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Chapter Seven  
*Discussion*

The present dissertation investigated personality pathology in a forensic mental health setting, largely using a database of results on assessment instruments acquired after a thorough revision of the assessment process in the Pieter Baan Center in the Netherlands. Chapter Two presented a literature review and meta-analytic study of the prevalence of the self-reported levels of the maladaptive personality traits anger, aggression, hostility, antisocial traits, psychopathy, and impulsivity in detained populations, compared to normal populations. In Chapter Three a study was presented into the utility of the Dimensional Assessment of Personality Pathology-Short Form (DAPP-SF) as a screener for personality disorder in a forensic psychiatric hospital that carries out pre-trial evaluations on suspects of serious crimes. The aim of the study was to ascertain whether the self-report instrument could be used as the first step in a two-step approach for an efficient assessment of personality psychopathology, and whether it could correctly determine who should and should not undergo a standardized (semi-) structured diagnostic interview to verify the presence of the disorder. Chapter Four presented a study on the use of another self-report instrument in a forensic sample: the Minnesota Multiphasic Personality Inventory-2 (MMPI-2). It assessed whether a cluster analysis of MMPI-2 profiles produces a multitude of distinct personality profiles when assessing personality traits in a known heterogeneous population of pretrial criminal defendants of serious crimes in a forensic psychiatric observation hospital. The study presented in Chapter Five investigated how Dutch experts consider personality disorder, compared to other psychiatric conditions, in their recommendations regarding criminal responsibility and in their advice on the necessity of enforced treatment in a high security hospital. It also investigated how they consider various aspects of psychopathy as measured by the Psychopathy Checklist-Revised (PCL-R) into these judgments. Lastly, Chapter Six examined the enforced treatment of personality disordered criminal offenders in high security hospitals and the prospective relationship between personality disorder and treatment duration at first leave request and end of treatment. This study also investigated possible confounding effects of index offense, Axis 1 disorder, substance abuse history and intellectual functioning.

## Chapter Two: Prevalence of personality pathology in forensic mental health settings

Before this dissertation study commenced, it was already clear that personality pathology was associated with criminal offending and violence towards others and highly prevalent in forensic settings (Fazel & Danesh, 2002), especially DSM Cluster B personality disorders (De Ruiter & Greeven, 2000; Hildebrand & De Ruiter, 2004; Timmerman & Emmelkamp, 2001) and related maladaptive personality traits such as aggression or hostility, poor impulse control, sensation seeking, and lack of empathy as assessed with self-report assessment instruments (Boccaccini et al., 2010; Cunradi et al., 2009; Dolan & Blackburn, 2006; Norlander & Eckhardt, 2005; Shechory et al., 2011; Walters, 2007). Doubts about the validity of self-report instruments in the field of criminal law (Edens, 2009; Milton et al., 2005) called for a systematic review and meta-analysis of the self-reported levels of antisocial behavior and psychopathic features as well as the maladaptive personality traits of the two most relevant personality dimensions of agreeableness and conscientiousness in forensic populations, i.e., anger, aggression, hostility, and impulsivity.

The study – to the author's knowledge the first comprehensive meta-analytic review of self-reported maladaptive personality characteristics carried out in forensic populations and compared to non-

forensic norm or reference groups – found no overall differences in self-reported levels of anger, aggression, hostility, or impulsivity between the general or healthy population and forensic samples, while self-reported antisocial and psychopathic features were significantly and substantially higher in forensic samples than in reference groups. The latter is in line with other studies that found that forensic subjects with antisocial tendencies or psychopathic features respond truthfully about their levels of these traits (Cima et al., 2008; Edens, 2009; Niesten, Nentjes, Merckelbach, & Bernstein, 2015; Ray et al., 2013).

At the same time, other studies suggest that self-report measures potentially yield biased results, with both under-reporting and over-reporting of personality traits that are considered negative. Previous findings of low levels of self-reported aggression and hostility (Hornsveld et al., 2009) and overall self-reported personality pathology in forensic populations (Spaans et al., 2015) suggest that self-report assessment within forensic samples may underestimate the actual levels of these maladaptive personality traits. Blackburn and colleagues (2004), and Milton and colleagues (2005) also suggest that individuals with antisocial traits are inclined to deny or minimize negative traits, especially when they may have legal repercussions. On the other hand, other studies found that Cluster B personality disorders and their symptoms are underestimated by self-report instruments (Blackburn et al., 2004; De Ruiter & Greeven, 2000; Zimmerman & Coryell, 1990).

The extent to which issues such as malingering (i.e., the exaggeration of negative qualities) or dissimulation and positive impression management (i.e., giving socially desirable answers on items that clearly describe a negative trait) play a role in the way the individual presents him or herself within the forensic mental health context, leading to lower than expected levels of anger, aggression, hostility, and impulsivity in forensic samples, remains unclear. It could also be the case that on some traits, individuals display unintentional self-deception (Ray et al., 2013) or that deceptive or manipulative behaviors are displayed because they are characteristic of Cluster B personality disorder symptoms (Cima, 2003) which are highly prevalent in forensic samples (De Ruiter & Greeven, 2000; Hildebrand & De Ruiter, 2004; Timmerman & Emmelkamp, 2001). In any case, the findings of the current and previous studies indicate a need for caution when using self-report assessment instruments in forensic populations, especially those that do not include a response bias scale.

Another issue that was brought to light in the systematic review and meta-analysis of a number of self-reported maladaptive personality traits was the overwhelming multitude of assessment instruments and consistently differently named subscales. The majority of the instruments used in a forensic mental health setting are not designed especially for forensic populations (Wygant & Lareau, 2015). It is imperative to find a universal instrument and use universal terminology in personality traits and (sub)scale names, that is most suitable for the forensic mental health field. Only then can results be properly compared worldwide. The study also showed that different instruments produced differing levels of self-reported maladaptive personality traits, adding to existing doubts about the validity of self-report instruments in the forensic mental health setting and calling for further research. The actual levels of maladaptive personality traits in forensic samples need to be determined, using alternatives for self-report such as clinician-administered (semi-)structured interviews, observer-rated assessment methods, or cognitive tasks, as well as whether different kinds of deviant response styles apply to different personality traits or different (legal) consequences.

## Chapter Three: The utility of the DAPP-SF as a screener for personality disorder

For various reasons it is important that the forensic assessment process is efficient and cost-effective (Wygant & Lareau, 2015). The two-step approach for efficient assessment of personality psychopathology, recommended by Widiger and Samuel (2005) in the field of general psychological practice, involves first administering a self-report questionnaire to screen for the potential presence of personality disorders, and to follow it with a standardized (semi-)structured diagnostic interview if there are indications of a disorder to verify its presence. If such a screening questionnaire were quick and accurate, decreasing the number of patients who do not have a personality disorder still having to undergo a standardized (semi-)structured diagnostic interview in the field of criminal law, the diagnostic process would become much more efficient and cost-effective.

Given the success of the DAPP-SF as a screener for personality disorder in the general population (De Beurs et al., 2010), the suitability of the DAPP-SF as a screener for personality disorder was investigated in a forensic psychiatric hospital that carries out pre-trial evaluations on suspects of serious crimes. To the author's knowledge, this was the first time this was studied in a forensic population. It was expected that when scores on (sub)scales of the DAPP-SF were elevated, chances of criteria for personality disorder(s) on the Structured Interview for DSM-IV Personality (SIDP-IV) being met were high. Results showed only a few small to medium effect sizes that gave some support for the use of the DAPP-SF as a screener for personality disorders. The main finding, however, was that the forensic population reported significantly less personality pathology than the general population on 14 out of the 22 personality dimensions and second-order factors of the DAPP-SF. Based on this floor effect as well as only moderate associations between DAPP-SF and SIDP-IV outcome it was concluded that the DAPP-SF has limited utility as a screening tool for personality disorders in a forensic context.

Again, the question arises whether the levels of self-reported personality pathology found in the current study reflect the actual levels of the respondents or whether the participants dissimulated or displayed positive impression management when they filled in the self-report questionnaire to decrease their chances of undesirable legal consequences, such as enforced treatment in a high security hospital in the Netherlands. In these cases where the stakes for the respondent are high, self-report instruments are prone to bias and of limited utility. Other methods of psychological assessment, such as expert-based judgments aided by checklists such as the PCL-R, will be superior to self-reports under these circumstances.

## Chapter Four: A cluster analysis of MMPI-2 profiles

Another self-report instrument of particular interest, especially after the systematic review and meta-analysis of self-reported personality traits in which the instrument revealed particularly high levels of antisocial and psychopathic features, is the MMPI. Previous research aimed at classifying criminal offenders according to their MMPI profiles has found between two and ten distinct profile types. Specific information on each profile type of offenders could lead to their tailored treatment and management. As studies resulting in only two profile types raise doubts about the suitability of the MMPI-2 as the

primary instrument for differentiating personality types in a forensic population, the cluster analysis was replicated in a sample of pre-trial criminal defendants in a psychiatric observation hospital.

The current study again found only two groups of distinct MMPI-2 personality profiles: one indicating the absence of any psychological problems and the other exhibiting elevations on all but three scales. These findings were surprising, as the study population was considered diverse – containing not only severe and varied psychopathology but also individuals with no psychological disorders and different types of offenders. It was concluded that the profile types were not effectively distinguished by the MMPI-2. Once again, results raised doubts about the use of a self-report instrument in forensic populations, and the usefulness of interpreting MMPI-2 results for diagnostic purposes in particular. Results suggest that the usefulness of the MMPI-2 in a forensic context is restricted to screening for the presence or absence of general psychopathological symptoms, and that it is not able to distinguish between subtypes of psychopathology.

While the MMPI is popular and widely used in Dutch forensic practice, Walters (2006) argues that it has weak overall content validity and the MMPI's Psychopathic deviate Pd scale is considered very heterogeneous and multifactorial (Lilienfeld, 1999; Osberg & Poland, 2001; Derksen, De Mey, Sloore, & Hellenbosch, 2006). Lally (2003) is also critical of the MMPI, stating that although a test may be popular in a particular field, it should not necessarily be used in that field. He states that the MMPI-2 only provides information about an individual's current response style and psychopathology, not on past features that are relevant to the legal issue, and that it might actually be used in a way that courts might find neither relevant nor reliable.

On the other hand, the findings of the two clusters could also be explained as an egosyntonic profile versus an egodystonic profile. Individuals in the former profile type, corresponding to the cluster with only an elevation on the Pd scale have very little to no insight into their own personality (pathology), while the latter profile, corresponding to the many elevated scales, contains individuals who do have a realistic self-image. Further inspection of the MMPI-2 validity scales of the study sample showed no elevated scores in the non-disturbed cluster, while the F (Low Frequency) scale was elevated in the disturbed cluster. This indicates that the disturbed cluster was not only realistic in their self-image, but could in actual fact have been exaggerating their symptoms. However, in the Dutch legal context with the possibility of enforced treatment without a clear release date, this is not behavior that is often seen. These conflicting interpretations strengthen suggestions that while the MMPI-2 can certainly be used to investigate the presence of overall self-reported psychopathology, it is less suitable for specific diagnostic purposes.

Despite these findings, the MMPI-2(-RF) remains very popular with forensic mental health experts. This is at least in the Netherlands, where forensic mental health experts often feel that there is no suitable or concise alternative self-report instrument for overall personality pathology. It has been suggested that theory-driven combinations of single MMPI scales (instead of single scale scores) may constitute a measure of level of personality organization in theoretically predicted ways (Eurelings-Bontekoe, Luyten, Remijnsen, & Koelen, 2010), but the diagnostic utility of such a profile analysis of the MMPI for the forensic setting awaits further empirical study. This issue stresses the need for an assessment battery that has been specifically designed for the forensic field as well as the need for more research into the value and validity of more complex interpretations of test-results, beyond single subscale scores as suggested by Eurelings-Bontekoe and colleagues (2010). The consequences of the results of a forensic assessment can obviously be quite life changing, much more so than in other areas of psychological assessment (such as employee testing and selection). A thorough and accurate assessment and diagnosis is of the utmost importance in the forensic field.

## Self-report instruments in a forensic mental health setting

The results of these three chapters suggest that although self-report instruments such as the DAPP-SF and the MMPI-2 can be of certain value in individual use and case finding of possible personality pathology, caution should be used when interpreting results. Self-report assessment instruments are generally not designed specifically for the forensic population (Wygant & Lareau, 2015) and should never be the sole source of diagnostic information in forensic assessments, as stipulated in the American Psychological Association's guidelines for forensic psychology (American Psychological Association, 2013b). In order to diagnose personality disorders in forensic participants, self-report assessments should be incorporated into information gathered in other ways, such as through (semi-) structured clinical interviews, extensive collateral information, file information and hetero-anamnestic data (Cima, 2003; Hildebrand & De Ruiter, 2004; Wygant & Lareau, 2015).

Forensic mental health experts should always be aware of the possibility of socially desirable response tendencies. This tendency to give positive self-descriptions (Paulhus, 2002) includes both intentional positive impression management and faking good (presenting oneself in a positive light) and unintentional self-deception (Ray et al., 2013) on items that clearly describe a negative trait. Intentional dissimulators could, for example, be motivated by the preference of a defined prison term over an undefined term of hospitalization and the wish to avoid stigmatization. Uninsightful dissimulation is not a rational choice, but a genuine lack of knowledge or awareness of one's psychiatric disorder or symptoms that also leads to low self-reported personality pathology (Caruso et al., 2003). Gutheil (2003) suggested that inmates might also be encouraged by their attorneys to present their symptoms in a certain, tactical way. This has also been found to be the case in Dutch legal practice (Barendregt, 2010). In any case, as Milton and colleagues (2005) suggested, high security patient samples are "essentially a highly abnormal group of mentally-disordered offenders in a highly unusual hospital setting who may consciously or unconsciously fake good to present themselves in the best possible light to affect their progress or discharge" (p. 559).

## Positive impression management in forensic mental health settings

Proof of dissimulation by positive impression management in a forensic mental health context has been found by several authors (Ahlmeyer et al., 2000; Gutheil, 2003; McEwan et al., 2009; Mills et al., 2003). A number of other authors advise against self-report instruments in forensic populations, unless they contain a measure for positive impression management or dissimulation (De Beurs & Barendregt, 2008; De Ruiter & Greeven, 2000; Edens & Ruiz, 2006; Mills et al., 2003). On the other hand, a meta-analysis carried out by Ray and colleagues (2013) on the response validity scales of self-report assessment instruments of psychopathic traits – the MMPI, the Psychopathic Personality Inventory (PPI), and the Levenson's Self-report Psychopath (LSRP) – found no association between psychopathy and measures of social desirability or faking good.

## Response tendencies and legal consequences

Research by Niesten and colleagues (2014) showed that both faking good and bad are more common in prison settings than in forensic psychiatric settings. In a study using the MMPI on a sample of prison inmates within varying incentives to either refute or exaggerate personality pathology, Walters (1988) found that response styles were related to possible results, such as placement in a single cell, entering group therapy, and applying for parole.

Cima and colleagues (2007) use the term “supernormality” to describe the tendency to systematically deny the presence of common, possible negative symptoms. In an investigation into different forms of deception such as malingering and supernormality, they found that response styles of forensic populations are related to both possible (legal) consequences and personality traits such as psychopathy. Cima and colleagues (2003) suggest that once convicted, offenders would engage in faking good to acquire privileges such as parole. Nentjes, Bernstein, Arntz, Slaats, and Hannemann (2015) found that offenders with good understanding of the perspective of others along with high levels of impulsivity, emotional instability, or aggression display *less* socially desirable traits and in fact report uncharacteristic and unusual psychiatric symptoms. In a study on self-reported psychopathic traits on the PPI-R in male offenders, Kelsey, Rogers, and Robinson (2015) found that the groups with high and moderate psychopathy scores were equally able to display positive impression management and mask their psychopathy. These three studies reinforce the suggestion that response styles in a forensic mental health setting are related to a combination of incentives and personality traits.

Even Ray and colleagues (2013), who found no association between psychopathy and social desirability or faking good, added the caveat to their findings that they were based on guarantees of confidentiality and/or anonymity and that there were no obvious incentives for deviant response tendencies. Their findings do not rule out the possibility that psychopathic individuals do engage in faking good or bad when there are actual incentives to doing so.

It would be interesting to investigate whether similar results for the MMPI-2 and DAPP-SF are found when it is administered to patients already undergoing enforced treatment in high-security hospitals. This would clarify whether it is indeed the pre-trial nature of the study contexts that causes the limited ability of the DAPP-SF to screen for personality disorders and the MMPI-2 to classify offender types, or whether it is the forensic mental health setting in general.

## Chapter Five: Personality disorder and criminal responsibility

In the Netherlands, once personality pathology has been established in pre-trial psychological assessments, judges have to decide on the level of criminal responsibility and on the necessity of enforced treatment in a high security hospital. The first study of its kind, to the author’s knowledge, of the Dutch forensic context consisted of two investigations into whether personality disorders and psychopathic traits in criminal suspects are reasons for diminished criminal responsibility or enforced treatment in high security hospitals. Results demonstrated an internationally unique role of personality disorder compared to other jurisdictions where the presence of (antisocial) personality disorder generally does not lead to diminished criminal responsibility. In the Netherlands, the presence of a personality disorder decreased responsibility and led to an advice for enforced treatment. Results also showed that PCL-R items concerning impulsivity and (ir)responsibility were considered to impair

an individual's freedom of will. High PCL-R Facet 2 and Facet 3 scores were related to an advice for enforced treatment. The results of this study show that Dutch forensic mental health clinicians take the diagnosis of a personality disorder or a high PCL-R score into careful consideration when making recommendations for diminished responsibility or the need for enforced treatment, stressing the importance of a thorough diagnosing of personality pathology in psychological and psychiatric assessments of suspects in criminal cases.

## Chapter Six: Personality disorder and enforced treatment

Once a Dutch court has established a mental disorder at the time of the crime and diminished criminally responsibility, the individual can be sentenced to enforced treatment in a high security hospital. As concluded from the previous chapter, in Dutch forensic practice this mental disorder includes the presence of a personality disorder. In a study to prospectively investigate the predictive value of personality disorder on treatment length, a study sample of 536 forensic psychiatric patients from various high security hospitals with a 76.5% prevalence of personality disorder was investigated. Data from two different judicial phases were merged (from pre-trial assessment and treatment in a high security hospital) and Axis I disorder, substance abuse history, and intellectual functioning were also taken into account as possible confounders.

Results showed no independent predictive value of personality disorder for treatment length at first accompanied leave request and total treatment length at the end of treatment. An index offense of (attempted) violence and (attempted) murder/manslaughter both independently predicted shorter treatment length at first accompanied leave request across different strata for treatment hospitals. An index offense of (attempted) sex offense independently predicted a longer total enforced treatment length, again across different strata for treatment hospitals. A post-hoc explorative analysis on a subgroup of patients with a diagnosis of *only* personality disorder showed that this group had a shorter treatment length than personality disordered patients who also had a comorbid Axis I disorder. Analysis of the influence of a proxy for time spent in prison before treatment on total treatment length showed a negative relationship for patients with a diagnosis of *only* personality disorder. This might indicate that a personality disorder may worsen during imprisonment prior to treatment and subsequently take longer to treat, although it must be noted that this was an explorative analysis carried out on a small subset of patients.

This study also showed that investigation of the factors involved in the prediction of length of enforced treatment of disordered offenders can be complex, due to limited (digital) data registration and challenges in combining data from separate databases. This study can be considered a first attempt at distilling these factors from available rough, unrefined digital data and calls for better compatibility of data registration and collecting and an increase in (detail of) digital registration of patient, treatment, and risk characteristics along the course of treatment and at its end.

## Enforced treatment of personality pathology

The enforced treatment of (personality-)disordered offenders is a complex issue, and according to Van der Wolf (2012) will never be smooth sailing. It is clear that serious personality pathology is very

difficult to change (Hildebrand & De Ruiter, 2012), especially Cluster B personality disorders (Bernstein et al., 2012). Types of treatments for personality disordered offenders range from behavioral (targeting observable actions) to psychoanalytical (targeting abstract mental representations) but generally incorporate elements from both methods into one approach. This can include psycho-education and the development of skills such as reflection and self-awareness (NOMS, 2011). In a review of available treatments for severe personality disorder, Warren and colleagues (2003) concluded that long-term treatment in a therapeutic community institution was the most effective in reducing recidivism when compared to untreated inmates who remained in the general prison system.

According to Hornsveld (2007), treatment programs for forensic psychiatric inpatients should focus on improvement of anger management, social skills and antisocial attitudes. De Ruiter, Veen, and Greeven (2008) performed a meta-analytic review of psychological interventions for adult rapists and found only modest effects. They concluded that the most effective interventions were intensive, lengthy and inpatient programs. Van den Berg and Oei (2009) claim that when treating personality disorders, it is of great importance that the many different available therapeutic approaches are all exploited in order to effectively cover the multifaceted complexity of the disorder. They encourage 'social treatment' of patients with antisocial personality disorder, while dealing with patients and while collaborating with other clinicians. They also suggest that cognitive behavioral therapy, group therapy, and Mentalization Based Treatment can strengthen each other in the treatment of forensic psychiatric patients with personality disorders. According to the National Offender Management Service, successful treatments combine group and individual treatment, and include a team approach and intensive contact with the patient (NOMS, 2011).

Bernstein and colleagues (2012) studied Schema Therapy (ST), which combines cognitive, behavioral, psychodynamic object relations, and humanistic or experimental approaches and was developed for patients with persistent cognitive, emotional, and behavioral patterns who profited insufficiently from cognitive behavioral therapy or classic forms of psychotherapy (Kool & Aalders, 2014). In a study in a population of forensic psychiatric patients with antisocial, borderline, narcissistic and/or paranoid personality disorders in Dutch high security hospital, Bernstein and colleagues (2012) found that ST does not yield better outcomes than treatment as usual with regard to recidivism risk and return to society. A planned three-year follow-up study will examine the long-term effects of ST on actual recidivism of these patients.

As with personality disordered offenders, the treatment of psychopathic offenders is also challenging. This is because the disorder is quite complex and psychopathic offenders display disruptive behavior during treatment, are likely to drop out, display low levels of change (Hildebrand & De Ruiter, 2012), and might even be adversely impacted by treatment and display higher recidivism (Harris, Rice, & Cormier, 1994; Hildebrand & De Ruiter, 2012). Still, this does not mean that there is no hope in treating psychopathic offenders. According to Hare (2006), although traditional programs have not shown much effect, innovative procedures designed specifically for psychopathic offenders need to be developed. After meta-analytic research of on the treatment of psychopathy, Salekin, Worley, and Grimes (2010) concluded that treatment shows moderate success. They recommend that researchers clearly map out all the areas and processes of dysfunction in psychopaths, followed by clear theories for therapeutic change, possibly in controlled studies.

## Faking good during treatment

As with diagnosing personality pathology, its treatment can also be subject to different kinds of deviant response styles. Socially desirable response tendencies, faking good, positive impression management and supernormality may lead to an erroneous impression that progress is being made when, in fact, the patient still has psychopathological or psychopathic symptoms. Nijman and colleagues (2002) found that while personality disordered criminals showed significantly more treatment progress than psychotic forensic psychiatric patients, improvement during treatment does not necessarily imply that the risk of recidivism after release has decreased. Indications of progress during treatment rely heavily on self-reports of patients. Personality disordered patients, especially antisocial or psychopathic patients, might maintain or develop a tendency to endorse non-symptomatic answer options (Cima et al., 2003). Ray and colleagues (2013) concur, stating that because there is no objective criterion or golden standard for accurate responding on self-report measures of psychopathic traits, the possibility that psychopathic forensic psychiatric patients with low scores on social desirability measures are nonetheless underreporting negative attributes cannot be excluded.

## Conclusion

In summary, it can be said that, although personality pathology such as maladaptive personality traits are highly prevalent in forensic mental health settings according to various studies, chapters Two, Three and Four of this dissertation have shown that personality pathology of forensic populations is difficult to assess through self-report questionnaires. This is due to the possibility of deceptive or manipulative response tendencies when individuals are asked to present themselves through self-report assessment instruments, as well as unintentional self-deception due to lack of self-insight. Self-report instruments can be of certain value in individual use and case finding of possible personality pathology, but caution should be used when interpreting results. Response bias scales should always be included and results interpreted with great caution or even dismissed when elevated scores on these bias indicators are attained, or when regular scales scores are low and the forensic mental health expert suspects a response bias. Self-report instruments should never be the sole information source in forensic assessments, and should be incorporated into information gathered in other ways, such as through (semi-)structured clinical interviews, observation, cognitive tasks, extensive collateral information, file information and hetero-anamnestic data.

Chapters Five and Six have shown that, in the Dutch forensic context, personality disorder is seen as possible reason for diminished criminal responsibility and enforced treatment, and indicated that a small subset of individuals who suffer from only personality disorder have a shorter enforced treatment length in comparison to personality disordered patients who also had a comorbid Axis I disorder. This first attempt at distilling the factors involved in the prediction of a successful resocialization process of disordered offenders, from limited sources of digital data and differing databases per judicial organization, has isolated separate factors that can shorten or prolong treatment length and can provide a focus for both policy and (clinical) decision makers in the enforced treatment process (e.g., an index offense of (attempted) violence and (attempted) murder/manslaughter for a shorter treatment length and an index offense of (attempted) sex offense for a longer treatment length).

One of the ways to maximize treatment effectiveness for offenders with personality pathology is through an increase in (detail of) digital registration of patient, treatment process, outcome, and risk characteristics along the course of and end of treatment.

## Study limitations

A limitation of the studies presented in this dissertation is their generalizability outside the Dutch context. All but the first study were carried out within the Dutch forensic and legal context in which, as shown in Chapter Five, personality disorder plays an internationally unique role. It should be noted that the Dutch legal system of deciding criminal responsibility differs substantially from other jurisdictions (Brants, 2008), and that therefore the results in these studies are difficult to generalize to the U.S., Canada, or other European countries. Limitations to the generalizability of the findings also present themselves within the Dutch context. The study populations used in Chapters Three and Five included only cooperating, sufficiently Dutch-speaking, nonpsychotic participants who had been admitted to an observation hospital, leading to the theoretical possibility of selection bias and reservations about the generalizability of the results to outpatients, convicted offenders, or those suspected or convicted of less severe crimes than the PBC's population. The study presented in Chapter Four included only males. The study presented in Chapter Six included defendants who had been evaluated in either an in-patient (observation hospital) or an out-patient (regular detention) setting. It must be noted that the system of enforced treatment in the Netherlands has undergone so many frequent and rapid policy changes over the past years that this may have influenced the results of Chapter Six.

A limitation of the meta-analysis presented in Chapter Two is that the formulation of the three overarching categories of maladaptive personality traits could have been approached differently, as some personality traits may share features of more than one domain. If certain personality characteristics had been placed in a different category, results may have been different. A limitation of the examination of the utility of the DAPP-SF as a screener for personality disorder, presented in Chapter Three, is that it could not be formally assessed whether the suggested positive impression management was actually displayed by the study population. An alternative explanation for the findings could be lack of statistical power due to the small sample size. A further limitation was the lack of data on interrater reliability for the PBC's forensic mental health experts on the SIDP-IV. However, a 72.5% convergence between SIDP-IV classifications and clinical diagnoses, along with the fact that most dissimilarities were extensively clarified by the experts in their final reports, supported the decision to use the SIDP-IV as the criterion for the presence of personality disorder.

The use of data from diverse digital databases, in the study on the prognostic value of personality disorder on enforced treatment length presented in Chapter Six, introduced a few additional limitations. It was not possible to incorporate patient characteristics from the actual treatment (such as type of treatment, treatment process, or treatment outcome) as this data was not digitally available. In some cases more than ten (treatment) years had passed since the NIFP's diagnosis. Besides the possibility of human error occurring when manually entering data, researchers are dependent on the level of detail that has been chosen for each digital database, which was relatively low in the present case. Therefore, it was not possible to investigate aspects such as possible comorbidity within personality disorders or differences in severity of (personality) disorders.

## Implications of the results for clinical practice

The main implication of the results of the current dissertation is to proceed with caution at all times when using self-report assessment instruments for personality pathology in forensic populations. This is especially the case when those self-report instruments are not designed specifically for the forensic population and do not include a response bias scale. The studies in Chapters Two, Three, and Four mean that forensic mental health experts should at all times be aware that results of self-report assessment instruments are prone to bias due to intentional impression management or unintentional self-deception. Findings of forensic assessments should be based on a combination of assessment methods: (semi-)structured clinical interviews, extensive collateral information, cognitive tasks, file information and hetero-anamnestic data. Self-report instruments can still be of certain value in individual use and case finding of possible personality pathology but should always be incorporated into information gathered through the above-mentioned other ways.

Use of the DAPP-SF and the MMPI-2 in particular, for specific diagnostic purposes in forensic populations, should be accompanied with caution. The current study found that the DAPP-SF has limited usefulness as a screener for personality disorders and that profile types are not effectively distinguished by the MMPI-2.

Also, there should be more standardization of terminology and assessment instruments concerning personality pathology in the forensic mental health field so that study outcomes can be more easily compared with each other. As mentioned above, the most effective treatment methods for personality disordered offenders appear to be those that are long-term and intensive, and possibly should incorporate several different therapeutic approaches so that they can strengthen each other. Furthermore, there should be an increase in (detail of) digital registration of patient, treatment, and risk characteristics along the course of and end of treatment, in order to facilitate research on treatment effectiveness for offenders with personality pathology.

One of the major hurdles in the Dutch forensic psychiatric field is the fear of enforced treatment among defendants accused of crimes that are sufficiently serious to potentially warrant enforced treatment. They generally perceive enforced treatment as far more taxing than a prison sentence, largely due to the uncertainty about the length of treatment. Some argue that the length of time spent in high security treatment hospital is often longer than the amount of time the individual would have spent in prison for the same offense. It is also said that the stigma of a forensic psychiatric patient as a “dangerous lunatic” reduces the chances of successful resocialization (Van der Wolf, 2012). Steps have been suggested to reduce the fear of enforced treatment and thus increase the levels of participation in pre-trial psychological and psychiatric assessments and the data that would become available on a wider variety of defendants and personality pathology. These suggestions include to place more emphasis on quicker resocialization of forensic psychiatric patients to increase the national confidence in enforced treatment, to offer a “trial-treatment” to demonstrate that it might not be as bad as it sounds, to impose an additional prison sentence in cases of refusal to cooperate with the pre-trial assessment, or to reward cooperation, financially or otherwise (Van der Wolf, 2012).

## Suggestions for further research

A thorough and accurate diagnosis of personality pathology is of the utmost importance in the forensic mental health field. The consequences of the results of a forensic pre-trial assessment can be much more life changing than in other areas of psychological assessment. There is an urgent need for an assessment battery that has been specifically designed for the forensic mental health field, and for a concise screening instrument for personality disorders to successfully identify individuals that require further assessment. It is also essential to introduce more standardization of terminology and assessment instruments for personality pathology to be able to properly compare forensic results worldwide. A first step towards this standardization would be to no longer use assessment instruments that have not been validated for forensic populations or designed specifically for them. This would already eliminate a great number of instruments.

Implications for future research in forensic populations also include a detailed investigation into response bias tendencies within differing legal contexts, such as convicted offenders instead of suspects or those undergoing enforced treatment, to examine the possibility of legal incentive-related response bias tendencies. This would hopefully clarify whether the pre-trial setting caused the limited ability of the DAPP-SF to screen for personality disorders and the MMPI-2 to classify offender types, or whether it is the forensic mental health setting in general that leads to these results.

In order to measure levels of maladaptive personality traits in forensic samples in a valid way, alternatives for self-report such as clinician-administered (semi-)structured interviews, observer-rated assessment methods, or cognitive tasks should be used. Also, an investigation into whether different kinds of deviant response styles apply to different personality traits or different (legal) consequences is necessary.

As mentioned above, treatment methods for personality disordered offenders should be long-term, intensive, and possibly incorporate several different therapeutic approaches. The evidence-base for the best approach, however, remains limited. To make the most of the long periods of time needed to assess the effectiveness of treatment (most often measured by the rate of recidivism upon release after a certain follow-up period) and not lose opportunities for research, an increase in (detail of) digital registration of patient, treatment, and risk characteristics along the course of treatment and at its end is imperative. As many outcome studies in the past have shown methodological weaknesses (Warren et al., 2003), efforts should be made to avoid these weaknesses. Although this may be quite challenging to realize within forensic mental health settings, future research should preferably consist of randomized-controlled studies, and give detailed information on the study population and selection criteria, the methods of diagnosing the subjects (which should be validated for forensic populations), on the treatment(s) administered (to enable replicating this treatment), and on the choice of (standardized) outcome measure and statistical analyses. Studies should also use large samples and comparison groups, address possible attrition, and separate Axis I and Axis II diagnostic categories where possible. Carrying out further meaningful research on the effectiveness of intensive and elaborate treatment, and investigating which patients benefit most from which treatment at which stage, will hopefully contribute to improved (risk) diagnoses, fewer incidents, shorter treatment duration, and less recidivism.

As mentioned earlier, there should be an increase in detail of digital registration of patient, treatment, and risk characteristics over the course of treatment. In order to facilitate research on assessment, diagnostics, and treatment effectiveness for offenders with personality pathology, legal and psychiatric organizations should work together to create complete and compatible databases that cover the entire legal and psychiatric process from arrest to release of the offender.

De Beurs and Barendregt (2008) investigated suitable ways to study the effect of enforced treatment, meant to facilitate the development of evidence based treatment programs. After taking into consideration important criteria for research design – such as randomization, statistical power, treatment integrity and protocols, willingness of the treatment hospital to apply assessment instruments, as well as logistics and infrastructure – they concluded that due to practical and ethical challenges to randomized-controlled studies in the forensic mental health setting, outcome monitoring with cohort studies is the most suitable method.

Outcome monitoring entails periodically assessing all patients' conditions or symptoms and general psychological wellbeing, using the same assessment instrument each time, and recording what type and quality of treatment each patient is receiving (De Beurs & Barendregt, 2008). In the Netherlands this practice is known as Routine Outcome Monitoring (ROM), which, as mentioned earlier, is aimed at transparency, evaluation and possible adjustment of treatment. The authors also stress the importance of organizations such as treatment hospitals working together to combine sufficient data concerning the effects of specific treatment programs. This first requires that all organizations use the same assessment instruments and record data in exactly the same way.

## Final remarks

The main conclusion of this current dissertation is that personality pathology, with its high prevalence in the forensic mental health setting, plays a pivotal role in the assessment, diagnosis, treatment and return to society of disordered offenders. It remains under-researched, however, and very few assessment instruments have been designed specifically for this population. Available assessment instruments that are known to be reliable and valid in the general population should be used with caution among defendants or offenders. The importance of sound and thorough assessment, diagnosis, and treatment of offenders – both for the offender and for society – calls for assessment instruments specifically designed for this population and an increase in (detail of) digital registration of patient, treatment, and risk characteristics.