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High and Low Aggressive Narcissism and Anti-social Lifestyle in Relationship to Impulsivity, Hostility, and Empathy in a Group of Forensic Patients in the Netherlands

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ARTICLE

High and Low Aggressive Narcissism and Anti-social Lifestyle in Relationship to Impulsivity, Hostility, and Empathy in a Group of Forensic Patients in the Netherlands

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In a group of 148 violent offenders, 14 offenders were diagnosed as psychopaths (PCL-R score 30+); 46 as middle group psychopaths (PCL-R score 21–29); and 88 as non-psychopaths (PCL-R score –21). To measure impulsivity, empathy, and hostility in the three groups, clinical diagnoses of psychologists and psychiatrists were used and classified in the HKT-30. Based on Hare's PCL-R classification, psychopaths scored more problematic on impulsivity, empathy, and hostility than the middle group

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and non-psychopaths. Differences between the middle and psychopathic group were small. Individuals who scored high on Factors 1 and 2 showed significantly more problematic behavior on impulsivity, empathy, and hostility than individuals with a low score. Empathy and hostility contributed significantly to the prediction of Factor 1 (high aggressive narcissism; $R^2 = 22\%$), and empathy and impulsivity contributed significantly (not for impulsivity but meaningful) to the prediction of Factor 2 (high antisocial lifestyle; $R^2 = 22\%$).

KEYWORDS *psychopaths, primary and secondary narcissism, aggressive narcissism, antisocial lifestyle*

INTRODUCTION

Psychopathy is an important and frequently discussed issue in forensic psychiatry and psychology. The prototypical psychopath shows no guilt but blames others (Cleckley, 1976). They charm and seduce their potential victims by saying things they like to hear and giving them the impression that they have a warm and good heart (Cleckley, 1976). Psychopaths differ in their lifestyle, behavior, and interpersonal style. More than 60 years ago, Karpman (1948) introduced the term *primary* and *secondary psychopaths*. He characterized primary psychopaths as emotionless, calculating, manipulative, and deceitful. Different from primary psychopaths, secondary psychopaths have a weak conscience and share some common characteristics with primary psychopaths but suffer very often from an underlying pathology or neurotic conflict (Levenson, Kiehl & Fitzpatrick, 1995; Skeem, Poythress, Edens, Lilienfeld, & Cale, 2003; Skeem, Kerr, Louden, Johansson, & Anderhed, 2007; Snowden & Gray, 2011). Differences between primary and secondary psychopathy are reflected in Hare's (2003) two factors model: aggressive narcissism (Factor 1) or disturbed interpersonal-affective traits and socially deviant lifestyle (Factor 2). Factor 1 is known as the core of the psychopathic syndrome, with interpersonal and affective disturbances such as glib and superficial charm and grandiose estimation of self. Factor 2 relates to socially deviant behavior with impulsivity and pro-social aggression as core elements (Kennealy, Skeem, Walters, & Camp, 2010). Primary psychopaths suffer more from affective deficits; secondary psychopaths suffer more from impulsive deficits and an anti-social lifestyle, which is very often reflected in anti-social behavior (Skeem et al., 2003, 2007). The secondary psychopath is more pro-socially aggressive (high scores on aggressiveness and impulsivity) and often involved in violent aggressive behavior. The primary psychopath often uses instrumental aggression and acts very often in a reasoned way.

In the last 25 years, there has been much debate on the construct of the psychopathic disorder (e.g., Hare & Neumann, 2006; Cooke, Michie, & Skeem, 2007; Hare & Neumann, 2008; Skeem & Cooke, 2010). The debate about the conceptual validity of psychopathy has led to the construction of a three- and four-factor model (Cooke & Michie, 2001; Cooke, Michie, Hart, & Clark, 2004; Hare & Neumann, 2008). In the three-factor model, items from Factor 2 relating to antisocial behavior such as criminal versatility, juvenile delinquency, revocation of conditional release, poor behavioral controls, and early behavior problems were removed from the final model. The remaining 13 items were divided into three factors: interpersonal style, deficient affective experience, and impulsive and irresponsible behavioral style (Cooke & Michie, 2001). Cooke and Michie's (2001) solution was criticized for their exclusion of items reflecting antisocial behavior that many consider to be an essential component of the psychopathy construct. Some years later, Hare and Neumann (2006, 2008) constructed a four-factor model and, different from Cooke and Michie (2001), the antisocial factor was included. The *interpersonal style* gives insight into a person's interaction with other people, which is very often grandiose and superficial. The *affective factor* is related to a person's poverty of empathy and emotions. The *antisocial factor* reflects the person's antisocial and criminal behaviors, and the *behavioral or lifestyle factor* concerns the person's impulsive and irresponsible lifestyle. Recently and not directly based on Hare's work, Lynam and Widiger (2007) embed psychopathy within a broad five-factor model (high interpersonal antagonism, pan-impulsivity, absence of negative self-directed affect, present of anger and hostility, and interpersonal assertiveness) of personality functioning. For years, a lively debate has been going on concerning the conceptualization of the construct psychopathy in terms of achieving the best possible, reliable, and valid diagnostic and risk assessment instrument. In this study, we consciously choose Hare's (1993) two-factor model because the focus is primarily on the relationship between high and low aggressive narcissism (Factor 1) and high and low antisocial lifestyle (Factor 2) in relation to three clinical factors: impulsivity, hostility, and empathy.

There is plenty of research and clinical evidence that impulsivity as a personality trait is a significant factor in criminal behavior in general and a powerful predictor of recidivism and frequency of (re)offending (Prentky & Knight, 1991; Patton, Stanford, & Barratt, 1995; Webster & Jackson, 1997; Bartol & Bartol, 2011). Impulsivity has been considered a prominent factor of psychopathy (Poythress & Halla, 2011) and can be described as "A lack of forethought and a willingness to forgo careful consideration of alternative solutions to problems . . . a tendency to act before thinking, to fail to learn from one's mistakes, and to accord little thought to one's long-term life goals" (Hare, 2003, p. 22). Poythress and Halla (2011) reconsidered the idea that all psychopaths are impulsive in the same way. Functional impulsivity and extraversion are alternative traits associated with behavioral approach

system (BAS) functioning or activation. High BAS activity (extraversion and functional impulsivity) can be seen as a potential factor for understanding psychopathy. These ideas are consistent with the idea that the clinical distinction between Karpman's (1948) primary and secondary psychopath, with attendant differences in the manifestation of impulsive traits, receives empirical support. There are differences between the proactive impulsive nature of the secondary psychopath and the more rational, calculated, and reasoned nature of the primary psychopath.

A lack of empathy plays an important role in the etiology of psychopathy. Mehrabian and Epstein (1972, p. 525) defined emotional empathy as a "Vicariously emotional response to the perceived emotional experiences of others" and Hoffman (2000, p. 30) defined empathy as "Feelings that are more congruent with another's situation than with one's own situation." Besides the cognitive ability to recognize emotions (cognitive empathy) and thoughts of others, there is also an affective response related to empathy (Losoya & Eisenberg, 2001). The inability to be empathetic with others and to respond empathically to victims is an important criterion of psychopathy (Blair & Blair, 2005). Psychopaths show a selective empathic deficit in that they are impaired in the recognition of sad and fearful facial expressions (e.g., Alia, Amorima, & Chamorro-Premuzic, 2009). From a more biological perspective, Boulanger, Habib, and Lancon (2008) compared psychopathic individuals with controls and found in the psychopathic group a selective impairment for cognitive flexibility, cognitive empathy, and decision making. Empathy can also be related to primary and secondary psychopathy. Individuals who score highly in primary psychopathic traits (aggressive narcissism) will experience more pleasurable affect and less empathy from the sadness of others than secondary psychopaths because they show a selective emotional empathy dysfunction by not processing sad and fearful expressions appropriately (Blair, 2001).

Research on hostility among psychopaths is rather scarce. Apter, Plutchik, and van Praag (1993) found hostility to be a strong predictor of violent behavior. Most research is conducted in psychotic and schizophrenic patients who score high on the *Psychopathology Checklist, Revised* (PCL-R). Until now, differences between primary and secondary psychopathy in relationship to hostility can hardly be found in clinical studies. Therefore, we examine hostility in this study in relationship to primary and secondary psychopathy and will make a distinction between high and low Factors 1 and 2 scores. Kelly (1955) defined hostility as the willful refusal to accept evidence that a person's perceptions of the world are wrong. Hostile persons attempt to force or coerce the world to fit with their view. Decuyper, De Pauw, De Fruyt, De Bolle, and De Clercq (2009) found in a meta-analysis of 26 samples for psychopathy and 57 samples for antisocial personality disorder (ASPD) that symptoms of psychopathy and ASPD were positively associated with anger and hostility. Abushua'leh and Abu-Akel (2006) found

that violent male patients with schizophrenia and a high psychopathic profile have high scores on the hostility component. However, they also found that male patients with schizophrenia and a low psychopathic profile also have a high score on the hostility component.

This study consists of three parts. *First*, the research group will be divided into three groups of psychopathy regarding their scores on the PCL-R (non-psychopaths, middle group with some psychopathic traits, and psychopaths). *Second*, impulsivity, empathy, and hostility will be examined in relationship to the severity of psychopathy (non-psychopaths, middle group, psychopaths). *Third*, impulsivity, empathy, and hostility will be examined separately in relationship to Factor 1 and Factor 2 notwithstanding that the PCL-R total score is the golden standard in classifying individuals in non-psychopaths or psychopaths. For clinical practice, it is important to analyze the three clinical concepts separately for both PCL-R factors because of treatment purposes.

We assume PCL-R Factor 1 high scorers will score less empathic and more hostile than Factor 1 low scorers. PCL-R Factor 2 high scorers will score more impulsive than low scorers (Skeem et al., 2003, 2007). Finally, empathy and hostility will contribute significantly in the prediction of a “Factor 1 high” score and impulsivity in the prediction of a “Factor 2 high” score.

METHOD

Participants

The sample consists of 148 male violent offenders hospitalized in the forensic psychiatric centre the Kijvelanden, Rotterdam and the Dr. S. van Mesdag, Groningen, The Netherlands. Of the 156 offenders, 100 (68%) were born in the Netherlands, 16 (11%) in Suriname, 8 (5%) in Morocco, and 7 (5%) in the Netherlands Antilles. Seventeen patients (11%) were born in Turkey, Indonesia, and other non-Western countries. The mean age was 32 years and 7 months (range, 18–71; standard deviation [*SD*] = 8.2). During the research, 77 (52%) patients were between 18 and 30 years old, 56 (38%) were between 31 and 40 years, and 15 (10%) were 40 years and older. The index-offenses for which the Entrustment order was imposed were 84 (57%) attempted homicide; 13 (9%) assaults; 31 (21%) extortions and robbery with violence; and 22 (13%) arson. The mean age at first conviction was 21 years and 3 months (*SD* = 7.5); the mean number of previous convictions to imprisonment of less than 4 years was 4.9 (*SD* = 5.8). Seventy-one (48%) patients suffered from schizophrenia, and 77 (52%) patients from a personality disorder according to the DSM-IV (APA, 1994). Of the 71 patients with schizophrenic disorders, 28 (39%) showed a cluster A, and 3 (4%) patients a cluster B disorder. Of the 77 personality-disordered offenders, 48 (62%) had one or more cluster B disorders (some in combination with clusters A and C), and 29 (38%) were diagnosed as not otherwise specified.

Instruments

The PCL-R (Hare, 2003) was used to measure psychopathy. The PCL-R assesses different aspects of criminal psychopathy from various sources, including criminal records, behavioral observations, semi-structured interviews, and collateral sources (Bartol & Bartol, 2011). The PCL-R is a reliable and valid instrument for the assessment of psychopathy in forensic populations. Each item on the checklist can be scored by 0 = consistently absent, 1 = inconsistent, and 2 = consistently present. A score of 30 or above usually qualifies a person as a primary psychopath. Hare (1991) recommends that persons with scores between 21 and 29 be classified as “middle” subjects who show many of the characteristic of psychopathy but do not fit all the criteria. Scores of <21 are considered “non-psychopaths” (Hare, 1991; Bartol & Bartol, 2011). Because we examine the relationship between Factor 1/Factor 2 of the PCL-R and impulsivity, hostility, and empathy, we chose to divide respondents into a low and high score on Factors 1 and 2 based on their median scores. The median was used because there is no scientific cutoff score for both factors separately. Using the lowest and highest twenty-fifth percentile solution was not an option due to huge loss of respondents.

Impulsivity, empathy, and hostility were assessed by using the historical, clinical, and future items (HKT-30; Board risk assessment Forensic Psychiatry, 2002). The HKT-30 is a risk assessment instrument developed in the Netherlands. The instrument consists of 11 historical (e.g., previous violence and conduct disorders before age 12); 13 clinical (e.g., impulsivity, empathy, and hostility); and 6 future (e.g., social support and networks and stress) items. The three scales have a reasonable predictive validity in violent recidivism (Hildebrand, Hesper, Spreen, & Nijman, 2005). The inter-rater reliability of the H-, K-, and T-scale scores was calculated using correlations and is, respectively, 0.76, 0.71, and 0.64. Correlations between .60 and .80 are encouraging. The internal consistency (Cronbach's alpha) of the H-, K-, and T-scale is, respectively, 0.62, 0.87, and .88. Impulsivity, empathy, and hostility are 3 of the 13 clinical items. The structured clinical judgment of psychologists, psychiatrists, and scientists is central in measuring impulsivity, empathy, and hostility.

Impulsivity was measured with a five-point scale, a score 0 = no impulsive behavior; score 1 = severity between 0 and 1; score 2 = sporadic impulsive behavior, have the ability to trade some control; score 3 = severity between 2 and 4; and score 4 = frequent and/or severe loss of control over impulses. Empathy is defined as score 0 = able to be empathic and emotional connected with others; score 1 = severity between 0 and 2; score 2 = difficult to empathize with others, is capable to think about it, or can follow instructions and acts to be more empathetic; score 3 = severity between 2 and 4; and score 4 = shows no empathy and compassion, is unable to empathize with others, and is only interested in own benefits. Hostility is

defined as follows: a score 0 = absence of hostility; score 1 = respond with passive resistance and irritation; score 2 = passive resistance and irritation without a direct cause; score 3 = verbal aggression and/or violent opposition; and score 4 = physically aggressive behavior.

The HKT-30 is the most widely used risk assessment instrument in the Dutch forensic field. These centers are obliged by the government to conduct either the HKT-30 or HCR-20 at least once a year for each patient. The outcomes are important for the prolongation of the Entrustment order but also the granting of leave. Forensic psychiatric centers that use the HCR-20 are obliged to measure also the additional items of the HKT-30 missing in the HCR-20. The HKT-30 has agreements with the HCR-20 (Webster, Douglas, Eaves, & Hart, 1997), but there are differences (Spren, Ter Horst, Bogaerts et al., 2009). The HCR-20 has 5 clinical items, whereas the HKT-30 has 13 clinical items. Eight extra clinical items—empathy, hostility, social relational skills, self-reliance, acculturation problems, responsibility for the offence, sexual preoccupation, and coping skills—are included in the HKT-30 and not in the HCR-20. Clinical items are basically dynamic and influenced by treatment and can provide information about potential future recidivism. Another difference refers to scoring. The HCR-20 is based on a three-point scale for each item whereas the HKT-30 is based on a five-point scale. A five-point scale is more sensitive for small differences that are important in the character of formalizing clinical decisions concerning prolongation for further rehabilitation.

Procedure

After entering the institution, all patients reside between 3 and 6 months at the diagnostics division. For each patient, the PCL-R was conducted during the first months of residence by psychologists specialized in diagnostic research. After the diagnostic phase, patients were placed on a treatment unit. The HKT-30 scores were obtained at the end of the first year of residence at the treatment unit. The HKT-30s were scored by the heads of treatment, the unit psychologist, and a researcher. The definitive scores for each patient were reached by consensus discussion.

Statistical Analysis

Mean scores on psychopathy, impulsivity, empathy, and hostility were examined in the studied sample. Analysis of variance (ANOVA) was used to measure group means on impulsivity, empathy, and hostility in the three groups: non-psychopathic, middle group, and psychopaths. Because of multiple comparison procedures, a Bonferroni correction was used. An independent sample *t*-test tested for differences in high and low scorers on

Factors 1 and 2. Due to the lack of official cutoff points for the two PCL-R factors separately, the median score was used as the cutoff score between high and low scorer. A median split was performed. A score of 8 and higher was used for Factor 1, and a median score of 10 and higher was found for Factor 2. Respondents who scored 8 and/or 10 and higher were classified into two groups: “highly aggressive narcissism” and “highly antisocial lifestyle.” Scorers below 8 and 10 were assigned to the low groups. A linear regression analysis examined the independent contribution of impulsivity, empathy, and hostility in the prediction of psychopathy (non-psychopaths, the middle group, and psychopaths). Two logistic regression analyses investigated the predictive power of impulsivity, empathy, and hostility in the explanation of high and low Factors 1 and 2.

RESULTS

Psychopathy

We chose the initial cutoff scores of Hare and not the adjusted scores that is used in the Dutch forensic practice. According to Hare’s cutoff score, only 14 (9%) forensic patients obtained a score of 30+ on the PCL-R and were qualified as psychopaths; 46 (31%) patients were classified as “middle” subjects who showed many of the features of psychopathy but did not fit all the criteria for psychopathy. The largest group ($n = 88$, 60%) received scores below 21 and were considered “non-psychopaths” (Table 1).

Patients’ scores on Factor 1 (aggressive narcissism) and Factor 2 (antisocial lifestyle) were examined: 78 (53%) patients got a high score on factor 1 (high aggressive narcissism) and 70 (47%) patients a low score. Seventy-four (50%) patients obtained a high score on factor 2 (high anti-social lifestyle) and 71 (48%) a low score (see Table 1).

Group Differences for Impulsivity, Empathy, and Hostility: Hare’s Classification and Factor 1 and 2 High-Low Classification

The severity of impulsivity, empathy, and hostility was indicated on a five5-point scale. Non-psychopaths were the least impulsive and hostile and were best able to be empathetic with others (Table 2). ANOVA after Bonferroni correction shows that the mean scores on impulsivity ($F = 14.7$, $df = 2$, $p < .001$); empathy ($F = 5.22$, $df = 2$, $p < .01$); and hostility ($F = 15.90$, $df = 2$, $p < .001$) were significantly higher in the middle group and psychopathic group than in the non-psychopathic group. There were no significant differences between the middle and the psychopathic group on impulsivity, empathy, and hostility, which means that middle-group patients and psychopaths are in fact much alike.

TABLE 1 Descriptive Statistics in Psychopaths in Absolute Numbers

Psychopathy	<i>N</i>	Minimum	Maximum	Mean	<i>SD</i>
PCL-R total score (0–40)	148	3	37	18.971	7.2147
PCL-R Factor 1 (0–20)	148	1	16	7.689	3.5657
PCL-R Factor 2 (0–20)	148	1	18	9.538	4.1789
Psychopaths (score 30+)					
PCL-R total score	14	14	37	31.66	1.95
PCL-R Factor 1	14	9	16	12.83	1.78
PCL-R Factor 2	14	13	18	15.82	1.49
Middle group (score 21–29)					
PCL-R total score	46	21	29	24.28	2.72
PCL-R Factor 1	46	4	16	9.96	2.66
PCL-R Factor 2	46	5	16	12.03	2.49
Non-psychopaths (score 20–)					
PCL-R total score	88	3	20	14.17	4.41
PCL-R Factor 1	88	1	11	5.68	2.51
PCL-R Factor 2	88	1	14	7.20	3.25
Factor 1 High Primary psychopaths (median 8+)					
PCL-R total score	78	9	37	23.37	5.91
PCL-R Factor 1	78	8	16	10.49	2.23
PCL-R Factor 2	78	1	18	10.88	3.97
Factor 1 Low Non-primary psychopaths (median 8–)					
PCL-R total score	70	3	24	14.06	5.04
PCL-R Factor 1	70	1	7	4.57	1.67
PCL-R Factor 2	70	1	16	7.93	3.80
Factor 2 High Secondary psychopaths (median 10+)					
PCL-R total score	73	15	34	23.79	3.06
PCL-R Factor 1	73	2	16	9.00	3.43
PCL-R Factor 2	74	10	18	12.80	2.35
Factor 2 Low Non-secondary psychopaths (median 10–)					
PCL-R total score	71	3	25	13.90	5.04
PCL-R Factor 1	71	2	16	9.00	3.43
PCL-R Factor 2	71	1	9	6.13	2.66

TABLE 2 Impulsivity, Empathy, and Hostility in Non-psychopaths, Middle Subjects, and Psychopaths and in Factor 1 and 2 of the PCL-R

	Mean overall	Non-psychopaths	Middle group	Psycho paths	Factor 1 (primary <i>p</i>)		Factor 2 (secondary <i>p</i>)	
					Low	High	Low	High
Impulsivity (<i>n</i> = 144)	1.66	1.21*	2.22	2.50	1.36**	1.92	1.06*	2.19
Empathy (<i>n</i> = 131)	2.11	1.84*	2.43	2.57	1.61*	2.55	1.74**	2.36
Hostility (<i>n</i> = 137)	1.51	1.03*	2.11	2.29	.95*	1.96	.88*	2.10

**p* < .001: non-psychopaths differentiate significantly from the middle group and psychopaths.

***p* < .01: low scorers on Factor 1 differentiate significantly from high scorers in Factor 1.

The average non-psychopath is reasonably able to empathize with others and to feel emotionally attached to others. Empathy is not fully developed, but the patient is able to think about it. The average non-psychopath has few problems with impulsive behavior and is sufficiently able to control impulses. The average non-psychopath responds with passive resistance and irritation as an expression of hostility. In the middle group and the psychopathic group, the scores on the three factors are significantly higher compared to the non-psychopathic group. The psychopathic group shows some impulsiveness in behavior and loses control of impulses. Empathy is limited, and individuals may not be able to empathize with others and act sometimes from their own perspectives and interests. Regarding hostility, there is passive resistance and irritation without any direct cause.

No significant differences were found between the middle and the psychopathic group. This could mean that clinical implications and orientation for both group are difficult to make and that PCL-R overall scores are probably too rough for diagnosing a person as a psychopathic individual. A refinement may be exercised by examining the two factors separately.

Looking separately at Factors 1 and 2 and examining differences between the high and low scores on both factors, impulsivity (Factor 1: $t = 2.64$, $df = 142$, $p < .01$; Factor 2: $t = 5.71$, $df = 139$, $p < .001$); empathy (Factor 1: $t = 5.148$, $df = 129$, $p < .001$; Factor 2: $t = 3.18$, $df = 126$, $p < .01$); and hostility (Factor 1: $t = 4.96$, $df = 135$, $p < .001$; Factor 2: $t = 6.33$, $df = 133$, $p < .001$) differ significantly between the high and low group. A linear regression analysis was performed and only impulsivity contributed significantly to the prediction of psychopathy ($\beta = .26$, $t = 2.26$, $p < .05$). The adjusted explained variance was .19. This means that 19% of the variance in the dependent variable was explained by impulsivity.

To examine the independent contribution of impulsivity, empathy and hostility in aggressive narcissism (Factor 1) and antisocial lifestyle (Factor 2), two logistic regression analyses were conducted. In the first analysis, of the 148 cases, 124 were involved in the logistic regression analysis. The model succeeded to classify 72% of respondents correctly as non-aggressive narcissism. Empathy ($\beta = 1.86$, $df = 1$, $p < .001$) and hostility ($\beta = 1.83$, $df = 1$, $p < .01$) contributed significantly to the prediction of aggressive narcissism. The Cox and Snell R Square was 22%. A positive beta coefficient means that a high score on empathy and hostility are strong predictors for a high score on the PCL-R factor 1 (aggressive narcissism). Individuals with a high score on lack of empathy and hostility are more likely to have a high level of aggressive narcissism than low scorers (odds ratio = 1.8 for empathy and hostility) (see Figure 1). A second logistic regression analysis was performed to examine the contribution of impulsivity, empathy and hostility in antisocial lifestyle (Factor 2). Of the 148 cases, 122 were included in the regression model.

The model classified 71% of the respondents successful as (non) antisocial lifestyle. Hostility ($\beta = 1.71$, $df = 1$, $p < .05$) contributed significantly

FIGURE 1 Significant predictors for overall psychopathy and aggressive narcissism (Factor 1) and anti-social lifestyle (Factor 2) separately.

to the prediction of anti-social lifestyle. The Cox and Snell R Square was also 22%. Individuals with a high score on hostility are more likely to have a high level on antisocial lifestyle (odds ratio = 1.7 for hostility). Interesting to note in connection with the previously discussed theory is that impulsivity obtained an expected β of 1.46 and a p -value of .07 whereas the expected β and p -value of impulsivity has no predictive power in aggressive narcissism (Factor 1). Impulsivity is a stronger predictor in antisocial lifestyle than in aggressive narcissism.

DISCUSSION

According to Hare’s classification, only 14 patients were classified as clinical psychopaths. The largest group ($n = 88$) consisted of non-psychopathic individuals; the middle group ($n = 46$) showed psychopathic characteristics but was not diagnosed as psychopaths. Non-psychopaths were significantly less impulsive and hostile and more empathic than individuals in the other two groups. Differences on impulsivity, empathy, and hostility between psychopaths and the middle group were very small. Therefore, a more sensitive classification was used, and theoretical support was found by Karpman (1948) and Hare (e.g., 1993) who distinguished between primary and secondary psychopaths. Primary psychopaths are more emotionless, calculating, manipulative, and deceitful and suffer especially from affective deficits. Primary psychopaths often obtain high scores on the PCL-R factor 1 (aggressive narcissism), what is known as the core of the

psychopathic syndrome characterized by interpersonal affective and emotional disorders. They use more instrumental and functional aggression and handle more often reasonable (Hicks, Markon, Patrick et al., 2004). Secondary psychopaths exhibit corresponding characteristics with primary psychopaths but can also suffer from an underlying pathology (Skeem et al., 2007; Snowden & Gray, 2011). The secondary psychopath is often characterized as an aggressive psychopath (high scores on aggressiveness, impulsivity, and anxiety), and often is involved in violent and more-reactive aggressive behavior. The primary psychopath uses more instrumental aggression and acts more often reasonable (Hicks, Markon, Patrick et al., 2004).

In our study, we differentiated between high and low scores on Factor 1 and Factor 2, which give us clinical indications for aggressive narcissism and antisocial lifestyle. The median score was used to differentiate between high and low scorers. Seventy-eight patients received high scores on Factor 1 and 74 patients on Factor 2. Half of the patients scored problematic on aggressive narcissism and on antisocial lifestyle. There are differences in which predictors contribute significantly to the prediction of psychopathy. In Hare's classification, impulsivity contributed significantly but rather weakly to the prediction of psychopathy; 19% variance in the dependent variable (psychopathy) was explained by impulsivity. In the high-low Factors 1 and 2 classification, empathy and hostility were strong predictors for aggressive narcissism; they explained 22% of the variance in the dependent variable. Individuals belonging to the group high Factor 1 were 1.8 times more likely to have problems with empathy and hostility ($OR = 1.8$). Hostility contributed significantly to the prediction of antisocial lifestyle and explained 22% of the variance in the dependent variable. Individuals who score high on hostility were 1.7 times more likely to maintain an antisocial lifestyle ($OR = 1.7$). Impulsivity was also found to be a stronger predictor for anti-social lifestyle than for aggressive narcissism ($OR = 1.4$, not significant).

The difference between primary and secondary psychopaths cannot ignore neurobiological and neuropsychological approaches on psychopathy and developmental disorders in general. Since the introduction of the DSM-III (APA, 1981), there is a more behavioral description of psychopathy (Salekin, 2002; Van Honk & Schutter, 2006). This behavioural description has ensured that the clinical distinction with ASPD is more difficult to make. Most psychopaths suffer from ASPD, but the other direction is not true, especially when we know that ASPD is found in 4% of the population whereas psychopathy is found in fewer than 1% of the population (Van Honk & Schutter, 2006). In our study, high aggressive narcissistic psychopaths are less empathic than low aggressive narcissistic psychopaths and high antisocial psychopaths (see Table 2). Underlying neurobiological and neuropsychological processes can influence dysfunctional emotional

affective processing characterized by a lack of empathy and anxiety, hostility, and impulsivity. Blair (2006) argues the disability of the amygdale to form the stimulus–punishment association is disrupted and that individuals with psychopathy do not learn to avoid actions that will harm others; there is also evidences for specific neuroanatomical and neurohormonal substrates (e.g., low level of cortisol) to be defective in psychopathy (Von Honk & Schutter, 2006). Knowledge on neurobiological and hormonal processes in the origin and development of psychopathy must be integrated into the psychological behavioral approach of psychopathy based, for example, on the PCL-R. The combination and integration of several theoretical and clinical models will undoubtedly influence treatment and risk management perspectives of psychopathy. Psychopaths with neuropsychiatric disorders and hormonal defects require a different approach than psychopaths without these disorders.

The idea that psychopaths are difficult to treat must be nuanced. We believe high scorers on Factor 1 (aggressive narcissism) are harder to treat than low scorers on Factor 1 and even high scorers on Factor 2 (anti-social lifestyle). High scorers on Factor 1 are often seen as core psychopaths with mainly affective defects and more-reasoned and functional use violence. This group is also associated with organic disorders. Low scorers on Factor 1 and high scorers on Factor 2 are more likely to have an underlying problem and often use non-functional and unbridled aggression. This may have implications for treatment perspectives. Our study shows that impulsiveness, empathy, and hostility are significantly different between high and low scorers on Factors 1 and 2. This study should be repeated among other forensic groups because we assume that low scorers on Factor 1 are more sensitive to treatment than high scorers on Factor 1. These more sophisticated diagnoses can give a different perspective on the treatability of psychopaths.

This study has limitations. First, the psychopathic group is quite small, which was caused by the cutoff score we used in line with Hare (30+). In the Netherlands, a cutoff point of 26 is used for psychopathy. We must consider whether a cutoff score of 26 as used in the Netherlands is justified, especially because 31% of the respondents scored between 21 and 29 on the PCL-R.

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