic of 2.75. Again compared to standard program completers, offenders who had been eligible for treatment but could not participate for organizational reasons or because they refused to do so, were also more likely to re-offend (OR=2.03, and OR=2.95). And finally, offenders who had participated in treatment, but could not complete the program for organizational reasons were also shown more likely to have re-offended in the two years following release (OR=1.99), compared to program completers with a standard program. Overall, it appears that engagement in the Prevention of Recidivism Program did influence post-release re-offending among participants with a standard program. However, engagement in a criminogenic need-specific treatment module was not found to decrease odds of recidivism above and beyond completion of a standard treatment program.

Table 4. Logistic regression analysis on 6- and 24-months post-release recidivism rates

	6-month post-release recidivism (yes vs. no)			24-month post-release recidivism (yes vs. no)		
	OR	CI	*p*	OR	CI	*p*
Covariate: Demographics						
Age (in years)	1.00	[0.99 – 1.02]	n.s.	0.98	[0.97 – 1.00]	**
Non-native/unknown (vs. native)	1.00	[0.97 – 1.03]	n.s.	1.01	[0.97 – 1.05]	n.s.
Covariate: Criminal history						
Age of onset	0.97	[0.95 – 0.99]	**	0.97	[0.94 – 0.99]	**
Nr. prior violent conv. last 5 y	1.06	[0.94 – 1.19]	n.s.	1.11	[0.96 – 1.28]	n.s.
Nr. prior property conv. last 5 y	1.01	[0.94 – 1.09]	n.s.	1.13	[1.03 – 1.25]	*
Nr. prior other conv. last 5 y	1.01	[0.94 – 1.10]	n.s.	1.00	[0.92 – 1.09]	n.s.
Nr. prior prison sentences last 5 y	1.09	[1.01 – 1.19]	*	1.10	[0.98 – 1.22]	n.s.
Covariate: Current offence						
Offence type (violent vs. non-violent)	1.47	[1.19 – 1.80]	***	1.40	[1.14 – 1.73]	**
Covariate: Risk assessment outcomes						
Offending history and current offence	1.01	[1.00 – 1.02]	**	1.02	[1.00 – 1.03]	**
Accommodation	1.02	[1.00 – 1.05]	n.s.	1.02	[0.99 – 1.06]	n.s.
Education, work and training	1.02	[1.00 – 1.04]	*	1.02	[1.00 – 1.04]	n.s.
Financial management and income	1.02	[0.99 – 1.06]	n.s.	1.01	[0.98 – 1.05]	n.s.
Relationship with partner and relatives	0.97	[0.91 – 1.04]	n.s.	1.00	[0.93 – 1.07]	n.s.
Relationship with friends and acquaintances	1.00	[0.98 – 1.03]	n.s.	1.00	[0.97 – 1.03]	n.s.
Drug misuse	0.99	[0.97 – 1.01]	n.s.	1.00	[0.98 – 1.02]	n.s.
Alcohol misuse	1.06	[1.01 – 1.12]	*	1.04	[0.99 – 1.11]	n.s.
Emotional wellbeing	1.01	[0.95 – 1.08]	n.s.	0.98	[0.91 – 1.05]	n.s.
Thinking and behavior	1.01	[0.96 – 1.06]	n.s.	1.01	[0.97 – 1.06]	n.s.
Attitudes and orientation	1.01	[0.99 – 1.04]	n.s.	1.04	[1.01 – 1.07]	**
Sentence length						
Total sentence imposed (in months)	0.98	[0.97 – 0.99]	*	0.98	[0.97 – 1.00]	**
Treatment group membership						
Group 1 (non-qualification)	2.27	[1.43 – 3.59]	***	2.75	[1.87 – 4.05]	***
Group 2 (non-participation: organizational reasons)	1.70	[0.99 – 2.89]	n.s.	2.03	[1.28 – 3.21]	***
Group 3 (non-participation: refused)	1.69	[0.78 – 3.64]	n.s.	2.95	[1.38 – 6.29]	**
Group 4 (completion: standard program)	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
Group 5 (completion: standard program plus cognitive skill training)	1.56	[0.54 – 2.49]	n.s.	1.58	[0.86 – 2.91]	n.s.
Group 6 (completion: standard program plus lifestyle training)	2.08	[0.92 – 4.68]	n.s.	1.85	[0.88 – 3.89]	n.s.
Group 7 (completion: standard program plus both)	0.24	[0.03 – 2.03]	n.s.	1.84	[0.66 – 5.13]	n.s.
Group 8 (non- completion: organizational reasons)	1.49	[0.74 – 2.98]	n.s.	1.99	[1.10 – 3.60]	*
Group 9 (non- completion: own choice)	0.81	[0.30 – 2.19]	n.s.	1.45	[0.68 – 3.10]	n.s.

Note: Overall 6-month model Wald χ^2 (304.419, 29), p <.000, Cox and Snell R^2 = .125, Nagelkerke R^2 = .173.
Note: Overall 24-month model Wald χ^2 (429.768, 29), p <.000, Cox and Snell R^2 = .170, Nagelkerke R^2 = .237.
* p <.05 ** p < .01 *** p < .001

Studying program effectiveness by use of propensity score methodology
Although our logistic regression model did seem to indicate that (standard-) treatment group membership was related to re-offending in the two years following release from prison, it is perhaps unjustified to compare groups that differ so much concerning a broad range of characteristics, criminal history, current offences, risk and need scores, sentence length imposed and perhaps therefore, criminal propensity. A different method of testing treatment effectiveness was therefore also applied in this study. Based on propensity score methodology, a group of program completers referred to a standard program was compared to a control group of offenders who had been eligible for a standard treatment program, but who could not participate for organizational reasons. Second, a group of program completers referred to a standard program plus cognitive skill training was compared to a control group of offenders who had been eligible for a standard treatment program plus cognitive skill training, but who could not participate for organizational reasons. And third, a group of program completers referred to a standard program plus lifestyle training was compared to a control group of offenders who had been eligible for a standard treatment program plus lifestyle training, but who could not participate for organizational reasons. After our weighting procedure (described in great detail in the method section of this chapter), a chi-square test could be carried out to assess if there was an un-weighted and weighted effect of treatment group membership on 6- and 24-month post-release re-offending rates for each of our three groups defined, the results of which are presented below (an overview of weighted and un-weighted recidivism rates was shown in Table 11).

The impact of a standard treatment program
First (as shown in Table 5) an un-weighted comparison of 6- and 24-months post-release re-offending rates of offenders in the treatment group that completed a standard program, and control condition (offenders who were eligible for treatment but were excluded for organizational reasons) appeared to indicate that offenders in the treatment group were less often re-charged in the 6- and 24-months post imprisonment (15.4% and 36.2%), compared to those in the control condition (23.2% and 46.5%). A treatment effect (-7.8% and -10.3%) that was not statistically significant. Next, a weighted comparison between the treatment- and control group (standard program) was conducted, which again appeared to show that offenders in the control condition were re-charged more often 6- and 24-months post imprisonment (23.5% and 48.0%), compared to offenders that had not received treatment (15.4% and 36.2%). Although the 6- months post-release treatment effect (-8.1%) was not statistically significant, the 24-month post release treatment effect (-11.8%) was.

Because the average sentence length differed between offenders in our treatment and control condition, which may have affected post-release re-offending behavior, a logistic regression analyses was performed in which sentence length was added as a covariate (as shown in Table 6). Addition-

ally, since our weighting procedure had not been able to create equal groups regarding ethnic background, this variable was also added in our logistics regression model. Outcomes showed that, after controlling for sentence length and ethnicity, there was no significant (weighted) treatment effect of standard program treatment group membership in the 6-months following release. However, completing a standard treatment program did affect re-offending rates 24-months post-release (odds ratio = 0.54).

Table 5. Un-weighted and weighted treatment effect, 6- and 24-month post-release, treatment group (standard program, n = 188) vs. control group (standard program, n = 99)

	Un-weighted				Weighted		
	Treatment group	Control group	Treatment effect	Odds Ratio	Control group	Treatment effect	Odds Ratio
6-month post-release recidivism	15.4	23.2	– 7.8 %	.603 (n.s.)	23.5	– 8.1 %	.595 (n.s.)
24-month post-release recidivism	36.2	46.5	– 10.3 %	.653 (n.s.)	48.0	– 11.8 %	.613 (*)

Note: * p = <.05; ** p = <.01; *** p = <.001

Table 6. Weighted logistic regression analyses on post-release recidivism, standard program

	6-month post-release recidivism (yes vs. no)			24-month post-release recidivism (yes vs. no)		
	OR	CI	p	OR	CI	p
Ethnicity						
Native	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
Non-native	1.10	[0.56 – 2.15]	n.s.	1.18	[0.70 – 2.00]	n.s.
Unknown	0.60	[0.16 – 2.21]	n.s.	0.31	[0.10 – 0.95]	*
Total sentence imposed (in months)	0.98	[0.95 – 1.00]	n.s.	0.99	[0.97 – 1.01]	n.s.
Treatment group membership	0.18	[0.33 – 1.23]	n.s.	0.54	[0.32 – 0.91]	*

Note: Overall 6-month model Wald χ^2 (7.094, 4), p <.05, Cox and Snell R^2 = .025, Nagelkerke R^2 = .041.
Note: Overall 24-month model Wald χ^2 (10.978, 4), p <.05, Cox and Snell R^2 = .038, Nagelkerke R^2 = .052.
* p <.05 ** p < .01 *** p < .001

The impact of a standard treatment program, plus cognitive skill training

Table 7 shows the un-weighted comparison of 6- and 24-months post-release re-offending rates of offenders in the treatment group that completed a standard program plus cognitive skill training, and control condition eligible for a standard program plus cognitive skill training.

As shown, offenders in the treatment group were less often re-charged in the 6- and 24-months following release (16.1% and 50.5%), compared to those in the control condition (41.3% and 58.9%), which indicated a 6-month post-release treatment effect of 25.2%, which was statistically significant, but not significant 24-month post-release treatment effect. A weighted comparison between the treatment group (standard program plus cognitive skill training) and control group (standard program plus cognitive skill training) was also conducted. Results of this weighted comparison pointed out that

offenders in the control condition were re-charged more often 6-months post release (41.0%), compared to offenders that did receive treatment (16.1%), indicating a significant treatment effect of -24.9%. A weighted comparison on 24-month post release re-offending rates did not show any treatment effect.

Again, a logistic regression analyses was performed in which sentence length was added as a covariate, as well as the variables number of prior convictions and the risk scale accommodation (since balance could not be achieved in our weighting procedure regarding these variables), the results of which are presented in Table 8. Outcomes showed that, after controlling for sentence length, prior convictions, and the risk scale accommodation, a significant (weighted) treatment effect of standard program plus cognitive skill training, on re-offending rates in the 6- and 24-month following release, was not reported. This indicated that engagement in the Prevention of Recidivism Program, in which an offender was allocated to cognitive skill training, had no effect on the re-offending behavior of program completers.

Table 7. Un-weighted and weighted treatment effect, 6- and 24-month post-release, treatment group (standard program plus cognitive skill training, n = 93) vs. control group (standard program plus cognitive skill training, n = 56)

	Un-weighted				Weighted		
	Treatment group	Control group	Treatment effect	Odds Ratio	Control group	Treatment effect	Odds Ratio
6-month post-release recidivism	16.1	41.3	– 25.2 %	.274 (***)	41.0	– 24.9 %	.276 (**)
24-month post-release recidivism	50.5	58.9	– 8.4 %	.712 (n.s.)	56.2	– 5.7 %	.795 (n.s.)

Note: * p = <.05; ** p = <.01; *** p = <.001

Table 8. Weighted logistic regression analyses on post-release recidivism, standard program plus cognitive skill training

	6-month post-release recidivism (yes)			24-month post-release recidivism (yes)		
	OR	CI	p	OR	CI	p
Nr. prior property convictions ever	1.24	[1.13 – 1.37]	***	1.30	[1.12 – 1.51]	**
Risk scale: Accommodation	0.89	[0.76 – 1.03]	n.s.	1.00	[0.91 – 1.11]	n.s.
Total sentence imposed (in months)	0.99	[0.95 – 1.03]	n.s.	0.97	[0.94 – 1.01]	n.s.
Treatment group membership	0.67	[0.23 – 1.97]	n.s.	1.84	[0.79 – 4.27]	n.s.

Note: Overall 6-month model Wald χ^2 (53.363, 4), p <.000, Cox and Snell R^2 = .300, Nagelkerke R^2 = .439.
Note: Overall 24-month model Wald χ^2 (36.394, 4), p <.000, Cox and Snell R^2 = .216, Nagelkerke R^2 = .288.
* p <.05 ** p < .01 *** p < .001

The impact of a standard treatment program, plus lifestyle training

The un-weighted comparison of 6- and 24-months post-release re-offending rates of offenders in the treatment group that completed a standard program plus lifestyle training, and control condition eligible for a standard program

plus lifestyle training is shown in Table 9. As reported, offenders in the treatment group were re-charged just slightly more in the 6- and 24-months after being released from prison (21.3% and 54.1%), compared to those in the control condition (22.2% and 53.7%), a treatment effect (-0.9% and +0.4%) which was not shown statistically significant. Next, a weighted comparison between the treatment group (standard program plus lifestyle training) and control group (standard program plus lifestyles training) was also conducted. The results of this weighted comparison also indicated that offenders in the control condition were re-charged slightly less often in the 6-months post-release (22.7%) and slightly more often in the 24-months post imprisonment (53.0%), compared to offenders that did receive treatment (54.1%). This did not represent a statistically significant treatment effect.

Because the group differences with respect to sentence length were considered excessively large, a logistic regression analyses was performed in which sentence length was added as a covariate. The results of this analysis are presented in Table 10, in which it is shown that, after controlling for sentence length, a significant (weighted) treatment effect of standard program, plus lifestyle training was not reported. This accounted for recidivism rates in the 6-months post release, as well as re-offending behavior 24-months after release from prison. These results indicate no effect of engagement in the Prevention of Recidivism Program, if this included being allocated to lifestyle training.

Table 9. Un-weighted and weighted treatment effect, 6- and 24-month post-release, treatment group (standard program plus lifestyle training, n = 61) vs. control group (standard program plus lifestyle training, n = 54)

	Un-weighted				Weighted		
	Treatment group	Control group	Treatment effect	Odds Ratio	Control group	Treatment effect	Odds Ratio
6-month post-release recidivism	21.3	22.2	– 0.9 %	.948 (n.s.)	22.7	– 1.4 %	.920 (n.s.)
24-month post-release recidivism	54.1	53.7	+ 0.4 %	1.016 (n.s.)	53.0	+ 1.1 %	1.046 (n.s.)

Note: * p = <.05; ** p = <.01; *** p = <.001

Table 10. Weighted logistic regression analyses on post-release recidivism, standard program plus lifestyle training

	6-month post-release recidivism (yes)			24-month post-release recidivism (yes)		
	OR	CI	p	OR	CI	p
Total sentence imposed (in months)	0.97	[0.93 – 1.02]	n.s.	0.95	[0.92 – 0.99]	*
Treatment group membership	1.28	[0.93 – 1.02]	n.s.	1.74	[0.76 – 4.00]	n.s.

Note: Overall 24-month model Wald χ^2 (1.784, 2), p <.05, Cox and Snell R^2 = .016, Nagelkerke R^2 = .024.
Note: Overall 24-month model Wald χ^2 (8.797, 2), p <.05, Cox and Snell R^2 = .075, Nagelkerke R^2 = .100.
* p <.05 ** p < .01 *** p < .001

Table 11. Overview of weighted and un-weighted 6- and 24-month post-release recidivism rates, treatment and control groups

		6-month post-release recidivism (yes vs. no)		24-month post-release recidivism (yes vs. no)	
		Un-weighted	Weighted	Un-weighted	Weighted
	n	%	%	%	%
Treatment group 1: standard program	188	15.4	–	36.2	–
Control group 1: standard program	99	23.2	23.5	46.5	48.0
Treatment group 2: standard program and cognitive skill training	93	16.1	–	50.5	–
Control group 2: standard program and cognitive skill training	56	41.3	41.0	58.9	56.2
Treatment group 3: standard program and lifestyle training	61	21.3	–	54.1	–
Control group 3: standard program and lifestyle training	54	22.2	22.7	53.7	53.0

7.9 Discussion

The purpose of the current study was to examine to what extent the Dutch Prevention of Recidivism Program is effective in reducing post-release re-offending among program participants. The research question was addressed by analyzing various sources of data on a population-based sample of males that were incarcerated in The Netherlands. To optimally rule out concerns regarding selection effects that may have occurred by confounding covariates, treatment effectiveness was studied by applying two analytic approaches: regression analysis; and propensity score methodology (proportional weighting within strata) applied.

The effectiveness of the Prevention of Recidivism Program

Based on the theoretical framework brought forward, it was expected that ex-detainees who had engaged in the prison-based Prevention of Recidivism Program would re-offended less post-incarceration, compared to offenders that had not engaged in treatment during their time in prison. Additionally, it was expected that for offenders in need of treatment (i.e. cognitive skill training or lifestyle training), would benefit from engagement in criminogenic need-specific treatment modules aimed to reduce their post-release recidivism rates by decreasing their criminogenic needs relating to cognitive skill-deficits and/or addiction problems.

As shown by the current study, 63 percent of our total research sample (n = 3.835) was charged for a new crime within two years after being released from prison. A group comparison between our nine categorized research groups seemed to indicate that offenders who received treatment, re-offended less in the 6- and 24-months following release, compared to offenders

not eligible for treatment, or compared to offenders that had not taken part, or dropped-out. A multivariate model that controlled for a large number of covariates indicated that treatment group membership was indeed shown related to 24-month post-release re-offending (and in a lesser extent to 6-month post-release re-offending rates). Compared to offenders who had completed a standard treatment program, offenders who were not eligible for treatment were more likely to have re-offended after release, as was the case for offenders who had been eligible for treatment but could not participate for organizational reasons or did not because they had refused to do so, and offenders who had participated in treatment, but could not complete for organizational reasons. Overall, it appears that engagement in the Prevention of Recidivism Program did influence post-release re-offending among participants with a standard program. However, criminogenic need-specific treatment modules did not appear to influence post-release recidivism rates (above and beyond standard program completion).

To strengthen our research design, the group of program completers was also compared to an appropriate control group of offenders that were eligible for treatment, but could not participate due to organizational circumstances, by use of propensity score methodology. In order to test if the type of treatment program attained was shown to impact outcomes, a group of program completers that completed a standard program was compared to a control group of offenders that were, based on risk and need scores, eligible for a standard program, while program participants that completed a standard program plus cognitive skill training were compared to a control group consisting of offenders eligible for standard treatment plus cognitive skill training, and finally, a group of offenders that completed a standard program plus lifestyle training were compared to a group of non-participants that were eligible for standard program plus lifestyle training.

A weighted analysis between these groups showed no significant treatment effect for offenders who completed a standard program plus cognitive skill training, and for offenders who completed a standard program plus lifestyle training. However, a significant treatment effect was found for offenders who completed a standard treatment program; they were shown to re-offend significantly less in the 24 months post-release, compared to offenders in the control condition. The above-mentioned results lead to the conclusion that participation in the prison-based Prevention of Recidivism Program appears to have a positive influence on re-offending behavior in the 24-months following release from prison, for offenders who had engaged in a standard program that did not include any behavioral treatment modules.

The overall effect, with respect to the impact of a prison-based treatment program was partly as hypothesized, since a significant decrease in re-offending rates was found when comparing program completers to other treatment groups in a regression analysis, and since a weighted effect of treatment (standard program) was found when a group of completers was compared to an appropriate control group. These results were not in line

with studies that have consistently indicated that a risk and needs based approach can positively influence post-release re-offending rates among program participants (Andrews & Bonta 2006; Andrews et al., 1990; Bonta & Andrews 2007; French & Gendreau, 2006; Garret, 1985; Gendreau & Ross, 1987; Gendreau, Smith & French, 2006; Irvin et al., 1999; Lipsey & Cullen, 2007; Lipsey, Chapman & Landenburger, 2001; Lowenkamp, Latessa & Holsinger, 2006; Polaschek, 2012; Sherman et al., 1997). The fact that that risk and need-oriented programs were unsuccessful could not be explained by the fact that treatment allocation in light of the Prevention of Recidivism Program was not always in line with risk an need assessment (as shown in Chapter 5), since no post-release differences were found between correctly and incorrectly classified offenders. This was also not in line with previous work, which indicated that proper treatment allocation was a vital component for treatment success (Andrews, Bonta & Wormith, 2004; 2006; Bosker, 2015; Latessa, Cullen & Gendreau, 2002).

In conclusion, the current study did not appear to provide any evidence concerning the hypothesized relationship between prison-based treatment and post-release re-offending. Findings were inconsistent with premises made based on the Risk-Need-Responsivity model of crime prevention and correctional rehabilitation (Andrews & Bonta, 1994; Andrews, Bonta & Hoge, 1990) and the Good Lives Model [GLM] of offender rehabilitation (Ward & Brown, 2004), as well as previous studies.

The question rises as to why the Prevention of Recidivism did not reach a (larger) treatment effect. A few possible explanations (though these may not be exhaustive) can be thought of. First of all, previous studies have indicated that adhering to the principles of risk, need, and responsivity is important to reach an optimal treatment effect. However, previous work also stated that a rehabilitation program should be implemented and conducted in practice as it was designed – the principle of treatment integrity (Andrews & Dowden, 2005; Hollin, 1995; Leschied, Bernfeld & Farrington, 2001; Moncher & Prinze, 1991). As the Prevention of Recidivism Program was designed in line with the RNR model, a positive treatment effect was expected. However, a lack in program integrity (optimal selection of participants, proper referrals to treatment, proper trained treatment staff) may have caused the absence of a larger effect. A second possible explanation for the current study's moderate findings may lie in the fact that the criminal justice system in The Netherlands differs from those in other parts of the (Western) world. Many correctional rehabilitation programs had been developed and studied in countries with a different sentencing system, where conditions of confinement may be different and where prison sentences may be a lot longer than is the case in The Netherlands (about sixty percent of all offenders in Dutch prisons are incarcerated for a period of less than three months, over seventy percent return home after having spent less than six months in a Dutch prison; see Linckens & De Looff, 2015). Consequently, incarceration circumstances in The Netherlands may be different compared to offenders in other parts of the world. And positive prison-based treat-

ment effects found in other geographic regions may therefore not translate to the specific situation (and criminogenic needs and risk for re-offending of offenders incarcerated) in The Netherlands. A third possibility, explaining the considerably small/and lack in treatment effect found, may be the fact that the control group, offenders that were eligible but could not participate because of organizational circumstances, may have been engaged in treatment activities after they had been (conditionally) released. This could have potentially caused a decline in recidivism rates among the control group (although engagement. However, previous research had indicated that treatment is only imposed for a rather modest proportion of conditionally released detainees (Jacobs, Van Kalmthout & Von Bergh, 2006), making it perhaps improbable that a large proportion of our control group had been engaged in post-release treatment. However, certain influence of post-release treatment programs cannot be ruled out.

Limitations and directions for future research questions

The current study investigated the effectiveness of the Prevention of Recidivism Program in The Netherlands. Such a study has, to date, not been conducted and this work therefore represents a major advancement in the field of correctional (prison-based) rehabilitation research. Also, a statistical technique was applied that made it possible to optimally account for confounding covariates, so that comparable control groups could be created. There are, however, some limitations that are worthy to be mentioned and that deserve attention in future research.

A first shortcoming lies in the study's quasi-experimental design, which has limitations due to the fact that subject were not randomly assigned to the treatment and control conditions. And although the current study applied two analytic approaches, and was able to account for, and create balance on, a large number of covariates, it cannot be ruled out that other (unobservable) factors have influenced treatment group membership as well as post-release re-offending outcomes. A second limitation that may have hampered the current study was the fact that we were not able to fully take into account the matter of program integrity. The Prevention of Recidivism Program is tailored to the specific needs of each offender, but some specific programs may have been executed better than others. Large differences in program integrity may have had an influence on post-release re-offending outcomes, which we did not include in the current study. A previous study has indicated that there are some implementation and execution issues that hamper an optimal performance of the Prevention of Recidivism Program (Inspectorate of Security and Justice, 2010), but since we were not able to include measures of integrity, these factors could not be taken into account. And finally, the results of the current study only apply to male detainees in The Netherlands, who were incarcerated for a maximum time of 38 months. The results can therefore not be transferred to, for example, offenders with a longer prison sentence.

To overcome concerns mentioned, a future study with a similar aim should optimally have a randomized controlled design. It should cover a large enough research sample and should include some measures with regard to program integrity.

To conclude, this study does not provide substantial evidence concerning the effectiveness of a nation-wide prison-based rehabilitation program implemented in The Netherlands. The results merely seem to indicate that participation in this program leads to a moderate decrease in post-release re-offending rates among offenders that completed a standard program, i.e. a program that did not include any risk and need oriented treatment modules. However, as mentioned, the current study was the first to ever look into the re-offending behavior of program participants. Besides the fact that only one study has been conducted, the current study may have been hampered by some limitations caused by design and data availability. Far-reaching policy implications therefore are premature. It appears essential to further examine the effectiveness of prison-based treatment in The Netherlands in future studies.

Appendix A: Case Descriptions

Treatment group 1 (see Figure 1)
John, a homeless man aged 34, entered a Dutch remand center after he was caught shoplifting. When being arrested, he resisted which resulted in a minor injured policed officer. Because of his extensive criminal record, John was put in pre-trial detention until he was brought to court. The judge sentenced John to a prison-sentence equal to the time spent in pre-trial detention (which in this case was ten weeks). Because of this lack of sentence remainder John was **not assigned a candidate** for participation in the Prevention of Recidivism Program

Treatment group 2 (see Figure 1)
George, 19 years old, entered a Dutch remand center in the fall of 2010 after he was arrested for a very serious case of assault. After having spent eight weeks in pre-trial detention his court-day arrived, where the judge considered there was enough evidence to rule guilty and sentenced George to six months in prison. Based on the remaining prison sentence, which just exceeded four months, George qualified for participation in the Prevention of Recidivism Program. He was however staying in a penitentiary center where, at the time, one of two Prevention of Recidivism Program counselors was burned-out and was not able to attend work for several months. The prison sentence remaining was considered too short to transfer George to a prison in which program entry was possible. Therefore, George was **not able to participate** in the Prevention of Recidivism Program due to staff-shortages.

Treatment group 3 (see Figure 1)
After being put in pre-trial detention on charges of domestic violence, Pete (aged 24) was found guilty by a judge and was sentenced to a total prison sentence of eight months. He had spent a little over two months in pre-trial detention and based on his remaining prison sentence Pete was a candidate for participation in the Prevention of Recidivism Program. After being recognized by the Prevention of Recidivism Program registration system, a prison counselor contacted Pete in prison, explained the program to him, and asked him to participate. Pete however did not consider the program useful to him at all, and was not motivated to participate. He **declined participation** and spent the remainder of his prison sentence in a fully guarded prison, with no options to go on leave.

Treatment group 4 (see Figure 1)
After participating in an armed robbery, Kareem (aged 28) was brought to court and was sentenced to eighteen months in a Dutch penitentiary institution. Kareem had already spent three months in pre-trial detention and therefore, based on his remaining prison sentence at the moment of verdict, was considered a Prevention of Recidivism Program candidate. A prison employee asked Kareem to participate in the Program, which Kareem agreed to. Because a risk assessment instrument had already been administered in light of his court appearance, recent risk outcomes were available and the probation organization did not need to assess again. In line with risk outcomes, a re-integration plan was formed in which no specific behavioral modules were documented. Kareem did not score high on risk scales that indicate any of the four types of treatment administered in Dutch prisons. Therefore, he followed **a standard treatment program**, which entailed that he was prepared for re-entry by offering guidance regarding his work and income situation (shelter, health care, identity papers and debts were not a problem for Kareem) and spent the final months of his prison sentence in a half-open facility where he enjoyed more liberties and was able to spend weekends at home.

Treatment group 5 (see Figure 1)
Following being sentenced to prison for numerous charges relating to serious cases of assault, resulting in a prison-sentence of almost two years, Marc (aged 32) was considered a Prevention of Recidivism Program candidate and was asked to take part in the program. After agreeing to participate, a probation service employee administered a risk assessment instrument. The results showed that Marc had serious problems with both impulse control and taking perspective, indicated by the risk scales that show a need for cognitive-skill training. Consequently, Marc was referred to **standard treatment program, plus cognitive skill training**, in which he took part in the second year of his time in prison. Marc spent most of his time in prison in a fully guarded facility, but was transferred to a half open facility in the last few months, after which he was released (see Figure 1, group 5).

Treatment group 6 (see Figure 1)
Guillermo, 38 years old, entered a Dutch remand center in the spring of 2011 after he was arrested for stalking and harassing an ex-boyfriend. After having spent a few months in pre-trial detention, he was brought before a court. Guillermo was found guilty and, considering he already had multiple convictions in his name, was sentenced to 12 months in prison. Based on the remaining prison sentence, which surpassed four months, Guillermo qualified for participation in the Prevention of Recidivism Program and was asked by a prison staff-member to do so, to which he agreed. In light of previous incarcerations, risk assessment had already been conducted, which pointed to the fact that Guillermo had a drug-addiction, for which he needed treatment. Consequently, Guillermo participated in a **standard treatment**

program, plus lifestyle training, in which he was taught to cope with his drug-abuse problems. He successfully finished the Prevention of Recidivism Program, and was sent home to spend the final two months of his prison sentence at home under supervision of the Dutch probation organization.

Treatment group 7 (see Figure 1)
Nicholas, a 38-year old male with an extensive criminal record, was arrested and charged with Drug trafficking in January 2011. He spent three months in pre-trial detention after which he was sentenced to a prison sentence of two years. Because of his long prison sentence, Nicholas was a Prevention of Recidivism Program candidate. A recent risk assessment was not available so after Nicholas was asked and agreed to participate in the program a probation officer administered the instrument and made a risk assessment. Based on this assessment, it was shown that Nicholas had some problems with impulse control and substance abuse problems. He was therefore referred to a **standard treatment program, plus cognitive skill- and lifestyle training**. Nicholas successfully finished the Prevention of Recidivism Program (including both types of treatment), spent two-third of his sentence in a fully guarded facility and was, because of his participation in the Prevention of Recidivism Program, allowed to spend the final months of his prison sentence at home under supervision of the Dutch probation organization.

Treatment group 8 (see Figure 1)
Following an arrest for violence against a health practitioner in the night of January 1st of 2011, Ismael was transferred to a Remand center, were he spent six weeks in pre-trial detention. After he was found guilty, Ismael was sentenced to prison where he was ought to remain for eleven months, a decision to which he appealed. Awaiting the results of his appeal, Ismael was considered a great candidate for treatment, and was asked to participate in the Prevention of Recidivism Program. After Ismael decided to take part, a risk assessment instrument was administered, which revealed no criminogenic need problems so severe, that a specific treatment module was indicated. Ismael was therefore referred to a standard program. Two months after the initial start of his program however, a court that dealt with the appeal ruled that the prison-sentence of eleven months was too long, sentenced Ismael to five months in prison. Ismael was immediately released and was considered a **non-completer due to organizational circumstances** (standard program).

Treatment group 9 (see Figure 1)
After being arrested for a violent attack on an ex-girlfriend, which caused major physical injury, Stanley (aged 34) was transferred to a remand center, were he spent ten weeks in pre-trial detention. Stanley was found guilty of aggravated assault and was sentenced to 16 months in prison. Due to the fact that his prison sentence exceeded the four months necessary to qualify

for program entry, Stanley was asked to participate in the Prevention of Recidivism Program, which he agreed upon. Because Stanley had been in recent contact with the Dutch probation organization, a risk assessment instrument had already been administered. This assessment had indicated that there was no need to refer Stanley to a specific treatment module, such as cognitive skill training, and he therefore was given a re-integration plan in which he was assigned a standard program. Because Stanley was a program participant, he was allowed to go on leave during the final months of his prison sentence. Stanley did however not return from a weekend-furlough, and was re-arrested a week later. Because of this violation, Stanley was excluded from further participation in the Prevention of Recidivism Program and was considered a **non-completer due to refusal** (standard program).

Appendix B: Tables

Table B1. Un-weighted and weighted means treatment group (standard program, n = 188), vs. control group (standard program, n = 99)

	Treatment group	Un-weighted means Control group		Weighted means Control group	
	M (*SD*)	M (*SD*)	*p*	M (*SD*)	*p*
Covariate: Demographics					
Age (in years)	31.2 (11.0)	34.6 (10.9)	.015*	32.7 (10.3)	.296
Ethnicity					
Native	0.7 (0.5)	0.6 (0.5)	.056	0.5 (0.5)	.003**
Non-native	0.3 (0.5)	0.3 (0.4)	.419	0.3 (0.5)	.377
Unknown	0.0 (0.2)	0.2 (0.4)	.000***	0.2 (0.4)	.000***
Covariate: Criminal history					
Age of onset	18.5 (8.0)	19.0 (8.1)	.655	19.3 (7.4)	.433
Nr. prior violent conv. last 5 y	0.4 (1.0)	0.6 (1.0)	.207	0.5 (0.9)	.859
Nr. prior property conv. last 5 y	0.9 (2.6)	1.2 (2.2)	.274	0.9 (1.9)	.966
Nr. prior other conv. last 5 y	0.6 (1.2)	0.8 (1.1)	.147	0.7 (1.1)	.394
Nr. prior prison sentences last 5 y	0.9 (2.7)	1.1 (2.4)	.511	0.9 (2.2)	.993
Nr. prior violent conv. ever	0.9 (2.0)	1.2 (1.9)	.242	1.0 (1.7)	.904
Nr. prior property conv. ever	2.7 (6.7)	3.3 (4.9)	.429	2.5 (4.4)	.809
Nr. prior other conv. ever	1.7 (3.6)	2.6 (3.6)	.044*	2.1 (3.3)	.404
Nr. prior prison sentences ever	2.2 (6.3)	2.4 (4.4)	.734	2.0 (4.3)	.760
Covariate: Current offence					
Offence type					
Violent	0.6 (0.5)	0.5 (0.5)	.321	0.5 (0.5)	.100
Property	0.2 (0.4)	0.2 (0.4)	.964	0.1 (0.3)	.535
Damage	0.0 (0.2)	0.0 (0.2)	.351	0.0 (0.2)	.605
Drug-related	0.0 (0.1)	0.0 (0.2)	.895	0.0 (0.1)	.350
Other	0.0 (0.1)	0.0 (0.2)	.469	0.0 (0.0)	.469
Covariate: Risk assessment outcomes					
Off. hist. & current offence	15.6 (12.8)	17.7 (12.6)	.271	15.1 (12.0)	.785
Accommodation	4.0 (4.5)	3.9 (4.4)	.911	4.0 (4.6)	.966
Education, work & training	8.3 (6.8)	10.0 (7.4)	.070	8.3 (7.3)	.998
Financial management & income	4.5 (3.8)	4.7 (3.8)	.752	4.8 (3.7)	.526
Relationship with partner & relatives	2.5 (1.8)	3.4 (1.8)	.001**	2.5 (1.9)	.926
Relationship with friends & acquaintances	5.6 (4.4)	5.9 (4.8)	.609	5.4 (4.6)	.841
Drug misuse	5.1 (5.4)	6.0 (6.3)	.267	4.4 (6.2)	.438
Alcohol misuse	1.6 (1.8)	1.8 (2.1)	.492	1.5 (1.8)	.639
Emotional wellbeing	2.4 (1.8)	3.6 (2.1)	.000***	2.4 (2.0)	.919
Thinking and behavior	6.9 (3.5)	8.1 (3.5)	.018*	6.9 (3.8)	.974
Attitudes and orientation	5.3 (4.6)	6.3 (4.9)	.143	6.0 (5.2)	.335
Sentence length					
Total sentence imposed (in months)	18.4 (14.4)	11.6 (11.6)	.000***	–	–
Propensity score					
Predicted probability (tr. group membership)	0.78 (0.16)	0.55 (0.25)	.000***	0.78 (0.16)	.762

Table B2. Un-weighted and weighted means treatment group (standard program plus cognitive skill training, n = 93), vs. control group (standard program plus cognitive skill training, n = 56)

	Treatment group	Un-weighted means Control group		Weighted means Control group	
	M (*SD*)	M (*SD*)	*p*	M (*SD*)	*p*
Covariate: Demographics					
Age (in years)	27.1 (9.0)	26. 3 (8.6)	.619	29.8 (11.2)	.096
Ethnicity					
Native	0.5 (0.5)	0.5 (0.5)	.752	0.5 (0.5)	.904
Non-native	0.5 (0.5)	0.4 (0.5)	.951	0.4 (0.5)	.858
Unknown	0.0 (0.1)	0.1 (0.2)	.296	0.0 (0.2)	.849
Covariate: Criminal history					
Age of onset	15.8 (3.6)	15.2 (3.6)	.393	15.5 (3.4)	.637
Nr. prior violent conv. last 5 y	0.5 (1.2)	0.5 (0.8)	.960	0.2 (0.6)	.158
Nr. prior property conv. last 5 y	0.8 (1.7)	0.8 (1.6)	.992	0.5 (1.4)	.286
Nr. prior other conv. last 5 y	0.5 (0.9)	0.5 (1.1)	.990	0.3 (0.7)	.180
Nr. prior prison sentences last 5 y	0.8 (2.2)	0.7 (1.6)	.648	0.4 (1.4)	.199
Nr. prior violent conv. ever	0.9 (2.2)	0.9 (1.8)	.885	0.7 (1.7)	.713
Nr. prior property conv. ever	2.5 (6.5)	2.7 (6.1)	.815	5.5 (7.7)	.010*
Nr. prior other conv. ever	1.2 (2.3)	1.1 (1.8)	.793	1.0 (1.4)	.603
Nr. prior prison sentences ever	1.9 (5.6)	1.8 (3.8)	.884	2.3 (3.3)	.607
Covariate: Current offence					
Offence type					
Violent	0.6 (0.5)	0.6 (0.5)	.945	0.6 (0.5)	.763
Property	0.2 (0.4)	0.3 (0.4)	.253	0.1 (0.3)	.183
Damage	0.0 (0.2)	0.0 (0.1)	.601	0.0 (0.1)	.337
Drug-related	0.0 (0.1)	0.0 (0.2)	.606	0.0 (0.2)	.582
Other	0.0 (0.0)	0.0 (0.0)	.409	0.0 (0.0)	–
Covariate: Risk assessment outcomes					
Off. hist. & current offence	18.9 (11.9)	17.1 (12.7)	.409	17.2 (15.9)	.455
Accommodation	3.5 (3.9)	3.7 (4.1)	.811	1.9 (3.1)	.007*
Education, work & training	8.9 (6.3)	9.6 (6.5)	.518	10.2 (5.3)	.172
Financial management & income	5.9 (3.6)	3.9 (3.5)	.001*	7.1 (4.1)	.074
Relationship with partner & relatives	2.3 (1.5)	2.6 (1.4)	.183	2.4 (1.4)	.597
Relationship with friends & acquaintances	7.3 (4.0)	7.3 (3.8)	.974	6.7 (3.9)	.313
Drug misuse	5.0 (5.0)	5.6 (4.9)	.491	3.9 (4.7)	.170
Alcohol misuse	1.4 (1.8)	1.4 (1.7)	.910	0.8 (1.4)	.061
Emotional wellbeing	1.8 (1.3)	2.4 (1.6)	.033*	1.8 (1.4)	.946
Thinking and behavior	8.2 (2.5)	8.3 (8.2)	.777	8.6 (1.9)	.240
Attitudes and orientation	6.1 (4.2)	7.3 (4.3)	.098	5.7 (4.4)	.570
Sentence length					
Total sentence imposed (in months)	21.0 (13.7)	11.9 (11.0)	.000***	–	–
Propensity score					
Predicted probability (tr. group membership)	0.72 (0.20)	0.45 (0.24)	.000***	0.74 (0.20)	.493

Table B3. Un-weighted and weighted means treatment group (standard program plus lifestyle training, n = 61), vs. control group (standard program plus lifestyle training, n = 54)

	Treatment group	Un-weighted means Control group		Weighted means Control group	
	M (*SD*)	M (*SD*)	*p*	M (*SD*)	*p*
Covariate: Demographics					
Age (in years)	27.8 (8.7)	30.4 (9.9)	.145	27.6 (9.3)	.864
Ethnicity					
Native	0.5 (0.5)	0.5 (0.5)	.931	0.4 (0.5)	.233
Non-native	0.4 (0.5)	0.4 (0.5)	.688	0.6 (0.5)	.156
Unknown	0.1 (0.2)	0.1 (0.3)	.392	0.0 (0.2)	.618
Covariate: Criminal history					
Age of onset	15.6 (3.4)	16.4 (5.2)	.297	15.2 (3.9)	.568
Nr. prior violent conv. last 5 y	0.5 (1.3)	0.6 (0.9)	.697	0.4 (0.7)	.629
Nr. prior property conv. last 5 y	1.1 (2.3)	1.3 (2.4)	.708	1.3 (2.7)	.691
Nr. prior other conv. last 5 y	0.8 (1.1)	0.5 (0.8)	.047*	0.6 (1.0)	.302
Nr. prior prison sentences last 5 y	1.1 (2.4)	1.4 (2.7)	.541	1.4 (3.0)	.551
Nr. prior violent conv. ever	1.1 (2.5)	1.4 (2.0)	.500	0.9 (2.0)	.676
Nr. prior property conv. ever	2.7 (5.1)	4.4 (7.3)	.153	2.7 (5.5)	.941
Nr. prior other conv. ever	1.9 (3.2)	1.5 (2.1)	.431	1.6 (2.4)	.610
Nr. prior prison sentences ever	2.2 (5.5)	3.2 (5.4)	.349	2.4 (4.8)	.895
Covariate: Current offence					
Offence type					
Violent	0.7 (0.5)	0.5 (0.5)	.041*	0.8 (0.4)	.729
Property	0.1 (0.4)	0.3 (0.5)	.088	0.2 (0.4)	.724
Damage	0.0 (0.2)	0.0 (0.2)	.902	0.0 (0.2)	.891
Drug-related	0.0 (0.1)	0.0 (0.0)	.349	0.0 (0.0)	.349
Other	0.0 (0.0)	0.0 (0.0)	–	0.0 (0.0)	–
Covariate: Risk assessment outcomes					
Off. hist. & current offence	19.9 (13.4)	17.8 (12.5)	.394	20.7 (14.1)	.772
Accommodation	3.9 (3.8)	4.3 (4.3)	.631	4.4 (4.4)	.556
Education, work & training	8.8 (6.5)	9.7 (6.2)	.478	9.8 (6.2)	.431
Financial management & income	5.7 (3.9)	5.1 (3.6)	.479	5.5 (3.7)	.848
Relationship with partner & relatives	2.8 (1.7)	2.7 (1.7)	.891	3.1 (1.9)	.388
Relationship with friends & acquaintances	7.0 (4.0)	6.6 (4.2)	.595	7.9 (4.0)	.226
Drug misuse	8.1 (4.6)	8.4 (4.8)	.727	8.1 (5.1)	.973
Alcohol misuse	2.3 (2.0)	1.8 (1.9)	.232	1.8 (1.9)	.161
Emotional wellbeing	2.2 (1.5)	2.1 (1.5)	.942	2.2 (1.4)	.997
Thinking and behavior	8.2 (2.9)	7.3 (3.2)	.138	8.6 (2.8)	.449
Attitudes and orientation	6.4 (4.5)	5.2 (4.4)	.164	7.0 (4.6)	.438
Sentence length					
Total sentence imposed (in months)	17.5 (15.2)	9.9 (11.8)	.004**	–	–
Propensity score					
Predicted probability (tr. group membership)	0.62 (0.21)	0.42 (0.20)	.000***	0.59 (0.18)	.752

Note: * $p = <.05$; ** $p = <.01$; *** $p = <.001$

Table B4. Estimated parameters of treatment group membership (standard program, n = 188) vs. control group membership (standard program, n = 99)

	Treatment vs. control group		
	OR	CI	Sig.
Covariate: Demographics			
Age (in years)	0.94	[0.88 – 0.99]	*
Ethnicity			
Native	*Ref.*	*Ref.*	*Ref.*
Non-native	0.78	[0.34 – 1.77]	n.s.
Unknown	0.17	[0.02 – 1.25]	n.s.
Covariate: Criminal history			
Age of onset	1.01	[0.95 – 1.07]	n.s.
Nr. prior violent conv. last 5 y	0.72	[0.37- 1.41]	n.s.
Nr. prior property conv. last 5 y	0.69	[0.44 – 1.08]	n.s.
Nr. prior other conv. last 5 y	0.91	[0.61 – 1.34]	n.s.
Nr. prior prison sentences last 5 y	1.24	[0.75 – 2.07]	n.s.
Nr. prior violent conv. ever	0.94	[0.62 – 1.41]	n.s.
Nr. prior property conv. ever	1.02	[0.86 – 1.20]	n.s.
Nr. prior other conv. ever	0.93	[0.76 – 1.14]	n.s.
Nr. prior prison sentences ever	1.13	[0.89 – 1.43]	n.s.
Covariate: Current offence			
Offence type			
Violent	*Ref.*	*Ref.*	*Ref.*
Property	0.65	[0.25 – 1.69]	n.s.
Damage	0.28	[0.29 – 2.66]	n.s.
Drug-related	0.83	[0.28 – 2.41]	n.s.
Other	3.44	[0.63 – 18.78]	n.s.
Covariate: Risk assessment outcomes			
Offending history and current offence	1.02	[0.97 – 1.04]	n.s.
Accommodation	1.25	[1.11 – 1.41]	***
Education, work and training	0.98	[0.91 – 1.05]	n.s.
Financial management and income	1.02	[0.92 – 1.14]	n.s.
Relationship with partner and relatives	0.81	[0.63 – 1.03]	n.s.
Relationship with friends and acquaintances	1.04	[0.94 – 1.16]	n.s.
Drug misuse	0.95	[0.87 – 1.04]	n.s.
Alcohol misuse	1.24	[0.99 – 1.55]	n.s.
Emotional wellbeing	0.61	[0.46 – 0.81]	**
Thinking and behavior	0.98	[0.82 – 1.17]	n.s.
Attitudes and orientation	0.97	[0.87 – 1.08]	n.s.

Note: * p = <.05; ** p = <.01; *** p = <.001

Table B5. Estimated parameters of treatment group membership (standard program plus cognitive skill training, n = 93) vs. control group membership (standard program plus cognitive skill training, n = 56)

	Treatment vs. control group		
	OR	CI	Sig.
Covariate: Demographics			
Age (in years)	1.03	[0.91 – 1.15]	n.s.
Ethnicity			
Native	*Ref.*	*Ref.*	*Ref.*
Non-native	0.80	[0.30 – 2.17]	n.s.
Unknown	0.40	[0.04 – 4.26]	n.s.
Covariate: Criminal history			
Age of onset	0.98	[0.80 – 1.18]	n.s.
Nr. prior violent conv. last 5 y	1.01	[0.33 – 3.14]	n.s.
Nr. prior property conv. last 5 y	1.20	[0.58 – 2.47]	n.s.
Nr. prior other conv. last 5 y	1.00	[0.45 – 2.26]	n.s.
Nr. prior prison sentences last 5 y	1.06	[0.46 – 2.47]	n.s.
Nr. prior violent conv. ever	0.92	[0.53 – 1.61]	n.s.
Nr. prior property conv. ever	0.86	[0.60 – 1.24]	n.s.
Nr. prior other conv. ever	0.84	[0.49 – 1.43]	n.s.
Nr. prior prison sentences ever	1.11	[0.68 – 1.79]	n.s.
Covariate: Current offence			
Offence type			
Violent	*Ref.*	*Ref.*	*Ref.*
Property	0.42	[0.12 – 1.47]	n.s.
Damage	1.83	[0.12 – 28.65]	n.s.
Drug-related	3.53	[0.63 – 19.66]	n.s.
Other	0.86	[0.09 – 8.47]	n.s.
Covariate: Risk assessment outcomes			
Offending history and current offence	1.06	[1.01 – 1.11]	*
Accommodation	0.97	[0.85 – 1.09]	n.s.
Education, work and training	0.97	[0.89 – 1.06]	n.s.
Financial management and income	1.40	[1.18 – 1.66]	***
Relationship with partner and relatives	0.83	[0.60 – 1.15]	n.s.
Relationship with friends and acquaintances	1.07	[0.94 – 1.22]	n.s.
Drug misuse	0.94	[0.85 – 1.03]	n.s.
Alcohol misuse	1.15	[0.86 – 1.53]	n.s.
Emotional wellbeing	0.88	[0.62 – 1.24]	n.s.
Thinking and behavior	1.10	[0.89 – 1.35]	n.s.
Attitudes and orientation	0.80	[0.70 – 0.92]	*

Note: * $p = <.05$; ** $p = <.01$; *** $p = <.001$

Table B6. Estimated parameters of treatment group membership (standard program plus lifestyle training, n = 61) vs. control group membership (standard program plus lifestyle training, n = 54)

	Treatment vs. control group		
	OR	CI	Sig.
Covariate: Demographics			
Age (in years)	0.98	[0.87 – 1.10]	n.s.
Ethnicity			
Native	*Ref.*	*Ref.*	*Ref.*
Non-native	0.85	[0.30 – 2.41]	n.s.
Unknown	0.41	[0.07 – 2.53]	n.s.
Covariate: Criminal history			
Age of onset	0.90	[0.76 – 1.08]	n.s.
Nr. prior violent conv. last 5 y	1.45	[0.47- 4.48]	n.s.
Nr. prior property conv. last 5 y	1.23	[0.67 – 2.24]	n.s.
Nr. prior other conv. last 5 y	2.29	[0.90 – 5.87]	n.s.
Nr. prior prison sentences last 5 y	0.79	[0.36 – 1.71]	n.s.
Nr. prior violent conv. ever	0.74	[0.43 – 1.29]	n.s.
Nr. prior property conv. ever	0.89	[0.71 – 1.11]	n.s.
Nr. prior other conv. ever	0.98	[0.61 – 1.57]	n.s.
Nr. prior prison sentences ever	1.20	[0.82 – 1.76]	n.s.
Covariate: Current offence			
Offence type			
Violent	*Ref.*	*Ref.*	*Ref.*
Property	0.28	[0.08 – 1.03]	n.s.
Damage	0.47	[0.04 – 5.00]	n.s.
Drug-related	0.96	[0.20 – 4.69]	n.s.
Other	0.94	[0.04 – 24.27]	n.s.
Covariate: Risk assessment outcomes			
Offending history and current offence	1.00	[0.96 – 1.04]	n.s.
Accommodation	0.98	[0.85 – 1.14]	n.s.
Education, work and training	0.95	[0.86 – 1.05]	n.s.
Financial management and income	1.06	[0.94 – 1.20]	n.s.
Relationship with partner and relatives	0.91	[0.65 – 1.27]	n.s.
Relationship with friends and acquaintances	0.97	[0.84 – 1.12]	n.s.
Drug misuse	0.99	[0.89 – 1.10]	n.s.
Alcohol misuse	1.18	[0.92 – 1.50]	n.s.
Emotional wellbeing	0.87	[0.59 – 0.26]	n.s.
Thinking and behavior	1.13	[0.90 – 1.42]	n.s.
Attitudes and orientation	1.05	[0.90 – 1.24]	n.s.

Note: * p = <.05; ** p = <.01; *** p = <.001

8 Summary and Discussion

8.1 Introduction

Over ten million people are currently held in penitentiary institutions throughout the world (Walmsley, 2016). Nevertheless, there appears to be a growing recognition that prisons fail to turn offenders away from further criminal behavior (see e.g. Cid, 2009; Gendreau, Cullen & Goggin, 1999; Nieuwbeerta, Nagin & Blokland, 2009; Smith, 2006; Spohn & Holleran, 2002; Wermink, Apel, Nieuwbeerta & Blokland, 2013). Recent studies have shown that post-release recidivism rates among ex-detainees are high (Fazel & Wolf, 2015; Hughes & Wilson, 2002; Langan & Levin, 2002; SEU, 2002; Wartna et al., 2010) and indicated that imprisonment may cause harmful effects to the lives of ex-detainees, their families and the bond with the communities they return to (see e.g. Bushway, 2006; Geller & Curtis, 2011; Hagan & Dinovitzer, 1999; Lynch & Sabol, 2001; Massoglia, 2008; Petersilia, 2000; Rose & Clear, 1998; Schnittker & John, 2007; Travis, Solomon & Waul, 2001; Western, 2002). Inspired by great advancements made in the field of correctional rehabilitation research, in which it was shown that, contradictory to the view of for example Martinson (1974) who questioned the value of offender rehabilitation efforts, rehabilitation programs can be an effective instrument to help decrease re-offending rates among offenders (see e.g. Andrews et al., 1990; Cullen & Gendreau, 2001; Gendreau, Cullen & Bonta, 1994; McGuire, 1995; McGuire & Priestley, 1995; Andrews, 1995), governments of many Western countries invested in implementing correctional rehabilitation programs designed to deter offenders from future criminal behavior. In The Netherlands, this lead to the nation-wide implementation of the Prevention of Recidivism Program: A prison-based rehabilitation program aimed to decrease recidivism rates of detainees with a prison sentence of at least 4 months that was implemented in 2007 (Dutch Prison Service & Dutch Probation Organizations, 2007) and ran up to March 2014.

Similar to medical interventions, correctional rehabilitation programs can and should be *evidence based* (Day & Howells, 2002; Latessa, 2004; Latessa et al., 2002; MacKenzie, 2000; 2001). In order to maximize the application of evidence based practices, evaluation studies are of vital importance. A broad evaluation approach consists of three elements; a *plan evaluation*, aimed to determine if programs were designed in accordance with current knowledge based on theory and empirical research; a *process evaluation*, usually conducted to determine if a program was delivered properly; and a *product evaluation*, which is carried out to assess if a program was successful

in reaching its aims. This way, an evaluation study does not merely focus on the outcomes of a program (Todd & Wolpin, 2008), but also pays attention to the processes by which results were accomplished (Burton, Goodlad & Croft, 2006; Lipsey, Petrie, Weisburd & Gottfredson, 2006).

The Dutch Prevention of Recidivism Program has never been subjected to such a comprehensive evaluation study. This is surprising, since between 2007 and 2014, on a large scale (the program was implemented nationwide) incarcerated offenders were exposed to a program, despite the fact that nothing is known about its influence on (former) participants and their post-release re-offending behavior. The current study therefore aimed to overcome this huge lack in knowledge by conducting a plan, process and product evaluation into the functioning and effectiveness of the Prevention of Recidivism Program. The overall research questions that were addressed by the current study were: (1) *To what extent is the Prevention of Recidivism Program effective, based on theoretical and empirical knowledge?* (2) *To what extent is the Prevention of Recidivism program functioning according to plan?* And (3) *To what extent is the Prevention of Recidivism Program effective in reducing post-release re-offending rates among program participants*? To examine the research questions proposed, this study used a group of offenders that were included in the Prison Project: A large scale, longitudinal research project, studying the effect of imprisonment on the life of detainees and their families in The Netherlands. Its population-based sample includes all male prisoners aged 18 to 65 years, who were born in The Netherlands, who entered one of the Dutch remand centers between October 2010 and April 2011, and were held in pre-trial detention. This amounts to a total sample of 3.981 detainees.

By studying a rehabilitation program carried out nationwide among a broad offender population, the entire field of prison-based rehabilitation efforts undertaken in Dutch prisons were examined. This has to date not been done, and provides a unique opportunity to compare different elements of treatment and different types of treatment, imposed on different groups of offenders, in various organizational contexts. In addition, this study is of great societal importance because it aimed to assess the performance and effectiveness of a rehabilitation program that has been implemented and running for over a decade, to which many detainees have been exposed, for which implantation was costly, and for which the impact on society was still unknown. This study made scientific progress by empirically evaluating a prison-based rehabilitation program in The Netherlands. This, to date, had not been done. And by not limiting research questions, alike much of the previous work conducted, to the *effectiveness* of prison-based treatment programs. Furthermore, methodological progress was made in using a unique, large-scaled, longitudinal dataset, in which various sources of data were combined, and advanced methodological techniques were applied. Lastly, the results of this study can provide vital information for policy makers, by assessing an approach (risk assessment and the application of criminogenic need-specific treatment modules in line with an offenders risk for re-offending and criminogenic needs), which correctional rehabilitation practices still rely on today. This provides valuable information for current affairs.

This final chapter first of all summarizes the results found in each of the preceding chapters, and aims to answer the overall research question proposed. First, an overall conclusion is drawn, after which the results found in each preceding chapter are summarized. After laying down the main findings, a reflection will be made with regards to theoretical considerations, after which the progress made by the current study is discussed, and limitations and directions for future research will be given. This chapter will conclude with some policy implications.

8.2 Summary of findings

Main conclusions

The Prevention of Recidivism Program, which aimed to reduce the re-offending rates of program participants, was a program implemented to contribute to the overall reduction of recidivism in society by ten percent, and the reduction of crime in society by twenty to twenty-five percent. First, the current study made clear that although the goals of the Prevention of Recidivism Program were rather ambitious, the program could be considered promising, since it applied methods that were potentially effective based on theoretical and empirical considerations. Second, this study showed that program-execution was severely hampered by a number of problems; the program included a fairly limited group of offenders as a result of strict inclusion criteria set; faced considerable attrition rates (both non-participation and non-completion), which were in most cases caused by organizational constraints; allocated offenders to treatment modules which were in many cases not in line with risk and need assessment outcomes; and consequently, was only able to reach a fairly limited group of offenders, of whom most only completed a standard program, with no specific treatment program aimed to target their individual criminogenic needs. Third, it was concluded that the program was only effective in reducing the two-year post-release re-offending rates among offenders that completed a standard treatment program. Criminogenic need-specific treatment modules, considered the core element of the Prevention of Recidivism Program (Van der Linden, 2004), were not shown effective in reducing recidivism among program participants. All taken into consideration, this study indicated that the Prevention of Recidivism Program did not lead to a reduction in re-offending rates among offenders that completed a program which included criminogenic need-specific treatment modules, and led to a fairly moderate decrease in post-release re-offending rates among offenders that completed a standard program. Considering the fact that criminogenic need-specific treatment modules are viewed as the central element of the program, and taking into consideration the rather ambitious program goals, the results found in this study lead us to question the overall effectiveness of the Prevention of Recidivism Program.

A more detailed overview of the main findings is provided below.

The Prevention of Recidivism Program: Plan evaluation (chapter 2)
In chapter 2, a plan-evaluation was presented, which aimed to determine the extent to which the Prevention of Recidivism Program, based on theoretical and empirical knowledge, could be considered an effective rehabilitation program. This was done by gathering all explicit and implicit assumptions and theories underpinning the Prevention of Recidivism (often referred to as the reconstruction of program logic, see Hoogerwerf, 1998; Hoogerwerf & Herweijer, 2003; Leeuw, 2003; 2005; Van Noije & Wittebrood, 2008), and testing the set of assumptions (or program logic) to theoretical knowledge and knowledge based on previous studies conducted.

An analysis of the program logic reconstructed showed that the Prevention of Recidivism Program relied on a method in which the program aims were supposed to be attained by (a) applying effective treatment in line with an offenders risk for recidivism and criminogenic needs; (b) preparing offenders for release by offering assistance on four (practical) target areas; (c) gradually releasing detainees into society by means of a phased re-entry and early release, and (d) providing an inmate with a case-manager that closely cooperates with both the prison- and probation service. Combined, this approach was believed to reduce re-offending rates among program participants. This in turn was supposed to contribute to the overall reduction of recidivism in society by ten percent, and the reduction of crime in society by twenty to twenty-five percent. It was concluded that the supposed mechanisms were generally considered plausible based on theoretical considerations and previous studies conducted. In other words: it was considered plausible that the treatment methods combined can cause a reduction in recidivism among program participants. Although the methods were considered sound, it was questioned to what extent the program could contribute large macro-level goals (reduction of recidivism and crime in society), since the number of incarcerated offenders that adhered to programs inclusion criteria was shown to be marginal (around five percent of the total inmate population), and expected drops in recidivism rates among program participant were expected (based on previous studies conducted) to be fairly small.

In brief, Chapter 2 made clear that the Prevention of Recidivism Program could in theory be effective; since it uses methods that were shown effective, and was based on theories about what we know has worked in the past. Expectation's concerning program effectiveness should however be limited to expected reductions in recidivism rates among the (rather small) group of offenders that took part in the program.

The Prevention of Recidivism Program: Process evaluation (chapter 3 up to chapter 6)
The second step of program evaluation is to determine to what extent the program was properly executed. Therefore, in chapter 3 up to 6, each phase of the Prevention of Recidivism Program cycle was extensively (empirically) studied, an overview of which is provided in Figure 1.

The Prevention of Recidivism Program was developed for a broad offender population. However, the program only included offenders (a) with a prison sentence (remaining at the moment a prison sentence was imposed) of at least four months, who (b) were not excluded based on additional exclusion grounds. In Chapter 3, program candidacy was examined. It aimed to assess: how many offenders qualified for participation in the Prevention of Recidivism Program; what their characteristics were; and aimed to determine if the correct target population qualified for participation in the Prevention of Recidivism Program. By doing so, it could be determined if the Prevention of Recidivism Program included a target population of high-risk offenders, who were in greatest need of treatment and for whom treatment potentially had the greatest potential in terms of a decrease in post-release re-offending.

Results showed that 886 offenders (22.3% of our research sample of 3.981 detainees) qualified for program entry (as shown in Figure 1). When comparing offenders who qualified to those who did not, it was found that program candidates were generally incarcerated for a more severe (often violent) offence, for which they had received longer prison sentences. Both groups did not however differ regarding risk to re-offend, and no coherent pattern of differences was found regarding a broad range of risk factors. Lastly, it was concluded that the program registration database had not always been correct in classifying offenders as candidates and non-candidates; around thirty percent of offenders that qualified for program entry were in fact not eligible, while a much smaller group of offenders (just over two percent) was eligible, but was not selected for program entry.

Three conclusions were drawn. First, program candidates could in general be considered a high-risk group of offenders, who were in need of treatment and for whom treatment success might be expected based on previous studies conducted. Second, the group of program non-candidates represents an equally high-risk group who was also in need of treatment, but was excluded based on (in most cases) sentence length. Third, some offenders were unrightfully included in treatment, while some were wrongfully excluded.

Treatment programs cannot be effective in reducing recidivism among program participants if those who are eligible for participation do not take part. Program non-participation leads to high-risk offenders returning to communities untreated, and leaves valuable treatment places unoccupied. Chapter 4 therefore studied non-participation among program candidates. It aimed to examine how many offenders participated in the Prevention of Recidivism Program, aimed to assess what their characteristics were and aimed to determine which factors had determined program participation. Based on theoretical and empirical considerations, it was hypothesized that treatment readiness and risk factors were related to participation in the Prevention of Recidivism Program. This assumption was tested among a group of 886 offenders that were eligible for participation in the Prevention of Recidivism Program.

Results showed that a little over sixty percent (n = 541, see Figure 1) of those offenders eligible for participation had decided to take part in the program. Offenders who did not take part in treatment were in most cases excluded from participation based on organizational circumstances (which was the case for over thirty percent of those eligible). Less than ten percent of offenders eligible for participation did not take part because they refused. Further analysis showed that treatment readiness was related to program participation. Risk and need scores were however, with two minor exceptions, not shown associated with program participation. The outcomes first of all showed that a large proportion of program candidates were excluded from treatment, based on organizational factors. Second, this study made clear that treatment readiness is an important factor determining program participation. It was therefore argued that treatment readiness among offenders eligible for correctional treatment programs should perhaps be measured prior to treatment entry, and if necessary; enhanced.

Previous work has indicated that correctional treatment programs are only effective if offenders are allocated to treatment based on risk and need assessment outcomes (Latessa et al., 2002), but has also shown that risk assessment instruments are rarely used to allocate offenders to treatment (Latessa, Cullen & Gendreau, 2002; Taxman & Bouffard, 2000; Taxman & Marlowe, 2006). Chapter 5 therefore assessed: how many offenders were allocated to what types of treatment; if the correct target population allocated to the right type of treatment; and studied which factors had influenced these treatment-allocation decision-making processes. Inspired by a theoretical framework that has been frequently used to frame decision-making processes in other junctures of the criminal justice chain, a model was proposed in which indicators of risk and need factors and organizational circumstances were believed to influence prison-based treatment referral decisions. Treatment referral decision-making processes were studied by examining treatment module allocation among our group of Prevention of Recidivism Program participants (N = 541).

The results indicated that over half of our research group was allocated to a standard program (as shown in Figure 1). Furthermore, treatment allocation was not in line with risk and need assessment outcomes. In fact, over half of our research group was incorrectly classified, which in most cases resulted in offenders being referred to a standard program (with no specific treatment module), while based on their risk and need assessment scores, they should have been referred to a program that did include specialized treatment. This led us to wonder about the determinants of treatment referral decision-making processes. These did however show that risk and need factors had mainly influenced treatment referrals. However, model statistics also showed that a large proportion of the variance in treatment referrals among our studied groups remained unexplained. These outcomes cause some concern about the expected outcomes of treatment: since studies have shown that adherence to risk and need factors is a major indicator of treatment success in terms of reducing re-offending.

Similar to the issue of program non-entry discussed in Chapter 4, program non-completion is often observed in correctional rehabilitation practices (Olver, Stockdale & Wormith, 2011). Program non-completion is problematic because it leaves high-risk offenders in need of care untreated, and even more, because previous work has suggested that program drop-outs generally represent a more high-risk group (Polaschek, 2010; Wormith & Olver, 2002), with higher post-release reoffending rates (McMurran & Theodosi, 2007). If such selective non-engagement is not adequately taken into account, effectiveness of treatment programs may be overestimated in effect studies. The study discussed in Chapter 6 therefore focused on treatment completion. It aimed to determine how many offenders completed the Prevention of Recidivism Program, aimed to assess what their characteristics were, and studied which factors determined program completion. Because previous work had indicated that treatment readiness and risk factors were associated with treatment completion, this study tested the extent to which risk factors and treatment readiness were related to completion of the Prevention of Recidivism Program. The research question was addressed by studying program completion among Prevention of Recidivism Program participants, who were no longer imprisoned and had therefore either completed treatment, or dropped out of treatment (N = 508).

Study outcomes had shown that although offender-instigated non-completion rates were limited, non-completion due to various organizational circumstances was substantial (18.9%, as shown in Figure 1). With respect to determinants of treatment completion results have indicated that treatment readiness did not, contrary what was hypothesized, prove to be related to program completion. Additionally, it was shown that only one risk domain significantly correlated with treatment completion. It was therefore concluded that there was no relation between both treatment readiness and risk factors, and program completion. Treatment type was however shown related to treatment completion: offenders allocated to a program that contained criminogenic need-specific treatment modules were more often among those that did not complete treatment. Although this relation is perhaps obvious and could possibly even have been expected, (in an empty program, there is nothing to drop-out from) it is still striking that the correctional system has such a hard time getting offenders in need of treatment to complete the programs they were referred to. Even more so, because the mere fact that offenders are referred to such programs, indicate their need for treatment.

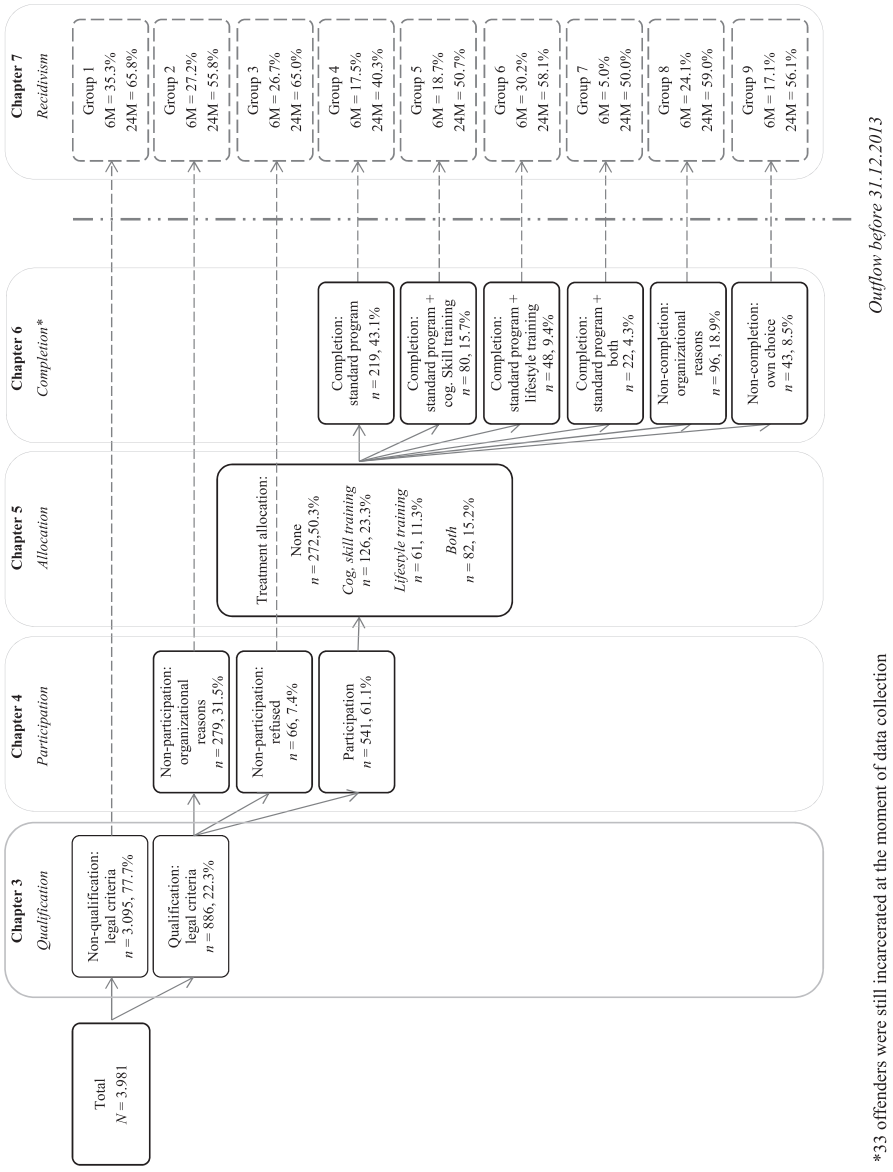

Figure 1. Overview of 24-month recidivism rates per research group

The Prevention of Recidivism Program: Product evaluation (chapter 7)

The closing part of evaluation research is a product evaluation. Hence, the purpose of the study presented in Chapter 7 was to determine to what extent the Prevention of Recidivism Program was effective in reducing 6, and 24-month post-release re-offending rates among program participants. Based on theoretical expectations and previous studies it was expected that offenders who participated in the Prevention of Recidivism Program would

re-offend less in the 6- and 24-month period after being released from prison, compared to offenders who did not participate. To study program effectiveness, two analytical approaches were applied. First, group differences between each research group defined in the preceding empirical chapters (program non-candidates; program non-participants: organizational reasons; program non-participants: refused; program completers: standard treatment program; program completers: standard program plus cognitive skill training; program completers: standard program plus lifestyle training; program completers: standard program plus cognitive skill and lifestyle training; non-completers: organizational reasons; and non-completers: own choice) were analyzed, after which post release re-offending was studied by use of logistic regression analyses (in which the entire research sample of 3.835 offenders was included). Second, propensity score methodology (proportional weighting within strata) was applied; in which three appropriate research- and control groups were created.

Results had shown that the 6- and 24-months post-release re-offending rates differed greatly between our treatment groups (as is also shown in Figure 1). Further analyses indicated a significant decrease in 24-month post release re-offending rates among offenders that completed a standard program, evidenced by a regression analysis, and shown by a comparison of weighted treatment effects between a group of standard-program completers and an appropriate control group. Although a significant effect was found; the reductions in criminal re-offending found in this study were relatively small, in any case smaller than those found in large-scale meta-analytic studies (Andrews et al., 1990; Lipsey & Cullen, 2007). Furthermore, both analytical approaches applied in this chapter showed that there was no significant treatment effect of engagement in cognitive skill training and lifestyle training. This seems to suggest that risk and need-oriented programs were unsuccessful, which is not in line with premises made based on theoretical (Andrews, Bonta & Hoge, 1990) and empirical considerations (Andrews et al., 1990; Lipsey & Cullen, 2007).

8.3 Theoretical implications

The effectiveness of correctional treatment (*what works in correctional programming*) has received an enormous amount of scholarly attention (Andrews & Dowden, 2005). Correctional treatment programs that were found effective in prior empirical studies often relied on insights that originate from two popular theoretical approaches; the Risk-Need-Responsivity model for the assessment and treatment of offenders (Andrews, Bonta & Hoge, 1990), and Good Lives Model of offender rehabilitation (Ward & Brown, 2004). Although different in nature, the RNR-model is a risk-based approach, while the Good Lives Model is more strength-based in nature, both of these models describe how offending behavior can be altered by correctional treatment programs The RNR-model suggests that offending

behavior is believed to be caused by a broad range of risk factors, that can influence an offenders considerations to engage in, or not engage in criminal behavior (Andrews, Bonta & Wormith, 2011). Effective treatment should consequently be directed at removing these risk factors. In contrast, the Good Lives Model believes that criminal behavior can develop when people fail to attain certain life goals, which can be hampered by risk factors (Ward & Stewart, 2003). Accordingly, effective correctional treatment should, based on the Good Lives Model, focus on helping offenders with the skills necessary to attain their personal life goals.

Both the RNR-model (Andrews, Bonta & Hoge, 1990) and Good Lives Model (Ward & Brown, 2004) were applied in this study to guide assumptions about the association between risk factors and treatment engagement (i.e. participation and completion). It was however concluded that, in case of the Prevention of Recidivism Program, these models cited did not provide an explanation that could contribute to explaining program participation, and program completion. Additionally, treatment engagement was explained by marshalling the *Multifactor Offender Readiness Model* [MORM] (Ward, Day, Howells & Birgden, 2004). This model suggests that engaging in correctional programs can be explained by treatment readiness; the willingness and suitability to engage in treatment (Howells & Day, 2003). In case of treatment participation, meaning entry in The Prevention of Recidivism Program, hypothesis derived from this model were shown applicable. Treatment readiness was however not shown to be an important predictor of program completion. Perhaps not initially expected, it was shown by the current study that non-engagement (non-participation and non-completion) was often caused by organizational circumstances, which may indicate that treatment engagement could perhaps better be explained by contextual measures.

Second, the current study focused on exploring and explaining prison-based treatment allocation (i.e. referrals to criminogenic need-specific treatment modules). Official guidelines, incorporated in several program manuals were implemented to guide treatment allocation, in practice however; such guidelines are not always carried out as they were prescribed. To explain this phenomenon, *Street Level Bureaucracy theory* (Lipsky, 1971; 1980) was cited. The premises made based on this theory, suggesting that public service employees do not always apply policies as prescribed, were supported in this study. As a result, Dutch prisoners who qualified for (and were in need for) treatment, did not have access to services. In addition, it was concluded that detainees with a lower risk and/or less severe criminogenic needs, *easier* clients, were more often correctly allocated to services, which in the Street Level Bureaucracy tradition is called *creaming*; giving priority to decisions that involve easier and manageable clients and cases (Lipsky, 1980; 2010). Although our study certainly demonstrated the value of street level bureaucracy theory, our model developed was unable to completely explain the decision-making process that had led to discrepancies in treatment allocation, meaning this issue certainly deserves more attention in future research.

Since treatment has been shown most effective if it adhered to the central principles of corrective treatment; the Risk-Need-Responsivity model for the assessment and treatment of offenders (Andrews, Bonta & Hoge, 1990), the RNR-based Prevention of Recidivism was considered promising. However, since a risk- and need oriented approach was not found effective in this study, this study cannot be seen as a validation of the results found in the immense body of research conducted that showed the importance of adhering to the RNR-principles (see Andrews et al., 1990; Cullen & Gendreau, 2001; Gendreau, 1996; Gendreau, Little & Goggin, 1996; Lipsey & Cullen, 2007; Lowenkamp, Latessa & Holsinger, 2006; Lowenkamp, Latessa & Smith, 2006). Scholars suggested that a lack in program effectiveness may be caused by ill program-execution (Andrews & Dowden, 2005), often referred to as (a lack in) *treatment integrity*, or *treatment fidelity* (Andrews & Dowden, 2005; Hollin, 1995; Leschied, Bernfeld & Farrington, 2001; Moncher & Prinze, 1991). Although the results of this study indicate that several issues relating to program integrity hampered the Prevention of Recidivism Program, it was not shown that this explained (a lack in) program effectiveness. In Chapter 7, a few possible explanations were given for the fact that the current study's results differed greatly from what is known based on theoretical and empirical knowledge. It could for example be the case that the effectiveness of prison-based treatment found in other geographic regions do not translate to the specific situation (and criminogenic needs and risk for re-offending of offenders incarcerated) in The Netherlands. Although more research is definitely necessary to further examine these issues, this study makes clear that we should perhaps be careful with the development of programs based on theoretical insights that were not first confirmed in the appropriate (national) context.

8.4 Strengths, limitations and directions for future research

By evaluating the design, functioning, and effectiveness of the Prevention of Recidivism Program, the current study made a huge step in the field of (evidence-based) correctional practices in The Netherlands. With respect to the unique qualities of this study, we want to make three remarks.

First and foremost, this study had applied a broad evaluation approach to a program that has been implemented for years, but had not been studied for effectiveness. In most cases, evaluation studies merely focus on the outcomes of a program (product evaluation). This study has been able to advance on this *black box* approach (see e.g. Simpson, Joe, Rowan-Szal & Greener, 1997; Taxman & Bouffard, 2000), by assessing if the program plans were considered potentially effective based on theoretical and empirical considerations (plan evaluation), and by extensively studying the way in which the program was carried out in practice (process evaluation). Such a thorough evaluation study is not often done (Todd & Wolpin, 2008), and gives a unique insight in program outcomes, as well as possible design- and

implementation strengths and weaknesses that may have confounded with the outcomes attained.

Second, the current study applied original theoretical insights, stemming from different scholarly traditions. Most prominent of which perhaps is the Risk-Need-Responsivity model for the assessment and treatment of offenders (Andrews, Bonta & Hoge, 1990), which can be considered the leading model for explaining the effectiveness of correctional treatment (Ward & Eccleston). The research field of correctional practices had however further developed, which led to the development of new theories and insights, such as the Good Lives Model of offender rehabilitation (Ward & Brown, 2004), and Multifactor Offender Readiness Model (Ward et al, 2004), also applied in this study. In some cases, rehabilitation-theories were however not sufficient to guide our hypotheses, in which case inspiration was drawn from theories developed and used in other research fields, such as the widely applied Street Level Bureaucracy theory (Lipsky, 1971). This makes the current study innovative and interdisciplinary.

Third, this study was able to use a rich, population-based dataset, consisting of almost four thousand offenders (the entire six month inflow in pre-trial detention, of detainees between the ages of 18 and 65, who were born in The Netherlands). On this research sample, several registration databases were available, including a national risk assessment database, and recidivism data that made it possible to study re-offending rates two years post release from prison. The fact that such a large offender population was studied means this study was able to distinguish between a broad range of groups, depending on the status of program eligibility, participation, content and completion, make assumptions about the performance and effectiveness of the Prevention of Recidivism Program for each of the research groups distinguished, and translate these outcomes to the broader field of prison-based treatment in The Netherlands. Additionally, since such a large amount of data was available, we were able to analyze and control for a broad range of factors.

Limitations and directions for future research

Although the current study made great advancements, the results of which are important for prison-based rehabilitation practices in The Netherlands, as well as abroad, there are a number of limitations that are worthy of mentioning, and some issues that need to be dealt with in future studies. We also want to make some suggestions regarding the questions that may have remained unanswered, or were brought up as a result of this study, that deserve attention in future research endeavors.

First, although this study has been particularly extensive and thorough in its (methodological) approach, we cannot go around the fact that the effectiveness of the Prevention of Recidivism Program had not been studied by use of a randomized controlled trial; often referred to as the golden standard in (correctional rehabilitation) research (Debidin & Lovbakke, 2005; Harper & Chitty, 2005; Hollin, 2008). Instead, the evaluation of effectiveness

in this study was based on a quasi-experimental design. Randomized experiments however, while undoubtedly having the highest internal validity, are uncommon in criminology due to implementation problems (Farrington, Gottfredson, Sherman & Welsh, 2002), and do not necessarily reflect the "real world" of correctional practices (Gondolf, 2001). It is therefore increasingly questioned if a randomized experiment is the *holy grail* of evaluation research (see e.g. Hollin, 2008). The study central to this dissertation has many merits: It included a large offender population, on which a considerable amount of data was available, which was analyzed by use of two advanced analytical approaches. Also, the current study compared a treatment group to an appropriate control condition consisting of eligible offenders that could not take part in treatment based on factors outside of the individual offender, instead of a control group created by selecting offenders who decided not to participate (see e.g. McGrath, Cumming, Livingston & Hoke, 2003; Worling & Curwen, 2000), or who dropped-out during treatment (see e.g. Wexler et al., 1999). Consequently, this study could be considered a *high-quality* quasi-experimental study (Hollin, 2008), which means that both the internal and external validity can be considered adequate.

Second, although this study was able to include a rather large, population-based sample, only male offenders, between the ages of 18 and 65, who were born in The Netherlands and entered prison in pre-trial detention were included. We do not anticipate that the first three aspects (gender, age and type of detainee) had major implications, since the vast majority of offenders imprisoned in The Netherlands are male and are between the age of 18 and 65 (Linckens & de Looff, 2015), and offenders that entered prison on other grounds than pre-trial detention, such as arrestees, are generally only briefly imprisoned, meaning they generally will not qualify for entry in the Prevention of Recidivism Program. The latter however, country of birth, has probably influenced the current study's results. By only selecting offenders born in The Netherlands, we excluded about 45 percent (Linckens & de Looff, 2015) of the Dutch offender population. Although a proportion of these offenders would not have been eligible for entry in the Prevention of Recidivism Program because they are not Dutch citizens, and/or do not have sufficient Dutch language skills (unfortunately there is no data available on how many of the offenders born abroad are actually foreign, and/or do not speak Dutch), it cannot be ruled out that a proportion of them, specifically first generation immigrants, will have been eligible for program entry and entered and completed the program. Since little is known about the specific criminogenic needs of first generation immigrants in light of treatment requirements, as well as the effects of prison-based treatment programs on this group of detainees, we do not know if our results also hold true for first generation immigrants.

Third, this study is limited by the fact that no individual process- and effect evaluations of each separate treatment module were conducted. It could therefore not be determined to what extent the treatment modules were carried out according to plan, and what the effectiveness of these treat-

ment modules was on specific treatment goals, such as the enhancement of cognitive skills (in case of cognitive skill training). Although this study (systematically) identified and discussed the studies that have evaluated these individual programs – which for the record indicated that program integrity was hindered by quite a few execution problems -, these studies were not repeated among our current research sample. Unfortunately, a certain amount of detail was lost as a result of this decision. This has (at least) two consequences. First, it means that we cannot be certain about the influence of the specific way in which each treatment module (in each prison) was executed, which could for example in much more detail explain the lack in program effectiveness found among offenders that completed a program that included a criminogenic-need specific treatment module. And second, it means that we do not know whether treatment modules were effective in enhancing some treatment-specific goals. We do however know that the programs on average had no effect on post-release recidivism rates.

Fourth, even though the current study had access to a considerable number of registration databases, some information could not be retrieved and would perhaps have been beneficial. For example, there was limited information available with respect to the individual treatment programs carried out: for example, it was unknown how many meetings an offender attended, and what took place during these meetings. Information on the organizational context was also limited; we had no data on prison staff members (for example, their characteristics and beliefs about treatment), and limited data on the organizations (prisons) in which treatment took place. Regarding risk and need factors and treatment readiness, we had to rely on a database that contained scores of the Dutch-language Recidivism Assessment Scales (RISc). And although the RISc is a validated instrument (see Van der Knaap, Leenarts, Born & Oosterveld, 2012), perhaps a validation of measures, and broadening of factors incorporated, could have been provided by use of panel-data. Additionally, since previous work has indicated that treatment readiness as measured by a validated instrument may have been a better predictor of treatment readiness as clinically assessed by a trained probation worker (Bosma, Kunst, Dirkzwager & Nieuwbeerta, 2015), it would have perhaps been better to have administered a treatment readiness questionnaire, such as the Corrections Victoria Treatment Readiness Questionnaire (CVTRQ; Casey, Day, Howells & Ward, 2007). However, the mere fact that the current study had relied on registration data means that our entire research group (consisting of almost 4.000 offenders) could be studied. Considering the small groups of offenders that (successfully) took part in the Prevention of Recidivism Program, this represents a huge advantage.

On a final note, this study had mainly focused on the Prevention of Recidivism *process* (from program qualification trough program completion), as well as the effectiveness of the program-element that was considered most important (Van der Linden, 2004): criminogenic need-specific treatment modules. The Prevention of Recidivism program did however

rely on a broader approach, which also involved elements such as phased re-entry and assistance with aftercare needs. Unfortunately, we did not include these factors in our study. This means that some information is missing, which could have potentially influenced result.

The study elaborated on in this dissertation raised some questions that may deserve attention in future research. First, this study has been unable to fully explain the mechanisms that influence treatment program participation and program completion. Considering the importance of treatment retention, more research is necessary to fully comprehend this problem. Second, it was indicated that referral processes deviated from prescribed standards. However, the model proposed in this study was not able to provide enough insight into the decision-making processes that have influenced treatment allocation. Third, since the main focus of this study was on risk and need focused treatment, some other program-elements had remained understudied. For example, future studies could perhaps focus in the influence of phased re-entry, and assistance with post-release ID, income, housing, and health care. Optimally, we would also like to know if the program would be effective, if some of the issues raised in this dissertation were resolved. However, since the program is no longer applied in the current manner, shortcomings cannot be addressed. Instead, it is perhaps best to draw some lessons from current practices, more on which will be disclosed in the following paragraph.

8.5 Policy implications

This study focused on a rehabilitation program that today no longer exists: Rehabilitation pooled under the Prevention of Recidivism Program was abolished in 2014. It was replaced by a policy measure in which offenders have to earn the right to engage in out-of-cell activities (such as education, visits, and rehabilitation), by expressing their willingness to change their criminal ways, and by showing pro-social behavior for a minimum of 6-weeks straight. Offenders that have been *promoted* to a regime that includes such activities (a so-called plus-regime), can receive activities that were formerly employed under the umbrella of the Prevention of Recidivism Program such as assistance with aftercare (on the target area's work and income, healthcare, housing, debt and identification papers), and criminogenic needs-specific rehabilitation programs (such as cognitive skill training, and lifestyle training), and in some cases, phased re-entry (though in a somewhat altered form). The plus-regime is only available in prisons, and not in remand-centers, meaning that an offender has to have received his or her sentence, to be able to participate.

In this dissertation, a few concerns were raised that can be considered valuable for correctional practices carried out today. First, findings stress the importance of the proper referral of offenders to treatment. As studies have indicated that targeting the appropriate population of (high-risk) offend-

ers is of vital importance (Andrews et al., 1990), the fact that the program appeared to fail to do so in several ways (with respect to selection for entry, and selection for treatment in line with criminogenic needs), may hinder program effectiveness and needs to be resolved. This could perhaps be done by refining (mostly automated) program-qualification selection processes, and by training staff to better adhere to risk and need assessment outcomes. It can also be helpful to implement treatment allocation simulation tools (see initiatives taken by Taxman and colleagues (Taxman & Pattavina, 2013)), that can help guide prison staff-members to make risk, need and responsivity based treatment referrals.

Second, this study indicated that non-participation rates and non-completion rates due to organizational circumstances were relatively large. Needless to say, this type of program-attrition is perhaps the most unwanted type of drop-out, since it is not instigated by the offender, and means prisoners are deprived from their right (as granted to them by section 2 of the Penitentiary Principles Act) to engage in re-socialization activities. The correctional system should therefore focus on improving its infrastructures, so that each offender that needs to engage in treatment, and wants to engage in treatment, can successfully do so.

Third, the study discussed in this dissertation made clear that criminogenic need-specific treatment modules were not often applied. In fact, most offenders engaged in a standard program. Since this study and other studies conducted (see e.g. Fischer, Captein & Zwirs, 2013) have shown that the need for individualized, need-specific treatment is present in almost every incarcerated offender in The Netherlands, one could argue that it would be beneficial to get more offenders involved in programs, such as cognitive skill training, and lifestyle training. However, since the current study made clear that criminogenic need-specific treatment modules were not effective in reducing post-release recidivism, it can almost be considered fortunate that so little offenders were referred to treatment. Nevertheless, since such a large number of previous studies have shown that treatment programs can indeed be an effective instrument to help decrease re-offending rates, and considering the need for treatment among incarcerated offenders, effort should perhaps be put into exploring why programs do not reach their goals, and invested in changing the ineffective elements of programs so that positive treatment results can be achieved in the future. If (and only *if*) we are able to offer offenders programs which we know work, perhaps the amount of offenders referred to treatment should be increased.

And fourth and final, the Prevention of Recidivism Program was shown to be well designed and was considered promising. Strong statements about program effectiveness could however not be made, since outcomes showed no effectiveness of programs that involved treatment, and standard programs only showed a minor treatment effect. This, in all probability, resulted in a negligible number of offenders to have left prison having successfully engaged in (appropriate) treatment, which had no (in case of offenders engaged in a program that included criminogenic need-specific treatment

modules), or a only minor effect (in case of offenders who completed a standard program) on post-release recidivism. In order for current rehabilitation practices to have any effect, attention must be paid to program-design and program-integrity. It should be examined why criminogenic need-specific treatment had not been effective, and alterations should be made to make programs effective. Otherwise, any effort that has been put in the design, implementation and execution of programs, are a waste of time and resources.

On a final note, the new rehabilitation policy-measure implemented in 2014 involves the same methods employed in light of the Prevention of Recidivism Program, but targets a more narrow population consisting of offenders who had shown "*good behavior for six week straight*". This may be problematic, since offenders are no longer permitted to engage in treatment solely based on their remaining time in prison, but instead have to show their motivation and good behavior in order to qualify. It can be questioned if high-risk offenders, who are the most in need for treatment, and for whom treatment was shown the most effective in previous studies (Andrews et al., 1990), are among those that can behave pro-socially and are motivated to change their criminal ways. Perhaps politicians and policy makers should re-think the decision to only include motivated and well-behaved offenders, and instead should focus on trying to include every high-risk offender that is in need for treatment.

Nederlandstalige Samenvatting
(Summary in Dutch)

Het terugdringen van recidive
Een evaluatie van het functioneren en de effectiviteit van het programma Terugdringen Recidive

Introductie en de huidige studie
Om de hoge recidivecijfers onder ex-gedetineerden (Wartna et al., 2010) te reduceren werd in 2007 het programma Terugdringen Recidive landelijk geïmplementeerd: Een resocialisatieprogramma dat zich richt op het verminderen van recidive onder gedetineerden met een minimale gevangenisstraf van vier maanden (Dutch Prison Service & Dutch Probation Organizations, 2007). Tot op heden is niet nagegaan in hoeverre het programma TR succesvol was in het verminderen van herhalingscriminaliteit onder deelnemers. De huidige studie onderzocht het functioneren en de effectiviteit van het programma TR, door het uitvoeren van een planevaluatie, een procesevaluatie en een productevaluatie. De volgende onderzoeksvragen stonden daarbij centraal: (1) *In hoeverre is het programma Terugdringen Recidive effectief, gebaseerd op theoretische en empirische kennis* (2) *In hoeverre functioneert het programma Terugdringen Recidive volgens plan?* En (3) *In hoeverre is het programma Terugdringen Recidive effectief in het verminderen van herhalingscriminaliteit onder programma-deelnemers?* Om deze onderzoeksvragen te beantwoorden werd een literatuurstudie uitgevoerd (deelvraag 1), en werd gebruik gemaakt van een onderzoeksgroep van 3.981 gedetineerden, van wie gegevens uit een groot aantal registratiebestanden waren verzameld (deelvraag 2 en 3).

Resultaten
In hoofdstuk 2 is in kaart gebracht in hoeverre het programma Terugdringen Recidive effectief zou kunnen zijn op basis van theoretische- en empirische kennis. Dit werd onderzocht met behulp van een reconstructie en evaluatie van de beleidstheorie. Een reconstructie van de beleidstheorie wees uit dat het programma TR haar doelstellingen, het verminderen van het schadelijke effect van detentie en het bevorderen van re-integratie in de maatschappij, tracht te bereiken door een aanpak toe te passen die bestaat uit vier onderdelen, namelijk: (1) het gericht toepassen van effectieve gedragsinterventies, (2) het bieden van ondersteuning op vier gebieden die belangrijk zijn bij terugkeer in de maatschappij (identiteitspapieren, inkomen, huisvesting en gezondheidszorg), (3) een gefaseerde uitstroom uit detentie, en (4) een optimale samenwerking tussen het gevangeniswezen en de reclassering door

het instellen van een casemanager. Gezamenlijk zou deze aanpak moeten leiden tot minder recidive onder deelnemers en (samen met andere beleidsmaatregelen) moeten zorgen voor een daling van recidive en criminaliteit in de maatschappij. Evaluatie van de beleidstheorie toonde aan dat verondersteld mag worden dat het programma Terugdringen Recidive effectief zal zijn, aangezien de effectiviteit van de programmamethodiek voor het overgrote deel in overeenstemming is met theoretische en empirische kennis. Verwachtingen moeten echter worden beperkt tot een afname van de recidive onder gedetineerden die aan het programma deelnamen. Gezien de naar verwachting vrij kleine groep programmadeelnemers worden de met het programma beoogde macro-effecten, de vermindering van recidive en criminaliteit in de maatschappij, niet ondersteund.

Vervolgens werd onderzocht in hoeverre het programma op juiste wijze werd toegepast. In hoofdstuk 3 werd nagegaan hoeveel gedetineerden kandidaat waren voor het programma TR, wat hun kenmerken waren, en werd onderzocht of de juiste doelgroep voor het programma in aanmerking werd gebracht. De resultaten toonden aan dat slechts twintig procent van onze onderzoeksgroep in aanmerking kwam voor programma-deelname. Daarbij bleek dat kandidaten, in vergelijking met niet-kandidaten, veelal in detentie zaten voor een zwaarder (vaak gewelddadig) delict, waarvoor ze tot een langere gevangenisstraf waren veroordeeld. Daarnaast kwam naar voren dat programma-kandidaten over het algemeen een hoog recidiverisico hadden, en dus behoorden tot de groep daders voor wie behandelsucces op basis van eerder onderzoek mag worden verwacht. Overigens bleek het risico op recidive onder de niet-kandidaten van wie de risicotaxatie uitkomsten bekend waren even hoog te zijn, deze gedetineerden werden echter veelal uitgesloten op basis van een te kort strafrestant. Ten slotte toonde hoofdstuk 3 aan dat door het geautomatiseerde systeem niet altijd de juiste gedetineerden voor programma-deelname werden geselecteerd, dit betekende dat sommige daders onterecht voor deelname in aanmerking kwamen, terwijl anderen ten onrechte werden uitgesloten.

In hoofdstuk 4 stond programma-deelname centraal. In dit hoofdstuk werd nagegaan hoeveel gedetineerden aan het programma deelnamen, wat hun kenmerken waren en werd onderzocht welke factoren voorspellend waren voor deelname. De resultaten toonden aan dat iets meer dan zestig procent van de gedetineerden die kandidaat waren, ook daadwerkelijk deelnamen. Overigens werden delinquenten die niet deelnamen veelal uitgesloten van deelname op basis van organisatorische omstandigheden (zoals een gebrek aan personeel). Niet-deelname vanuit de gedetineerde zelf (bijvoorbeeld als gevolg van een gebrek aan motivatie) was zeer beperkt. Een vergelijking tussen deelnemers en niet-deelnemers wees uit dat zij verschillen op diverse achtergrondkenmerken, en behandelingsbereidheid, maar niet anders scoorden op een groot aantal risicodomeinen. Verdere analyses wezen uit dat behandelingsbereidheid, het aan een behandeling *willen* deelnemen en aan een behandeling *kunnen* deelnemen, voorspellend was voor programma-deelname. Risicofactoren waren dat niet.

Het inzetten van gedragsinterventies passend bij het de individuele risicofactoren van deelnemende gedetineerden wordt gezien als de belangrijkste pijler van het programma TR (van der Linden, 2004). In hoofdstuk 5 werd daarom onderzocht hoeveel deelnemers naar (welk type) behandeling werden verwezen, werd nagegaan of de juiste gedetineerden naar de juiste programma's werden verwezen, en werd onderzocht welke factoren deze toewijzingen beïnvloedden. De resultaten gaven aan dat meer dan de helft van de onderzoeksgroep niet naar een gedragsinterventie was verwezen, en dus een standaard-programma volgden. Ook kwam naar voren dat de toewijzing van gedetineerden aan gedragsinterventies veelal niet in overeenstemming was met de risicotaxatie-uitkomsten die daarbij leidend dienen te zijn. Meer specifiek werd meer dan de helft van onze onderzoeksgroep verkeerd geclassificeerd, wat in de meeste gevallen resulteerde in gedetineerden die een standaard-programma volgden, terwijl zij op basis van risicotaxatie-uitkomsten verwezen dienden te worden naar een specifieke gedragsinterventie. Tenslotte is nagegaan welke factoren dan wel leidend waren. Daarbij toonden analyses aan dat een zeer breed scala aan risicodomeinen (en dus niet de domeinen die daarbij leidend moeten zijn) en een zeer praktisch argument, namelijk een lange detentieduur, van invloed waren op programmaverwijzingen.

Met het onderzoek beschreven in hoofdstuk 6 werd tenslotte nagegaan hoeveel van de deelnemende gedetineerden het programma TR wist af te ronden, werd onderzocht wat hun kenmerken waren en werd in kaart gebracht welke factoren voorspellend waren voor het voltooien van het programma. Uit de resultaten kwam allereerst naar voren dat een aanzienlijk deel van de deelnemers het programma niet kon afronden vanwege organisatorische omstandigheden (bijvoorbeeld omdat het deelnemen aan een gedragsinterventie lastig was omdat dit overplaatsing vereiste). Programma uitval vanuit de gedetineerde, bijvoorbeeld als gevolg van een gebrek aan motivatie, was zeer beperkt. Daarnaast bleek dat er weinig verschillen waren tussen de gedetineerden die het programma afgerond hadden en zij die het programma niet afgerond hadden, met één belangrijke uitzondering, namelijk type behandeling. Gedetineerden die naar een standaard programma waren verwezen, dat wil zeggen een programma zonder een specifieke gedragsinterventie, hadden meer kans om hun programma af te ronden, dan zij die wel naar een gedragsinterventie verwezen waren. Hoewel deze relatie wellicht voor de hand ligt (met een leeg programma heeft een gedetineerde weinig te doen, en is uitval onwaarschijnlijk) is het opvallend dat het voor Penitentiaire Inrichtingen zo lastig is om deelnemers met een grote behoefte aan gedragsinterventies, deze ook te laten afronden.

Het afsluitende deel van dit evaluatieonderzoek was een product-evaluatie, ofwel een evaluatie van de effecten van een programma. Met de studie beschreven in hoofdstuk 7 werd nagegaan in hoeverre het programma Terugdringen Recidive effectief was in het verminderen van recidive onder deelnemers aan het programma, in de 6- en 24 maanden na uitstroom uit detentie. De resultaten van deze studie wezen uit dat de recidive onder de

verschillende groepen die in deze studie werden onderscheiden zeer divers waren. Daarbij werd aangetoond dat er een kleine, maar significante daling was van de recidivecijfers onder gedetineerden die een standaard programma hadden afgerond (dat wil zeggen een programma zonder gedragsinterventies), in vergelijking met een controlegroep van daders die in aanmerking kwamen voor een standaard programma. Dit was echter niet het geval voor gedetineerden die naast het standaard programma ook een gedragsinterventie gevolgd hadden. Zij rapporteerden geen lagere recidivecijfers, in vergelijking tot een vergelijkbare controlegroep van gedetineerden die in aanmerking kwamen voor een gedragsinterventie.

Conclusie

Deze studie maakte allereerst duidelijk dat het programma Terugdringen Recidive aangemerkt kan worden als veelbelovend en ambitieus, gezien het methoden toepast die effectief zijn gebleken op basis van theorie en eerder onderzoek. Daarnaast werd echter aangetoond dat de uitvoering van het programma te kort schiet. Diverse uitvoeringsproblemen speelden het programma parten. Allereerst kwam slechts een kleine groep gedetineerden voor het programma in aanmerking, als gevolg van zeer strenge inclusiecriteria. Vervolgens bleek de uitval uit het programma hoog te zijn (dat betreft zowel niet-deelname als niet-afronding), wat in de meeste gevallen door organisatorische omstandigheden werd veroorzaakt. Daarnaast kwam uit deze studie naar voren dat gedetineerden in de meeste gevallen niet naar een gedragsinterventie werden verwezen, waarbij gedetineerden die wel werden verwezen niet werden verwezen naar een programma dat aansloot bij hun individuele kenmerken. Als gevolg van deze beperkingen was het programma Terugdringen Recidive slechts in staat een zeer kleine groep gedetineerden te bereiken. Deze deelnemers volgden meestal slechts een standaard programma, zonder gedragsinterventies gericht op het aanpakken van de factoren die samenhangen met herhaald crimineel gedrag. Ten slotte werd met deze studie aangetoond dat het programma Terugdringen Recidive alleen een klein effect had op de recidivecijfers van de groep daders die een standaard programma volgden. Gedragsinterventies, die veelal aangewezen worden als belangrijkste pijler van het programma Terugdringen Recidive, waren daarbij niet effectief.

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Anouk

Curriculum Vitae

Anouk Quirina Bosma was born on March 19, 1985, in Leiderdorp. After secondary school, she obtained a bachelor's degree in Educational and Pedagogical Sciences, at Utrecht University in 2008, and a master degree (cum laude) in Forensic Child Care Science at the University of Amsterdam in 2009. Upon graduation, she worked as a junior researcher at the Kohnstamm Institute (University of Amsterdam), after which she started working at the Institute of Criminal Law and Criminology, Leiden University. For two years, she worked as research-coordinator of the Prison Project, a large-scale longitudinal research project into the determinants and consequences of detention, in which nearly 2.000 prisoners were included. As a research-coordinator, Anouk was responsible for the entire data collection of the Prison Project, both in prison, as in the six months following release from prison. She was also actively involved in gathering and analyzing various sources of registration data. In 2012, she started her doctoral research into the application and effectiveness of a rehabilitation program conducted in Dutch prisons. During her doctoral research, she was a visiting scholar at George Mason University in the United States. She currently works as an Assistant Professor at the Institute of Criminal Law and Criminology at Leiden University.

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