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Psychopathy, the PCL-R, and Criminal Justice: Some New Findings and Current Issues

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Abstract

Theory and research on the psychopathy construct have increased dramatically over the past few decades. The international instrument of choice for the clinical and forensic assessment of this construct in basic neuroscience research and in the criminal justice system is the Psychopathy Checklist–Revised (PCL-R; Hare, 1991, 2003). Its psychometric properties, structure, and correlates are well-known. In this article I present new findings in which the 4 first-order factors of the PCL-R (Interpersonal, Affective, Lifestyle, Antisocial) can be used to good effect in understanding the nature of psychopathy and in predicting variables of interest to the criminal justice system. My colleagues and I used a variable-centered approach (structural equation modelling) to show how each of the factors make unique contributions to the prediction of violence, treatment outcome, institutional behaviour, and so forth. We used a person-oriented approach (latent profile analysis; LPA) to identify factor profiles among offenders with *high* PCL-R scores:

manipulative psychopaths (LC1), *aggressive psychopaths* (LC2), and *sociopaths* (LC3). We view LC1 and LC2 as variants of psychopathy and LC3 as a subtype of offender. We also conducted LPAs on entire samples of offenders (not just those with high scores). Across several large and diverse samples, we con-

sistently identified 4 profiles of factor scores, which we identified as *Psychopath* (C1), *Callous-conning Offender* (C2), *Sociopath* (C3), and *General Offender* (C4). Finally, I briefly addressed 2 issues related to the potential for misuse of the PCL-R in the legal context: field reliability of the PCL-R, and adversarial/allegiance effects associated with its use.

Keywords: psychopathy, PCL-R, structure and correlates, latent class profiles, adversarial effects

Following a 3-day series of presentations on psychopathy that I delivered in Australia some 20 years ago, a criminal defence lawyer took the podium and said, “Sitting beside me is a dangerous man.” After looking around to find this man, I realised that he was talking about me, as the developer of the *Psychopathy Checklist–Revised* (PCL-R; Hare, 1991, 2003), which he saw as a powerful tool capable of misuse and abuse. Prior to these comments, a prominent consultant psychiatrist said to the audience, “Some pretty pictures but what do they mean?” These pictures were early brain images my colleagues and I had obtained from psychopathic and other individuals while they processed semantic and emotional material (later published as Intrator et al., 1997; Kiehl et al., 2001). As it turns out, the lawyer was correct in one respect; the PCL-R can and has been misused, but his characterization of me as a dangerous man seemed to conflate the creator of a tool with the ways in which it is used. The psychiatrist technically was correct at the time, but the few imaging studies then available have grown to several hundred, conducted by scores of researchers from around the world. Nonetheless, problems in interpreting neuroimages remain, most seriously in the legal system.

Since my Australian experience the number of articles on the PCL-R and its derivatives has increased at an exponential rate, from less than 50 in 1995 to more than 1,100 by the time of this writing (*Web of Science*, October, 2015). These articles reflect, among other things, investigations and commentaries in two broad areas: basic theory and research on the nature and measurement of psychopathy (e.g., see Patrick, *in press*); and applications to the mental health and criminal justice systems (e.g., see Gacono, 2016). My web page (www.hare.org) contains a detailed and up-to-date list of articles on these and other issues.

In this article, I address the criminal lawyer’s concerns by outlining some of the advances in measuring and understanding psychopathy, and by discussing some current issues and debates in the legal system about the use of the PCL-R and the construct it measures. The psychiatrist’s early concern about the use of “pretty

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pictures” in the study of psychopathy is echoed in current research on psychopathy and in the recent applications of neuroscience in the legal system (*neurolaw*) to determine criminal culpability (Lushing, Gaudet, & Kiehl, 2016). Because of space limitations, I will not discuss these latter issues, but will offer only a few comments.

In the foreword to *The Handbook on Psychopathy and Law* (Kiehl & Sinnott-Armstrong, 2013), I had this to say,

There is little doubt that many psychopathic features are associated, in theoretically relevant ways, with a variety of brain structures and functions that differ from those of the majority of other individuals. But, this does not necessarily mean that they suffer from a neurological deficit or dysfunction . . . we should consider the possibility that the actions of psychopaths reflect cognitive, affective, and behavioural processes and strategies that are different from those of other people, but for reasons other than neuropathology or deficit, in the traditional medical and psychiatric sense of the terms. (Hare, 2013, pp. vii–ix).

One viable possibility is that psychopathy is an evolutionary adaptive life-strategy rather than a disorder (e.g., Book, & Quinsey, 2003; Glenn & Raine, 2014; Lalumière, Mishra, & Harris, 2008; Mealey, 1995). Further, with respect to *neurolaw*, how different from “normal” do brain structure and function, and cognitive, affective, and behavioural processes, need to be in order to be considered “abnormal” or “deviant” for legal purposes, including determinations of culpability? At present, we lack baselines for normal brain function from the general population during the tasks used to study psychopathy. Recent discussions of these and related issues are covered extensively in several recent articles and chapters (e.g., Glenn & Raine, 2014; Hare & Neumann, 2010; Harenski, Kiehl, & Hare, 2011; Umbach, Berryessa, & Raine, 2015) and in edited volumes (Häkkinen-Nyholm & Nyholm, 2012; Kiehl & Sinnott-Armstrong, 2013; Malatesti, & McMillan, 2010). My concern is that researchers and clinicians are too quick to interpret brain functions in psychopathy as abnormal or dysfunctional. There now are so many documented structural and functional “anomalies” or “defects” among psychopaths involving so many parts of the brain that it seems a wonder that they are able to function at all in society, particularly at high levels (Babiak, 2016; Babiak & Hare, 2006; Babiak, Neumann, & Hare, 2010; Mathieu, Neumann, Babiak, & Hare, 2015).

The PCL-R

The PCL-R has become the international standard for the clinical assessment of psychopathy, for both basic research and applications to the criminal justice system. It is based firmly on a widely accepted clinical and empirical tradition (Arieti, 1963; Cleckley, 1941, 1976; Hare, 1991; Karpman, 1955; McCord & McCord, 1964) and serves as the nexus of a “nomological network” of psychopathy (Benning, Patrick, Salekin, & Leistico, 2005; Crego & Widiger, 2014; Hare, Neumann, & Widiger, 2012; Poythress, Edens, et al., 2010; Vachon, Lynam, Loeber, & Stouthamer-Loeber, 2012). The early development of the PCL-R drew, in part, from the theoretical writings of clinicians about their patients often from a psychodynamic perspective. At the same time, the empirical development of the PCL-R, in terms of content and format, was shaped by my training as an experimental psychologist, my years of research with offenders, and lengthy discussions with my colleagues and students. That is, the items are scored on the basis of observable behaviours rather than on inferences and specula-

tions about psychodynamic or other reasons for the behaviours. The PCL-R was designed to measure a clinical construct in accordance with empirical and psychometric theory and principles.¹

Because of its prominence, and in recognition of the important role it plays in the criminal justice system, the PCL-R has been subjected to unusually intense scrutiny and critical analyses, both conceptual and statistical. It has fared well, not only with respect to its psychometric properties but to its utility in basic research and in criminal justice (see Gacono, 2016; Hare, Neumann, & Mokros, *in press*; Patrick, *in press*).

The PCL-R is a revision of an early 22-item scale described by Hare (1980) and later referred to as the PCL (see detailed discussions in Hare, 1991, Appendix; Hare, 2003, Appendix A). The PCL-R is a 20-item construct rating scale for the assessment of psychopathy in adults (see Table 1, left panel). The rater scores each item on a 3-point ordinal scale (0, 1, or 2) according to the extent to which the item description applies to a given individual. The PCL-R yields dimensional scores that vary from 0 to 40. For research purposes a score of 30 has proven useful as a convenient threshold for psychopathy. The standard procedure uses a semi-structured interview, file and collateral information to score each item. In some cases it is not possible to conduct interviews, in which case the PCL-R may be scored from collateral, file information only, but at the risk of losing important information about the individual’s interpersonal “style.” The PCL-R yields dimensional scores (Guay, Ruscio, Knight, & Hare, 2007) but also is used to classify individuals for research and clinical purposes.

The items of the PCL-R (and its predecessor, the PCL) fall conceptually and statistically into four correlated first-order dimensions or factors (Table 1, left panel; Figure 1). The pattern of intercorrelations among these first-order factors underlies a superordinate factor of psychopathy (Neumann, Hare, & Newman, 2007). In addition, it is possible to use these four factors to model a higher order two-factor model (Hare & Neumann, 2008), consistent with the original two-factor model of the PCL (Harpur, Hakstian, & Hare, 1988; Harpur, Hare, & Hakstian, 1989), and the two-factor model of the PCL-R (Hare et al., 1990).² These are labelled Factor 1 (Interpersonal/Affective) and Factor 2 (Lifestyle/Antisocial) in Table 1. They also are referred to in the literature as F1 and F2, respectively.

Some commentators (e.g., Cooke & Michie, 2001) have argued that the Antisocial factor is merely a consequence of the so-called core features of psychopathy, namely the Interpersonal, Affective, and Lifestyle factors. Such an argument certainly is not in line with a range of behaviour genetic, longitudinal, and structural equation

¹ The PCL-R measures a construct that shares some features with antisocial personality disorder (ASPD) as defined in the fifth edition of American Psychiatric Association’s (2013) *Diagnostic and Statistical Manual of Mental Disorders*. However, psychopathy and ASPD are not interchangeable constructs (see reviews by Crego & Widiger, 2014; Hare et al., *in press*; Lynam & Vachon, 2012; Richards et al., 2016).

² In his 2015 Presidential Address to the *Society for the Scientific Study of Psychopathy*, Scott Lilienfeld referred to the Harpur and colleagues (1989) article as the most important psychopathy article since 1989. Using the early 22-item PCL we showed that the psychopathy construct was underpinned by two correlated dimensions, labelled Factor 1: selfish, callous, and remorseless use of others; and Factor 2: chronically unstable and antisocial lifestyle, or social deviance. The findings led to considerable research on these dimensions and their correlates.

Table 1
Items and Factors in the Hare PCL Scales

PCL-R	PCL:YV	PCL:SV
Factor 1 (F1)		Part 1 (Factor 1)
Interpersonal	Interpersonal	Interpersonal
1. Glibness/superficial charm	1. Impression management	1. Superficial
2. Grandiose sense of self worth	2. Glibness/superficial charm	2. Grandiose
4. Pathological lying	4. Pathological lying	3. Deceitful
5. Conning/manipulative	5. Manipulation for personal gain	
Affective	Affective	Affective
6. Lack of remorse of guilt	6. Lack of remorse	4. Lacks remorse
7. Shallow affect	7. Shallow affect	5. Lacks empathy
8. Callous/Lack of empathy	8. Callous/Lack of empathy	6. Doesn't accept responsibility
16. Failure to accept responsibility	16. Failure to accept responsibility	
Factor 2 (F2)		Part 2 (Factor 2)
Lifestyle	Behavioral	Lifestyle
3. Need for stimulation	3. Stimulation-seeking	7. Impulsive
9. Parasitic lifestyle	9. Parasitic orientation	9. Lacks goals
13. No realistic, long-term goals	13. Lack of goals	10. Irresponsibility
14. Impulsivity	14. Impulsivity	
15. Irresponsibility	15. Irresponsibility	
Antisocial	Antisocial	Antisocial
10. Poor behavioral controls	10. Poor anger control	8. Poor behavioral controls
12. Early behavioral problems	12. Early behavior problems	11. Adolescent antisocial behavior
18. Juvenile delinquency	18. Serious criminal behavior	12. Adult antisocial behavior
19. Revoke conditional release	19. Serious violations of release	
20. Criminal versatility	20. Criminal versatility	

Note. PCL-R = Psychopathy Checklist–Revised; PCL:SV = Psychopathy Checklist: Screening Version; PCL:YV = Psychopathy Checklist: Youth Version. The items are reprinted with permission of the copyright holders, Multi-Health Systems and R. D. Hare. Note that the item titles cannot be scored without reference to the formal criteria contained in the published manuals. PCL-R Items 11 (promiscuous sexual behavior) and 17 (many short-term marital relationships) contribute to the total score but do not load on any factors. PCL:YV Items 11, impersonal sexual behavior, and 17, unstable interpersonal relationships, contribute to the total score but do not load on any factor. F1 and F2 are the original PCL-R factors, but with the addition of Item 20.

modelling (SEM) studies (Hare & Neumann, 2010), which strongly indicate that overt antisocial behaviour, broadly defined, is tightly linked to the more covert interpersonal, affective, and lifestyle features of psychopathy (Neumann, Hare, & Pardini, 2014). Skeem and Cooke (2010) also are mistaken in terms of their claim that my colleagues and I consider *criminality* to be essential to the psychopathy construct. We do not, but we have shown through discussion of the traditional clinical literature, as well as with empirical data, that *antisociality* is a fundamental component of the psychopathy construct (Hare et al., in press; Neumann et al., 2014; Neumann, Vitacco, & Mokros, 2016). As put by Lynam and Miller (2012), “The most ubiquitous characteristic in the descriptions of psychopathy by Cleckley, Hare, Karpman, Kraepelin, Lykken, and the McCords is a history of severe, longstanding ASB [antisocial behaviour]” (p. 346). Further, “Any description of psychopathy is incomplete without ASB. Any model of psychopathy is insufficient that does not attend to this core aspect” (p. 342). More recently, Miller and Lynam (2015) listed the recognition of the role of antisocial behaviour as one of the five important advances in theory and research. They note that in the absence of antisociality, “psychopathy becomes a configuration of traits that is interesting to look at but that has little real world consequence, reducing psychopathy to a sort of boutique personality disorder.” Along these lines, Rice and Harris (2013, p. 237) noted that early aggressive and antisocial behaviour “are just as fundamental *indicia* of the underlying selfish and cheating psychopathic life strategy as are the observable behaviours that indicate impulsivity,

irresponsibility, interpersonal exploitation, callousness, remorselessness, sensation-seeking, and so on.”

Empirical evidence that antisociality is an integral part of the psychopathy construct is extensive; it is clear that it properly belongs in the four-factor model of the PCL scales (Neumann et al., 2007; Neumann et al., 2016). In a very large megasample of 52,957 of individuals with a variety of PCL-based scales (as well as the B-Scan and the Self-Report Psychopathy scale) from different samples (male and female offenders and psychiatric patients, adolescent male and female offenders, and community samples) and countries, Neumann and colleagues (2014) obtained good average fit for the four-factor model (relative fit = .94, absolute fit = .06).

Direct Derivatives

The PCL-R has two direct derivatives, the *Hare Psychopathy Checklist: Screening Version* (PCL:SV; Hart, Cox, & Hare, 1995) and the *Hare Psychopathy Checklist: Youth Version* (PCL:YV; Forth, Kosson, & Hare, 2003). Collectively, we refer to them as the PCL scales.³ The centre and right panels of Table 1 contain the items for the PCL:YV and PCL:SV, respectively. Because the focus of this article is on the PCL-R, I refer the

³ Other scales based on the PCL-R are the *B-Scan* (Mathieu, Hare, Jones, Babiak, & Neumann, 2013; Mathieu et al., 2015), the *Self-Report Psychopathy Scale* (SRP; Paulhus, Neumann, & Hare, in press), and the *Antisocial Process Screening Device* (Frick & Hare, 2001).

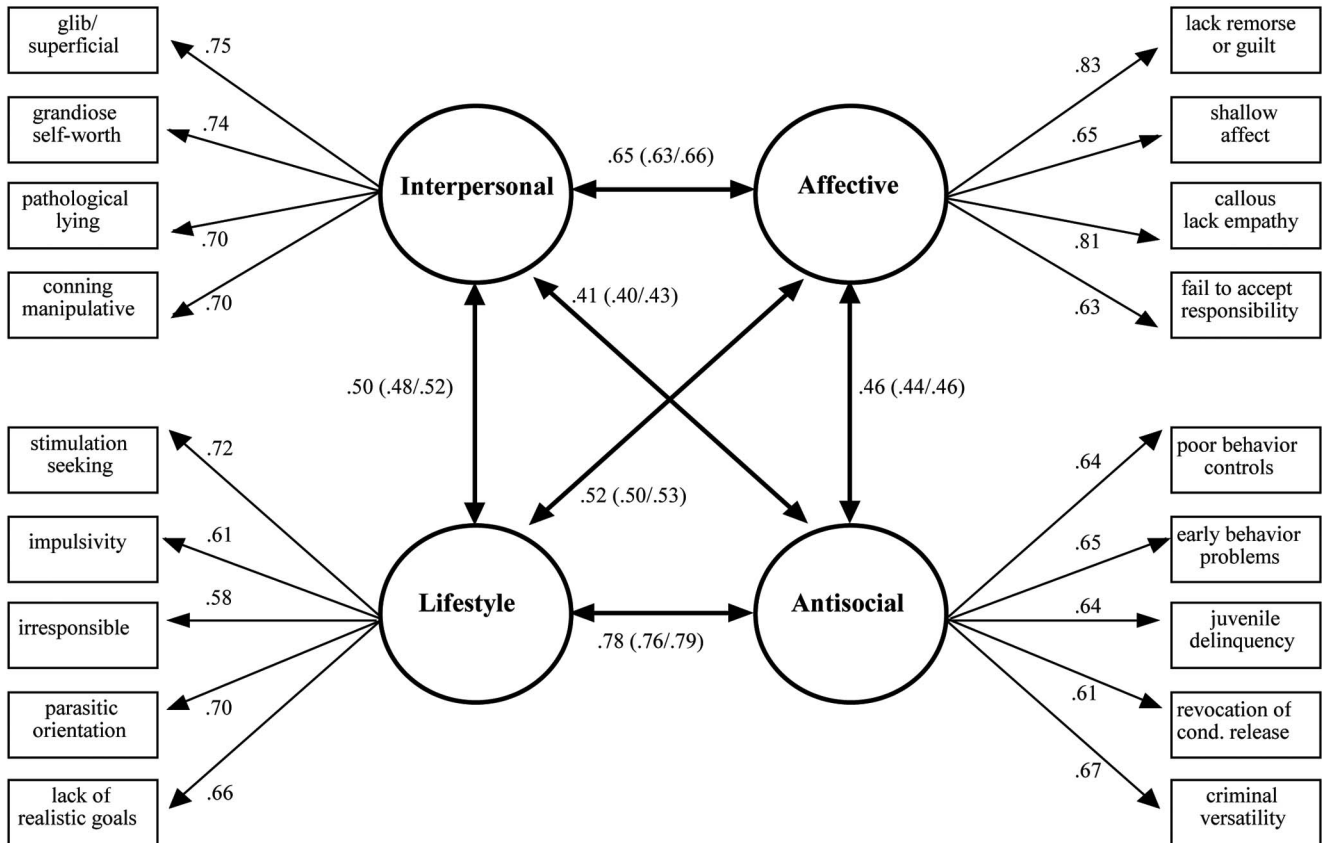


Figure 1. North American–European megasample of the Psychopathy Checklist–Revised four-factor model of psychopathy ($N = 12,301$); 90% confidence intervals in parentheses. Reproduced from Neumann, Hare, and Pardini (2014), with permission of John Wiley and Sons.

reader to the extensive literature on the PCL:YV (e.g., Book et al., 2013; Forth, Bo, & Kongerslev, 2013; Kosson et al., 2013; Salekin & Andershed, in press; Salekin & Lynam, 2010), and on the PCL:SV (e.g., Cooke, Michie, Hart, & Hare, 1999; Guy & Douglas, 2006; Richards et al., 2016). In general, the psychometric properties, structure, and correlates of the PCL:YV and the PCL:SV are similar to those of the PCL-R. I might also note that the PCL:SV was developed for use in the MacArthur Violence Risk Assessment Study for evaluating risk in civil psychiatric patients; it was the strongest predictor of violence among these patients (Steadman et al., 2000).

The PCL-R and its direct derivatives are controlled instruments available only to researchers and to those with the training and professional qualifications that allow them to conduct valid psychological evaluations. However, numerous articles, chapters and books are available to anyone interested in learning more about these instruments than typically is found in journal articles (e.g., Book et al., 2013; Forth et al., 2013; Hare et al., 2013; Hare & Neumann, 2008; also see the chapters in Part 2: Psychopathy Assessment, in Gacono, 2016).

The PCL-R and Criminal Justice

Although it was developed to measure a clinical construct, not to assess risk for offending, the PCL-R has become one of the most widely used psychological instruments in forensic

psychiatry and practice, for risk and other purposes. Recent international surveys indicate that the PCL-R is one of the two most frequently used instruments for risk assessment, risk management, and risk monitoring (Hurducas, Singh, de Ruiter, & Petrila, 2014; Singh, Condemarin, & Folino, 2013). When the PCL:SV is included, the PCL scales are used at least as much for risk purposes as are tools expressly developed for risk assessment. Similarly, Neal and Grisso (2014) conducted an international survey in which 434 forensic examiners described their two most recent forensic evaluations. The PCL-R was tied for the most frequently used tool for violent risk assessment, and was the second most used for sex offender risk assessments and civil commitment evaluations, and fourth for use in sentencing assessments. In many cases, The PCL-R and its derivatives are at least as predictive of general and violent offending in a variety of contexts as are purpose-built risk tools (Blais & Bonta, 2015; Campbell, French, & Gendreau, 2009; Hemphill & Hare, 2004; Hilton, Harris, Rice, Houghton, & Eke, 2008; Leistico, Salekin, DeCoster, & Rogers, 2008; Mokros, Vohs, & Habermeyer, 2014; Olver & Wong, 2015; Rice & Harris, 2013; Vitacco, Gonsalves, Tomony, Smith, & Lishner, 2012; Yang, Wong, & Coid, 2010). The combination of a high PCL-R score and evidence of deviant sexuality is a strong predictor of sexual reoffending (Harris et al., 2003; Hawes, Boccaccini, & Murrie, 2013).

A common finding in the risk literature has been that Factor 2 (Lifestyle/Antisocial), especially its Antisocial factor, is more predictive of reoffending than is Factor 1 (Interpersonal/Affective), presumably because the former factor contains items that are conceptually similar to those in commonly used risk tools (Kroner, Mills, & Reddon, 2005). For this reason, some commentators see no role for Factor 1 in criminal justice, a serious mistake in my view. Because one variable predicts something of interest *better* than does another in a particular context, there is no valid reason for discarding the latter. All risk tools contain a number of items, some better than others, but nonetheless the total scores typically are used. It is important to remember that the PCL-R was not designed as a risk tool, and that the PCL-R defines psychopathy by elevated scores on both Factor 1 and Factor 2. It properly is used as part of a complete clinical/behavioural work-up to assist decision-makers in a variety of contexts in which psychopathic traits and behaviours have clinical or probative relevance (Gacono, 2016; Hare, 2003). Further, the relative predictive utility of the factors depends on what is being predicted and the appropriateness and sophistication of the methods used to analyse the data. For example, Factor 1 is at least as predictive as Factor 2 of inpatient violence (Langton, Hogue, Daffern, Mannion, & Howells, 2011; Vitacco et al., 2012), sexual violence (Harris, Rice, Hilton, Lalumière, & Quinsey, 2007), time to dropout from therapy (Olver & Wong, 2011), instrumental violence (Blais, Solodukhin, & Forth, 2014), and time to first violence (Wilson, 2003). Olver, Lewis, and Wong (2013) reported that, during a 5-year postrelease period for 150 violent offenders, Factor 1 (especially the Affective factor) was *more* predictive of violence than was Factor 2. Similarly, Olver and Wong (2011) reported that the strongest predictors of dropout from treatment among these offenders were the Affective factor of Factor 1 and never being married. Factor 1 also appears to be important in explaining and predicting domestic violence (Swogger, Walsh, & Kosson, 2007).

Many conclusions about the relative predictive utility of the PCL factors are based on zero-order or partial correlations with some specific outcome, such as recidivism, or on regression analyses. Alternative latent-variable (SEM) analyses provide evidence that the Interpersonal factor (Hill, Neumann, & Rogers, 2004; Neumann & Pardini, 2014; Vitacco, Neumann, & Caldwell, 2010) and the Affective factor (Neumann & Pardini, 2014; Olver et al., 2013; Vitacco, Neumann, & Jackson, 2005) contribute significantly to prediction of clinical criteria, including inpatient violence, treatment outcome, aggression, criminal recidivism, and other externalizing psychopathology.

To illustrate, Skeem and Mulvey (2001) analysed the PCL:SV data of 1,136 civil psychiatric patients in the MacArthur Violence Risk Assessment Study. The correlation (η) between the PCL:SV score at admission to the hospital and self-reported violence (*yes* or *no*) 20 weeks after discharge was .36 for the total score, .28 for the Factor 1 score, and .38 for the Factor 2 score. Following regression analyses the authors concluded that “predictive power of the PCL:SV is not based on its assessment of the core traits of psychopathy, as traditionally construed” (p. 358). By “core traits,” the authors meant the Interpersonal/Affective items in Factor 1, although I argue below that the “core” of psychopathy extends to Factor 2. In any case, had Skeem and Mulvey (2001) conducted modern item-level latent-variable analyses instead of manifest-variable analyses they would have come to quite a different conclusion concerning the predictive utility of the PCL:SV factors. Thus, in their latent-variable analyses, Vitacco and colleagues (2005) performed a confirmatory factor analysis (CFA) on the MacArthur data set, and obtained good fit for a four-factor model (Table 1, right panel). They then used SEM to understand the relationships among the four factors and violence at 20-week follow-up. The SEM results are presented in Figure 2, where the latent variable correlation prediction parameter with violence was .41 for the Affective factor and .40 for the Antisocial factor.

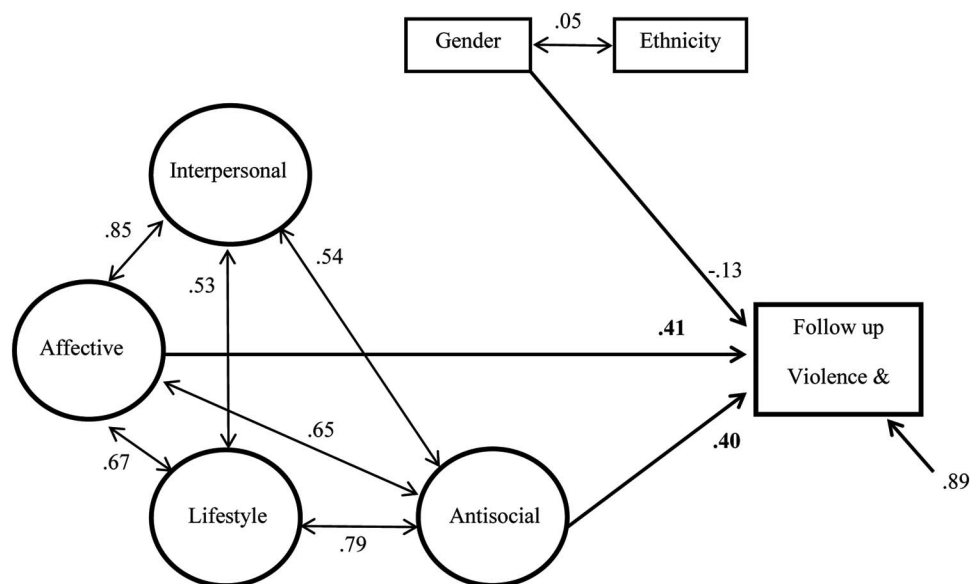


Figure 2. Psychopathy Checklist-Revised: Screening Version four-factor structural equation model for the prediction of violence—aggression at 20 weeks postrelease in the MacArthur Risk Assessment Study of civil psychiatric patients. From Vitacco, Neumann, and Jackson (2005, Figure 3). Reprinted with permission.

Several recent articles and chapters (Hare et al., 2013, in press; Neumann et al., 2016) describe the use of SEM showing how the four dimensions of psychopathy make unique contributions to the prediction of various variables of interest to the criminal justice system, including time to first violent offence, type of sexual offending, early dropout from therapy, and instrumental violence. For example, using PCL-R data for 958 sex offenders described by Robertson and Knight (2014); Neumann and Krstic (2014) reported that the latent-variable prediction of violence was .33 for the Affective factor and .35 for the Antisocial factor.

The point here is that the relevance and importance of the PCL factors in criminal justice depend on the context and way in which they are used. As indicated below, the *pattern* of factor scores may be particularly informative to criminal justice. Parenthetically, all four PCL factors play important roles in the neuroscience of psychopathy (Glenn & Raine, 2014; Lushing et al., 2016).

Person-Centered Analyses

Most of the research on the role of psychopathy in the criminal justice system, including SEM, has involved the use of *variable-centered* approaches. Recently, we have turned to a *person-centered* approach with the use of *latent profile analysis* (LPA) to identify homogeneous latent classes or subgroups formed by scores on the four PCL-R factors. The LPA approach is a probabilistic or model-based alternative to conventional cluster analysis used for identifying homogeneous subgroups within a sample through maximum likelihood (Neumann et al., 2016). Similar to SEM, it allows the researcher to determine whether or not a particular model provides a good fit for the data. However, while SEM provides information about variables (e.g., psychopathic traits) collected across large samples of individuals, LPA provides information about persons, and identifies subgroups of individuals who display different patterns or expressions of psychopathic features. Thus, our SEM research seeks to account for the structure and correlates of psychopathic features across large samples of individuals, while our more recent LPA research attempts to capture different subtypes of individuals who manifest varying profiles of these psychopathic features.

LPA of offenders with extreme PCL-R scores. Mokros and colleagues (2015) conducted LPAs of the four PCL-R factors of 5,408 male offenders from the North American data set described in Hare, 2003. We used two different PCL-R threshold scores for selecting samples: 27 and 30. In the first analyses LPA was performed on 1,451 male offenders with a PCL-R score of 27 or higher, a value that is one standard error of the mean below the threshold of 30. The optimal solution yielded three latent classes or subtypes, similar in PCL-R Total scores but with different factor profiles (Figure 3, top panel). We assigned the tentative labels to the latent classes of *manipulative psychopaths* (LC1), *aggressive psychopaths* (LC2), and *sociopathic offenders* (LC3). We viewed LC1 and LC2 as variations of the theme of psychopathy. LC3 was a bit more difficult to label, with the pattern of scores being consistent with antisocial personality disorder (ASPD), severe externalizing behaviours, or with what some refer to as “secondary psychopathy.” We replicated these three latent classes in an independent sample of 497 offenders with a score of at least 27

(Figure 3, bottom panel). Several criterion variables were available for this replication sample, with LC1 having higher education and intelligence, and lower aggression and antisociality, than the other latent classes, and LC3 scoring highest in negative affect. Mokros et al. (2015) suggested that LC1 and LC2 represent phenotypic variants of psychopathy corresponding, respectively, to Karpman’s *passive/parasitic* and *aggressive/predatory* psychopathy, Arieti’s *complex* and *simple* psychopathy, Book and Quinsey’s *cheater* and *warrior-hawk* psychopathy, and the emotionally stable and aggressive psychopaths described by Hicks, Markon, Patrick, Krueger, and Newman (2004; see also Drislane et al., 2014). LC3, on the other hand, appears to consist of individuals who exhibit many externalizing features but who have a capacity for affect, guilt, and remorse at least on a par with the average offender.

In a supplementary analysis (Mokros et al., 2015, Supplemental Material), we used a more stringent threshold of 30 to select 856 offenders from the North American data set. An LPA yielded a two-class solution, with LC1 and LC2 being virtually identical with the corresponding classes in the three-class solution (Figure 2, bottom panel).

Given the profiles in this study, it seems plausible to refer to both LC1 and LC2 as variants of (primary) psychopathy. We propose that clinically meaningful descriptors for LC1 and LC2 are manipulative and aggressive psychopathy, respectively. In each case, the theoretical implication is that we are dealing with variants of psychopathy rather than with qualitatively distinct subtypes, in-line with the LPA results. LC3, on the other hand, was characterised by high levels of social deviance but not by the affective features integral to psychopathy.

LPA of full sample of offenders. The preceding LPA findings, based on extreme, high-scoring PCL-R samples, allowed us to identify two meaningful variants of “primary” psychopathy (LC1 and LC2), as well as a distinct class with some psychopathic features (LC3). An alternative approach is to conduct an LPA on all offenders in a sample of PCL-R scores, thus allowing for the emergence of latent classes for an entire distribution of offenders. Thus far, we have conducted full-sample LPAs on many large samples of offenders from several different countries. Although much of this work is in progress some details are available elsewhere (Hare et al., in press; Neumann et al., 2016). For this article, I provide two examples.

In the first (development) analysis we conducted an LPA on the North American reference group in Hare (2003, p. 55). A four-class model provided the best solution (Figure 4, top panel). We interpreted the four profiles as reflecting: a *psychopath* group (C1), with a mean PCL-R score of 28.4 and elevations on all four PCL-R factors; a *callous-conning* group (C2), with a PCL-R score of 16.8 and elevations mainly on the Interpersonal and Affective factors; a *sociopathic offender* group (C3), with a PCL-R score of 19.6 and elevations on the Lifestyle and Antisocial factors; and a *general offender* group (C4), with a mean PCL-R score of 8.9 and a low score on all factors. We obtained much the same solution (Figure 5, bottom panel) with a replication sample of 973 Swedish male offenders (described in Neumann, Johansson, & Hare, 2013). The mean PCL-R total score for these four classes (C1-C4) was 31.1, 17.4, 21.6, and 7.4, respectively. Virtually identical four-class profiles are described by Neumann and colleagues (2016, p. 26) for a North American Forensic Psychiatric sample ($N = 965$), a

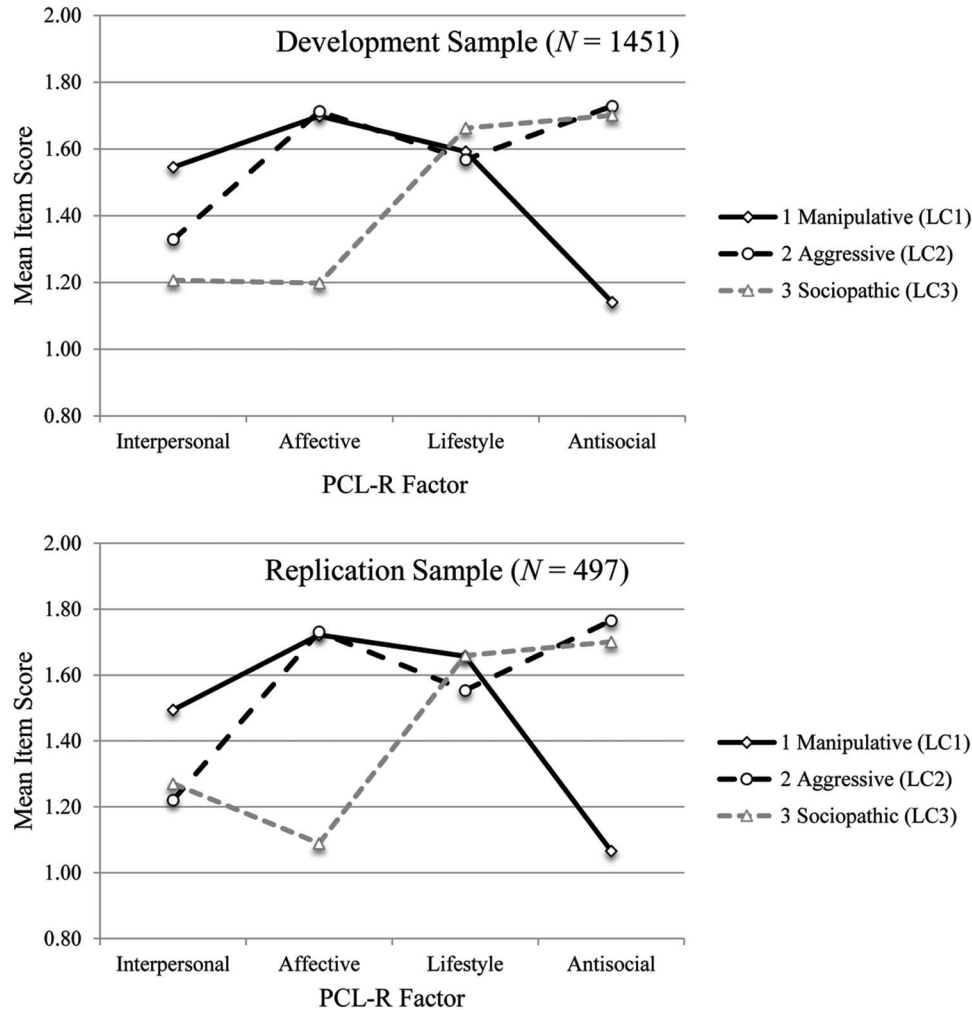


Figure 3. Mean item scores for each latent class on each Psychopathy Checklist–Revised (PCL–R) factor. The latent classes consist of offenders with a PCL–R score of 27 or higher. The mean item scores for the entire sample of 5,408 male offenders (Hare, 2003, p. 59) are around 1.00. Based on Mokros and colleagues (2015). Adapted with permission.

United Kingdom male offender sample ($N = 1,983$), and a Forensic Psychiatric sample from the Netherlands ($N = 3,224$). Neumann and Krstic (2014) obtained the same results in an LPA analysis of 958 sex offenders, using PCL–R data described by Robertson and Knight (2014).

The strong replicability of this four-class solution across diverse types of offenders and different countries is remarkable. (Note that C1 [psychopathic] splits into the two variants of psychopathy [LC1 and LC2] described by Mokros and colleagues (2015) and discussed in the previous section.) However elegant the solutions are, the real test is what they can do to facilitate our understanding of psychopathy and implications for society. Preliminary findings indicate that they can do quite a lot, particularly when combining variable- and person-centered approaches to research on psychopathy. As described by Neumann and colleagues (2016; Hare et al., in press), variable-centered research has provided a strong, replicable, four-dimensional representation of the psychopathy construct, with clearly delineated statistical parameters. The four factors

of the PCL–R and its derivatives have provided basic and applied researchers, as well as clinicians, with a model that predicts and explains a diverse range of the correlates of psychopathy.

The person-centered approach described in this section adds valuable new information to our understanding of the psychopathy construct. LPA with high PCL–R scores provides a nuanced perspective on the variants of psychopathy, and the distinction between these variants and what has been referred to as sociopathy, secondary psychopathy, ASPD, and externalizing pathology. LPA with entire distributions of offenders provides a clinically meaningful psychological picture of all offenders in the sample. Early findings indicate that the four profiles (C1–C4) differ on several variables important to criminal justice. Of particular interest is that offenders in the C1 (psychopathic) class are much more prone to violence, including sexual violence, than are offenders in the other classes (Neumann et al., 2016; Neumann & Krstic, 2014). Extensive research on these issues is in progress, and the coming years

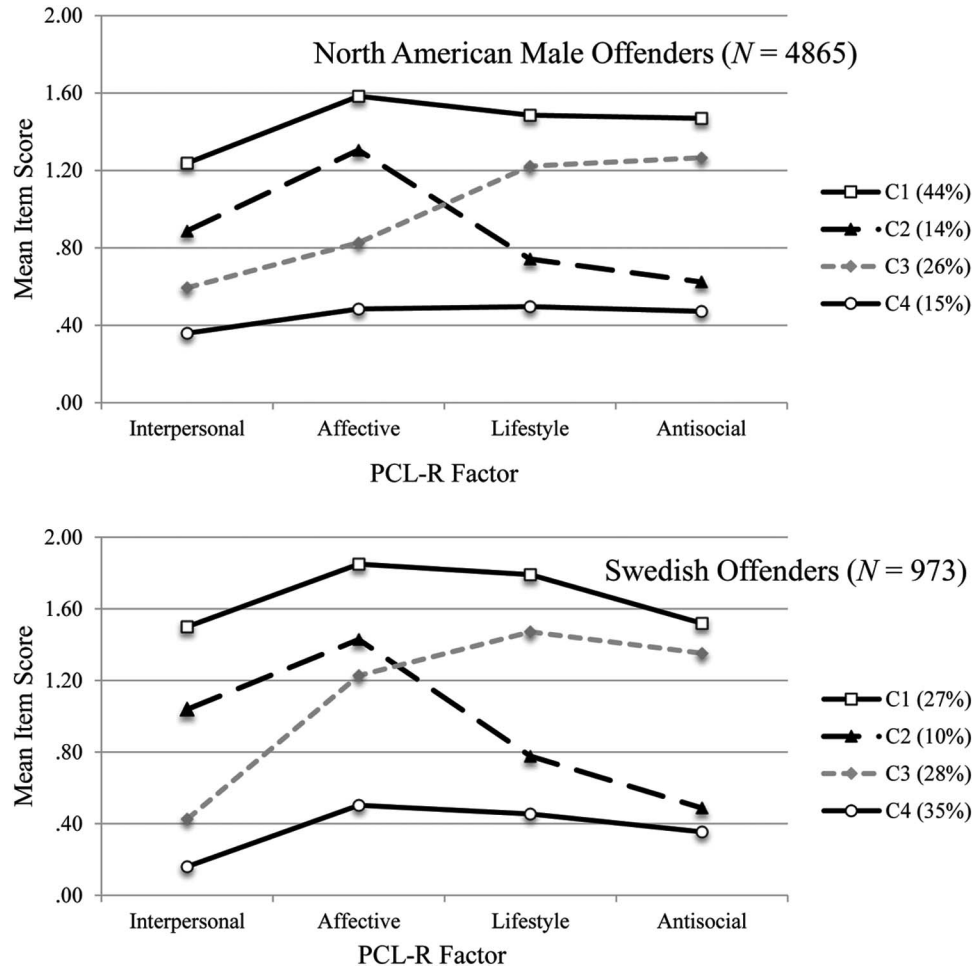


Figure 4. Mean item scores for each latent class on each Psychopathy Checklist–Revised (PCL–R) factor. Top panel: Profiles are for an entire distribution of PCL–R scores of the development sample of 4,865 male offenders (Hare, 2003). Bottom panel: Profiles are for an entire distribution ($N = 973$) of Swedish violent offenders (Neumann et al., 2013). Based on Hare and colleagues (in press) and Neumann and colleagues (2016). C1 = psychopathic group; C2 = callous–conning group; C3 = sociopathic group; C4 = general offender group. Reproduced with permission.

should provide a wealth of new insights into the consequences that psychopathic individuals have for society.

Ultimately, we hope that clinicians and researchers will combine both the variable-centered and person-centered approaches to better understand and treat psychopathic and subthreshold psychopathic individuals. For instance, the variable-centered findings can be used for delineating which of the PCL factors are most predictive of various external correlates, and then, from this empirical base, a person-centered approach can be used to gauge the types of risk or treatment approach that might pertain to an individual case with a specific PCL [factor] profile. (Neumann et al., 2016, p. 26)

Dimensional or Taxonic?

The use of LPA to identify the latent class of C1 has interesting implications for the debate about whether psychopathy is a dimensional or a taxonic construct. Recent research implies that the matter is settled in favour of dimensionality (e.g., Guay et al., 2007). However, I've had clinicians tell me that offenders very high on the PCL–R strike them as being different *in kind* from

other offenders. In this regard the following quote from Ruscio (2007, p. 1589) is informative:

For example, psychopaths might differ qualitatively from nonpsychopaths; psychopathy may be taxonic. Alternatively, individuals might differ from one another along one or more continuous traits; psychopathy may be dimensional. It is possible that the structure of psychopathy may be more complex, containing both taxonic and dimensional features: Within a nonpsychopathic group, a set of dimensions may capture individual differences on psychopathy-relevant traits, *but hardcore psychopaths deviate substantially on multiple dimensions and form their own group*" (emphasis mine).

It is possible that the C1 class described above is a good candidate for arguing in favour of taxonicity at a high level of the four PCL–R dimensions.

Some Current Debates Concerning the PCL–R

Hare and colleagues (in press) have discussed in detail most of the current debates about the use of the PCL–R. For the most part,

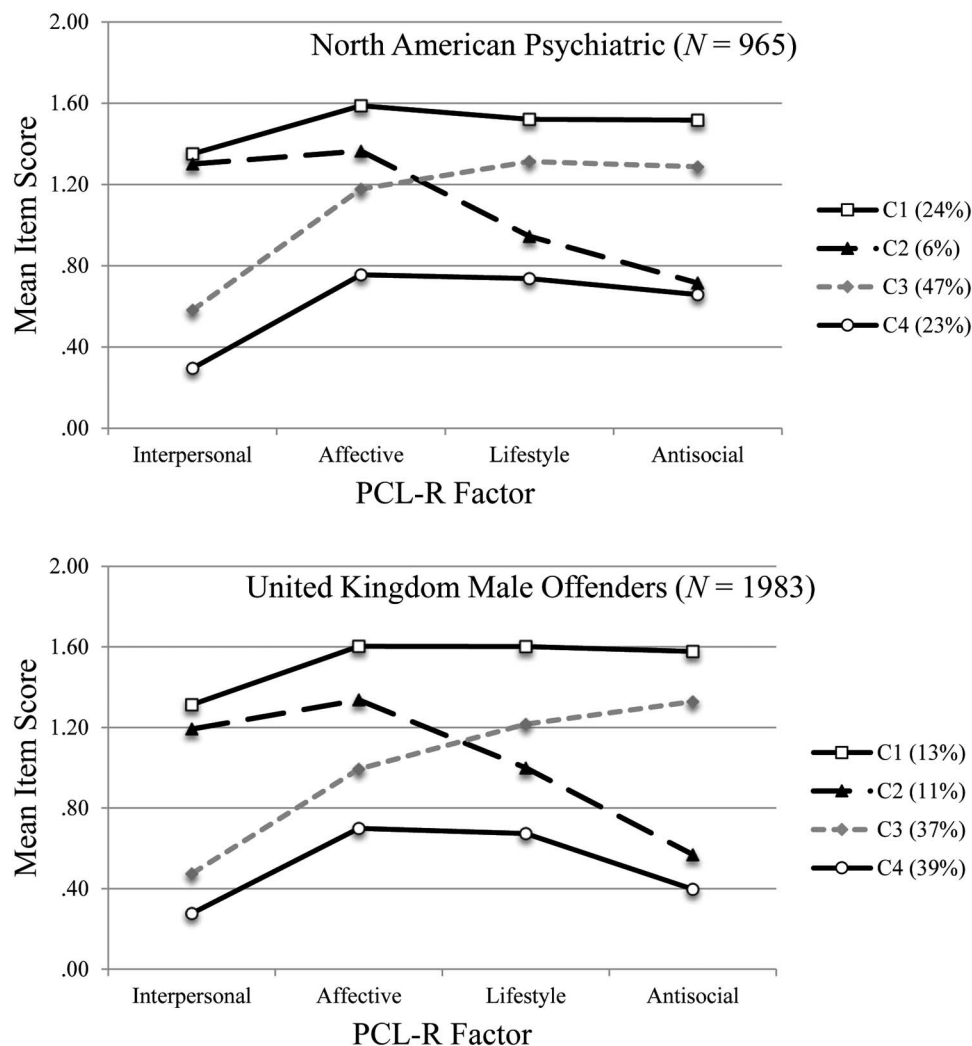


Figure 5. Mean item scores for each latent class on each Psychopathy Checklist–Revised (PCL-R) factor. Top panel: Profiles are for an entire distribution of PCL-R scores of the development sample of 965 male forensic psychiatric offenders (Hare, 2003). Bottom panel: Profiles are for an entire distribution ($N = 973$) of male offenders from the United Kingdom (Neumann & colleagues, 2016). C1 = psychopathic group; C2 = callous-conning group; C3 = sociopathic group; C4 = general offender group. Reproduced with permission.

these debates have to do with its applications in the criminal justice system. These include the extent to which the strong reliability of PCL-R assessments conducted for basic or applied research extends to areas in which the assessments have direct implications for an individual, such as in civil commitment proceedings, parole decisions, treatment options, and so forth. Because of space limitations, I address only two main issues: field use of the PCL-R and adversarial/allegiance effects.

In addition to its use for basic research, the PCL-R commonly is used in the “field” as part of an institutional assessment battery, with potential implications for how the criminal justice system handles the offender or forensic psychiatric patient (e.g., level of supervision, treatment options, release decisions, and so forth). In routine institutional assessments, the reliability of PCL scores is uniformly high (Hare, 2003), even when they are obtained at different times (e.g., Hare et al., in press; Looman, Abracen, & Ismail, 2011). These assessments have real-life implications for the offenders and patients,

and the reliabilities of the PCL-R scores generally were high enough for making informed decisions about them. However, a serious problem arises when the PCL-R is used for sentencing and preventative detention/civil commitment hearings where experts hired by the prosecution and the defence often provide widely different PCL-R assessments. This adversarial, allegiance, or “hired gun” effect of course is not specific to assessments of psychopathy, but the widespread use of the PCL-R for dangerous offender, sexually violent predator, and capital sentencing cases has drawn considerable attention from the legal system.

In their recent survey of United States case law, DeMatteo and colleagues (2014) identified 348 cases involving the PCL-R from 2005 to 2011. They noted that the PCL-R “appears to be the most widely used measure of psychopathic traits in forensic settings around the world,” that it is primarily a “prosecution tool,” that challenges to its admissibility “were rare and typically unsuccessful,” and that “on average, prosecution examiners reported PCL-R scores that were 7

points higher than defense examiners” (p. 96). Other investigators have reported similar discrepancies between the PCL-R scores of prosecution and defence experts (e.g., Blais & Forth, 2014). In some cases, the differences are greater than the standard error of measurement for the PCL-R. This is of concern but hardly surprising, given the adversarial/allegiance nature of prosecution/defence testimony, and the opportunity for either side to engage in tactics that will give them an advantage.

Initially, commentators and researchers saw the PCL-R as the problem, being too unreliable for use in the field. In a sense, this is ironic, given that researchers and their assistants, usually graduate students, have no difficulty in obtaining highly reliable PCL-R scores in their research with offenders and forensic patients. More recently, attention has begun to shift toward the hired guns. Boccaccini, Murrrie, Rufino, and Gardner (2014) noted,

One important difference between field studies and nonfield studies is that researchers typically require evaluators to complete intensive PCL-R training—and even complete formal reliability checks—before scoring for a nonfield study, whereas there is no such requirement for routine practice in the field. (p. 343)

The adversarial system is firmly entrenched in many jurisdictions, including Canada and the United States, and it is unlikely to change anytime soon. However, there are several things that can be done to ameliorate the problem. In many cases, the problem is related to limited forensic training and experience, improper use of the PCL-R, failure to keep abreast of the research literature, and the inability or unwillingness of some forensic experts to adhere to established professional and ethical standards of practice (Boccaccini, Chevalier, Murrrie, & Varela, 2015; Hare et al., in press; Lyon, Ogloff, & Shepherd, 2016). The use of court-appointed experts may help considerably (Blais & Forth, 2014). McCahey and Proman (2011) wrote that the *United States Federal Rule of Evidence 706*, which provides for court-appointed experts, “may be increasingly useful to help keep expert ‘hired guns’ honest or, at the least, more restrained in their opinions.”

Judges, lawyers and experts should be better informed of the strengths and limitations of the PCL-R (and other clinical tools), and the courts should require informed examination of expert testimony. Many chapters in Gacono (2016) provide advice on how to do PCL-R assessments and to prepare reports and court testimony. A particularly thorough discussion of the role of psychopathy in all aspects of the legal system is provided by Lyon and colleagues (2016). They note,

Experts who bring the concept of psychopathy into court also carry with them a host of ethical and professional responsibilities. Those experts who fail to attend to these responsibilities, not only risk casting themselves and their profession in an unfavorable light, but they may even threaten the validity of the legal proceedings. (p. 209)

Many jurisdictions have in place a Code of Conduct for Expert Witnesses. For example, the *Federal Court Rules (SOR/98-106)* for Canada has Rule 52.2 which states,

1. An expert witness named to provide a report for use as evidence, or to testify in a proceeding, has an overriding duty to assist the Court impartially on matters relevant to his or her area of expertise. 2. This duty overrides any duty to a party to the proceeding, including the

person retaining the expert witness. An expert is to be independent and objective. An expert is not an advocate for a party. (Minister of Justice, Government of Canada, 2015, p. 421)

I long have argued that PCL assessments by clinicians require stringent training and high standards of use. But, I also have suggested that,

not all clinicians have the personality, astuteness, impartiality, judgment, and interpersonal skills needed to collect, integrate, and interpret the extensive information involved in complex psychological evaluations. Some perhaps are guided by personal beliefs and philosophies about human nature, or by explicit or implicit biases against, or attachments to, their clients; others may be too tenderhearted or tough-minded to provide balanced PCL assessments. Some clinicians may be unqualified or unsuited to conduct psychological evaluations that have serious consequences for an individual and society. Others function in an adversarial system in which allegiance to one side or the other may trump professional integrity. (Hare, 2016, p. viii)

Adding to the problem is the fact that the PCL-R, like all psychological instruments, is subject to measurement error, a fact not always taken into account by clinicians who use such instruments.

We should do everything we can to ensure that the judicial system is as informed as possible about the uses and misuses by expert witnesses of the tools of their trade. It also is important to understand what such tools can and cannot do in a given context. Here, I’ve discussed some issues with respect to the PCL scales, but the same issues arise in all areas of forensic science and expert testimony, even those that appear to be more objective than in behavioural science (e.g., DNA, ballistics hair and fingerprint analysis, etc.).

Conclusions

Use of the psychopathy construct, as measured by the PCL-R and its direct derivatives, is increasing at a rapid rate in the criminal justice system. In this article I discussed the four-factor model of these scales and outlined ways in which these scores can provide new insights into the nature of the associations between psychopathy and variables of interest to the criminal justice system. Many investigators have large data sets that will allow them to evaluate the utility of the latent factor profiles described here, not only in the legal system but in basic research on psychopathy. Finally, PCL-R assessments may have serious implications for individuals and society. It is crucially important that those who make these assessments do so according to rigorous ethical and professional standards and that the courts hold them to these standards, as well as to the code of conduct that many jurisdictions have for expert witnesses.

Résumé

La théorie et la recherche sur la psychopathie ont augmenté de façon spectaculaire au cours des dernières décennies. L’instrument international de choix pour l’évaluation médico-légale et clinique de cette pathologie, tant en recherche sur les neurosciences fondamentales que celles sur le système de justice, est la *Psychopathy Checklist – Révisée (PCL-R; Hare, 1991, 2003)*. Ses propriétés psychométriques, sa structure, et ses corrélats sont bien connus. Dans cet article, je présente de nouveaux constats dans lesquels les quatre facteurs de premier

ordre de la PCL-R (interpersonnel, affectif, mode de vie, antisocial) peuvent être utilisés à bon escient dans la compréhension de la nature de la psychopathie et dans la prédiction des variables d'intérêt pour le système de justice pénale. Mes collègues et moi avons utilisé une approche centrée sur les variables (modélisation par équation structurelle) pour montrer comment chacun des facteurs contribue de manière unique à la prédiction de la violence, au résultat du traitement, au comportement en établissement, et ainsi de suite. Nous avons utilisé une approche axée sur la personne (analyse de profil latente : APL) afin d'identifier des profils de facteur parmi les contrevenants affichant des scores PCL-R élevés : *psychopathes manipulateurs* (LC1), *psychopathes agressifs* (LC2) et *sociopathes* (LC3). Nous considérons LC1 et LC2 comme des variantes de la psychopathie et LC3 comme un sous-type de contrevenant. Nous avons également mené des APL sur l'ensemble des échantillons de délinquants (et non seulement ceux affichant des scores élevés). À travers plusieurs échantillons diversifiés et de taille importante, nous avons systématiquement identifié quatre profils des scores factoriels, que nous avons étiquetés comme suit : *psychopathe* (C1), *contrevenant insensible et trompeur* (C2), *sociopathe* (C3), et *contrevenant en général* (C4). Enfin, j'ai abordé brièvement deux problématiques associées à une mauvaise utilisation de la PCL-R en contexte juridique: La fidélité sur le terrain de la PCL-R ainsi que les effets d'adversaire/allégeance associés à son utilisation.

Mots-clés : psychopathie, PCL-R, structure et corrélats, de classe latente, effets contradictoires.

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