Psychopathy and Criminal Behaviour: A Psychosocial Research Perspective

(Version accepted for publication)

ABSTRACT

Purpose - This paper aims to provide a critical review of the psychopathy literature, with a particular focus on recent research examining the relationship between psychopathy and various forms of criminal behaviour.

Design/methodology/approach - The authors provide an overview of the studies conducted to date. To identify relevant publications for inclusion in this review, literature searches were completed using Web of Science, Scopus, *PsychINFO*, and PubMed.

Findings - Substantial empirical research exists to suggest that psychopathy is a robust predictor of criminal behaviour and recidivism. Furthermore, considerable support for the assertion that the violence perpetrated by psychopathic offenders is more instrumental than the violence committed by other offenders was found. In addition, some research suggests that the greater use of instrumental violence among psychopathic offenders may be due to the Interpersonal-Affective traits of psychopathy, and not the Impulsive-Antisocial traits.

Originality/value – The current paper is the first to provide an in-depth review of the literature examining the association between psychopathy and criminal offending with a particular focus on violent and homicidal behaviour.

Keywords: Psychopathy, Criminal Behaviour, Recidivism, Violence, Offending, Homicide

INTRODUCTION

Psychopathy is a clinical construct characterised by a constellation of interpersonal (e.g., deceitfulness, superficial charm, grandiosity), affective (e.g., lack of empathy, remorse, or guilt), and behavioural (e.g., irresponsibility, impulsivity, parasitic lifestyle) features (Cleckley, 1976; Hare, 2003; Hare and Neumann, 2008). These features appear to be

genetically influenced, begin to manifest in childhood, and are relatively stable over time (Larsson *et al*., 2007; Lynam *et al*., 2007; Viding *et al*., 2007). Recent studies indicate that the latent structure of psychopathy is more accurately represented as a dimensional rather than categorical construct (e.g., Edens *et al*., 2006; Forth *et al*., 2003; Guay *et al*., 2007; see, however, Harris *et al*., 1994; Skilling *et al*., 2001). These findings are consistent with the view that psychopathic personality traits exist on a continuum within the general population (Hare and Neumann, 2008).

Psychopathy has been described as one of the most important psychological constructs within the criminal justice system (e.g., Hare *et al*., 2000; Harris *et al*., 2001), perhaps the most important forensic concept of the early 21st century (Monahan, 2006), and the unified theory of crime (DeLisi, 2009). The international standard for the assessment of psychopathy is the Psychopathy Checklist-Revised (PCL-R; Hare, 1991; 2003). The PCL-R and its direct derivatives: the Psychopathy Checklist: Screening Version (PCL: SV; Hart, *et al*., 1995) and the Psychopathy Checklist: Youth Version (PCL: YV; Fort *et al*., 2003) form the bases for the majority of the research discussed in this review, and are described in greater depth below, along with two self-report measures: the Hare Self-Report Psychopathy Scale (SRP; Paulhus *et al*., in press) and the Levenson Self-Report Psychopathy Scale (LSRP: Levenson *et al*., 1995).

The purpose of this review is to summarise extant knowledge on the relationship between psychopathy and criminal behaviour, with the goal of identifying areas in particular need of future research. This review will cover four main areas: (1) measurement tools for the assessment of psychopathy, (2) an overview of the association between gender and psychopathy, (3) an overview of child/adolescent psychopathy, and (4) the empirical research examining the association between psychopathy and criminal behaviour.

METHOD

To identify relevant published studies for this review, literature searches were completed using Web of Science, Scopus, *PsychINFO*, and PubMed. Keyword searches using the following terms were employed: psychopath* and crim*; psychopath*; violen*; psychopath* and offend*; and psychopath* and measures. The abstracts of all studies were read by the first author to select appropriate papers for inclusion. To ensure that other relevant publications were not missed, the reference sections of all papers were examined in detail. A web listing of psychopathy references developed by Robert Hare (*Key References Related to*

the Study of Psychopathy: www.hare.org/references/) also was examined for relevant publications.

ASSESSMENT OF PSYCHOPATHY

Due to space limitations, we focus on the most extensively researched and validated measures of psychopathy, the Hare Psychopathy Checklist-Revised (PCL-R; Hare, 1991, 2003) and its derivatives the Psychopathy Checklist: Screening Version (PCL: SV; Hart *et al*., 1995), and the Psychopathy Checklist: Youth Version (PCL: YV; Forth *et al*., 2003); the Levenson Self-Report Psychopathy Scale (LSRP; Levenson *et al*., 1995); and the Self-Report Psychopathy-III (SRP-III; Paulhus *et al*., in press).

The Psychopathy Checklist—Revised (PCL-R)

The Psychopathy Checklist-Revised (PCL-R; Hare, 1991, 2003) was developed for use with offender populations. The measure consists of 20-items scored on the basis of extensive interview and file information. Each item is rated as 0 (*not present*), 1 (*possibly present*), or 2 (*definitely present*), resulting in total score that can range from zero to 40. A cut-score of 30 is typically used to distinguish individuals with psychopathy from those without psychopathy for research purposes (Hare, 1991, 2003), although some researchers have used other cut-scores for psychopathy due to a suggested lack of scalar equivalence (e.g., 25 in some European studies; e.g., Cooke and Michie, 1999; Cooke *et al*., 2005). Extensive literature supports the reliability and validity of the PCL-R. Furthermore, there is increasing evidence that the measure generalises well across a variety of populations and contexts (e.g., Bolt *et al*., 2004, 2007; Cooke *et al*., 2005; Hare 2003; Skeem *et al*., 2004). However, there appears to be ethnic and sex differences in the functioning of individual PCL-R items (Bolt *et al*., 2004, 2007; Cooke *et al*., 2005).

PCL–R scores have been found to predict violent behaviour and recidivism, revocation of parole, and poor participation in and response to therapeutic interventions, among other outcomes, in prison populations (e.g., Hare and McPherson, 1984; Hart, 1998; Hemphill *et al*., 1998; Salekin *et al*., 1996). The PCL-R may also provide incremental validity in the prediction of violence, recidivism, and institutional misbehaviour over standard actuarial risk assessment based on demographic and historical variables (Hart, 1998; Wilson and Yardley, 2013).

Although initially considered a higher-order construct underpinned by two highly correlated factors (Interpersonal/Affective and Socially Deviant Lifestyle; Hare, 1991;

Neumann *et al*., 2007: see Table 1), recent confirmatory factor analysis has described a three-factor hierarchical model, based on 13-items (Interpersonal, Affective, and Behavioral/Lifestyle; Cooke and Michie, 2001) and more recently a four-factor model (Interpersonal, Affective, Lifestyle, and Antisocial; see Table 2) for the PCL-R (Hare, 2003; Neumann *et al*., 2005, 2007; see Hare and Newmann, 2008, 2010 for a detailed description of the 4-factor model). Two items ('Promiscuous sexual behavior', 'Many short-term relationships') do not load on any of the factors but contribute to the total PCL-R score. The four factors are significantly inter-related (r = .42 to r = .73; Neumann *et al*., 2007) and, therefore, can be comprehensively explained by a single superordinate (psychopathy) factor (Neumann *et al*., 2006, 2007). The pattern of correlations among the four factors (r = .39 to r = .54 in 8 samples; Hare, 1990), as well as confirmatory factor analyses (Hare, 2003; Hare and Neumann, 2008) also indicate the presence of two broad factors, one identical with the original Factor 1 and the other the same as the original Factor 2, but with the addition of one item ('Criminal versatility').

[Insert Table 1 about here]

[Insert Table 2 about here]

The Psychopathy Checklist: Screening Version (PCL: SV)

The Psychopathy Checklist: Screening Version (PCL: SV; Hart *et al*., 1995) was developed and validated for use with non-forensic samples (i.e., the MacArthur Risk Assessment study; Steadman *et al*., 2000) and is used as a screen for psychopathy or as a stand-alone instrument for assessing psychopathy in non-offender populations (Guy and Douglas, 2006, Hare 2007). The PCL: SV is so strongly related to the PCL–R, both conceptually and empirically, that it "can be considered a short or parallel form of the PCL–R" (Cooke *et al*., 1999, p. 11; see also Guy and Douglas, 2006). The reliability and validity of the PCL: SV is well established (Acheson, 2005; Hare and Neumann, 2008), as is its predictive validity for future violent and criminal behaviour in both civil psychiatric and forensic patients (Douglas *et al*, 2006; Hemphill, 2007; Leistico *et al*., 2008)

The measure consists of 12 items, each scored on a 3-point scale (0 = *not present*, 1= *possibly present*, 2 = *definitely present*) on the basis of interview and collateral information. Total scores can range between zero and 24. A cut point of 18 for a diagnosis of psychopathy

has proven useful for research purposes. Similar to the PCL-R, a two-factor was solution originally described. However, recent research has shown that the four-factor model (Interpersonal, Affective, Lifestyle, and Antisocial) may provide a better overall fit for the PCL:SV (Hill *et al*, 2004; Vitacco *et al*., 2005).

The Psychopathy Checklist: Youth Version (PCL: YV)

The Psychopathy Checklist: Youth Version (PCL: YV; Forth *et al*., 2003) was developed and validated for use with adolescents (age 12-18 years), and is an age-appropriate, downward extension of the PCL-R. Similar to the PCL-R, the PCL: YV consists of 20 items underpinned by three or four factors (Jones *et al*., 2006; Neumann *et al*., 2006). It has much the same psychometric properties and correlates as the PCL-R (Salekin *et al*., 2004; Vitacco, *et al*., 2006; see Forth *et al*., 2003 for a review) and appears to generalise well across ethnic groups and countries (Dolan and Rennie, 2006; McCoy and Edens, 2006; Schrum and Salekin, 2006). A cut-off score ≥30 is recommended for making a diagnosis of psychopathy (e.g., Forth and Mailloux, 2000).

The Hare Self-Report Psychopathy Scale (SRP)

The Hare Self-Report Psychopathy Scale (SRP; Paulhus *et al*., in press) is a self-report inventory designed to assess four facets of psychopathy: Interpersonal Manipulation, Callous Affect, Erratic Lifestyle, and Criminal Tendencies. It consists 64 items, rated on a 5-point scale (1 = *Disagree strongly* to 5 = *Agree strongly*). The factor structure of the SRP-III conforms to the PCL-R – four oblique factors; two of which are personality-based (Interpersonal Manipulation – e.g., deception; and Cold Affect – e.g., lack of guilt and empathy), and two behaviourally-based (Erratic Lifestyle – e.g., impulsivity, irresponsibility; and Antisocial Behavior – e.g., criminal versatility). Using confirmatory factor analysis, Neal and Sellborn (2012) found that a four-factor model of psychopathy was a superior fit to their data than a one-, two-, or three- factor model. The correlations among the four factors (r = .58 to r = .80) sustains the notion of a common underlying construct of psychopathy, as with the PCL instruments.

The Levenson Self-Report Psychopathy Scale (LSRP)

The Levenson Self-Report Psychopathy Scale (LSRP: Levenson *et al*., 1995) is a 26-item self-report questionnaire designed to assess psychopathy in non-institutionalised samples. The LSRP generates a total score as well as scores on two factors derived from initial factor analysis (Levenson *et al*., 1995) reflecting primary and secondary psychopathy, respectively.

The LSRP primary psychopathy scale (16 items) corresponds with Factor 1 of the PCL–R, although whether it is isomorphic to Factor 1 has been questioned (Lilienfeld and Fowler, 2006), while the secondary psychopathy scale (10 items) corresponds to Factor 2 of the PCL–R. The 26 items are rated on a 4-point scale (1 = *disagree strongly,* to 4 = *agree strongly*), with 7 reversed scored items designed to control for various response style or test-taking sets. Items were produced using an antisocial-desirability manipulation so that proto-psychopathic endorsement of an item did not signal disapproval. Examinations of the latent structure of the scale have yielded inconsistent results (Sellbom, 2011).

PSYCHOPATHY AND GENDER

Most research on psychopathy has focused largely or exclusively on males. Consequently, little is known about the causes, correlates, and assessment of psychopathy in females (for a review see Cale and Lilienfeld, 2002).

Base rates of psychopathy, as assessed using the PCL instruments, appear to be lower among female than male offenders, ranging from 9% to 23% for females and from 15% to 30% for males (Nicholls *et al*., 2005; Vitale *et al*., 2002). However, it is unclear whether this reflects a genuine difference in prevalence, or is the result of sampling bias, measurement issues, or differences in the manifestations of psychopathy across genders (Bolt *et al*. 2004; Hare, 1991, 2003; Nicholls and Pertrila, 2005; Vitale *et al*., 2002; see also Forouzan and Cooke, 2005). Since research on the factor structure and validity of the PCL instruments has primarily involved males, measurement-related explanations are plausible. Indeed, Hare (1991) acknowledged that some PCL-R items may require modification when applied to females. However, recent studies suggest that the PCL-R and the PCL: SV are reliable instruments for assessing psychopathy in women (Dolan and Vollum, 2009; Forth *et al*., 1996; Neumann and Hare, 2008).

Studies using both the PCL instruments (PCL-R and PCL-SV; Forth *et al*., 1996) and self-report measures (SPR-II, PPI; Hare, 1991; Lilienfeld and Hess, 2001; Wilson *et al*., 1999) report higher mean scores for males, compared to females. However, differences between males and females are not large, and often not statistically significant (Nicholls *et al*., 2005), and is likely the result of females typically showing less criminal and antisocial behaviour than males.

Female psychopaths may not display the same emotional deficits as male psychopaths (Sutton *et al*., 2002). Consequently, the interpersonal and affective features of psychopathy (Factor 1) may be especially important in the identification of female psychopaths, with low levels of affective empathy and high levels of callousness differentiating psychopathic women from non-psychopathic women (Jackson *et al*., 2002; Rogstad and Rogers, 2008).

In terms of criminal behaviour, psychopathy in women is associated with higher rates of incarcerations and a greater likelihood of committing both violent and nonviolent crimes (e.g., Vitale *et al*., 2002). The predictive validity of psychopathy for female adolescents has, however, been questioned, with effect sizes being reported that fail to reach statistical significance, and considerably smaller than those reported in the adult male literature (e.g., Edens *et al*., 2007; Odgers *et al*., 2005). There is also some evidence that female psychopaths are less aggressive and violent than their male counterparts (Mulder *et al*., 1994), and may begin offending later in life (Hart and Hare, 1997). Female psychopaths also appear to reoffend less often than male psychopaths (Salekin *et al*., 1998). In fact, psychopathic female offenders may have recidivism rates that are no different from non-psychopathic female offenders (Salekin *et al*., 1998).

PSYCHOPATHY IN CHILDREN AND YOUTH

Over the last decade, research has extended the concept of psychopathy to children and adolescents (e.g., daSilva *et al*., 2012; Frick *et al*., 1994; Lynam, 1996, 1997, 2002). Child and adolescent psychopathy is typified by an interactive combination of impulsivity, callous and unemotional traits (CU; similar to Factor 1 interpersonal-affective traits found in adult psychopathy), and conduct problems—a constellation of traits known as 'fledgling psychopathy' (Lynam, 1996, 1998).

Although the applicability of a stable adult personality construct to youths has been questioned (Edens *et al*., 2001; Hart *et al*., 2002; Seagrave and Grisso, 2002), considerable support for childhood psychopathy exists. Children as young as three years of age have been found to exhibit classic characteristics of psychopathy (Glenn *et al*., 2007), and these reliably predict adult psychopathic behaviour (e.g., Lynam *et al*., 2009; Martens, 2000). Moreover, these traits are predictive of several dimensions of the delinquent career (Vaughn and DeLisi, 2008; Vaughn *et al*., 2008), including convictions for serious antisocial and violent behaviour (e.g., Campbell *et al*., 2004; Frick, 1998; Forth *et al*. 1990; Gretton *et al*., 2001; Lynam, 2002), a high level of institutional aggression (Edens *et al*., 1999; Hicks *et al*., 2000; Rogers

et al., 1997), and increased violent recidivism (Brandt *et al*., 1997; Gretton *et al*., 2001). Child/adolescent psychopathy may also provide predictive utility above and beyond other relevant constructs including previous offending, conduct problems, impulsivity, aggression, IQ, attentional difficulties, and other psychosocial risk factors (see Lynam, 1997, 2007).

The antisocial and criminal behaviour committed by children and adolescents with psychopathic traits parallels that of adult psychopaths (e.g., Porter *et al*., 2003). For instance, within a sample of 150 incarcerated adolescents charged with sexual offences, Lawing and colleagues (2010) found that adolescents with high CU traits used more violence in the commission of crimes, had a greater number of sexual offence victims, and engaged in more sexual offence planning than those lower on these traits. At least one important point of divergence between adolescent and adult psychopathy profiles does, however, exist. While adults with psychopathy are relatively immune to concerns, shame, and stress, adolescents with psychopathic traits, at least in a moderate way, react to stress (Kuback and Salekin, 2009; Lee *et al*., 2010; Lynam, 2010).

The stability versus instability of psychopathic traits in childhood and adolescence is controversial, with research supporting both perspectives (e.g., Lynam *et al*, 2007; McCrae *et al*., 2000). Lynam and colleagues (2007), for instance, found evidence of personality traits, including psychopathic ones, showing moderate to high stability from childhood to young adulthood (i.e., from age 13 to 24). It should be noted, however, that stability was stronger for the facets of adult psychopathy assessing impulsivity and antisocial behaviour (r = .28 and r = .33, respectively) than for those assessing arrogant and deceitful interpersonal style and deficient affective experience (r = .19 and r = .15, respectively). Another study (Frick *et al*, 2003) examining the stability of child/adolescent psychopathy over a period of 4-years in a sample of 100 non-referred children, found high stability coefficients for parental reports across the study period (r = .80). Slightly lower stability coefficients for reports from different sources across the same time span were found (an average of r = .53 for parent-self, teacher-self, and parent-teacher reports). It should, however, be noted that stability coefficients in this study may have been affected by not accounting for measurement error (there was no application of latent variable modelling), and the selection criteria for the study: children were selected for the study based on their extreme scores on psychopathy. In a third study, Lynam *et al*. (2008) evaluated the stability of psychopathy from age 13 to 24 years, based on data from the Pittsburgh Youth Study. They assessed the potential moderating effects of 13 variables including, antisocial behaviour measures, parenting

factors, and family socioeconomic status. None of these potential moderators acted as protective factors, suggesting psychopathy is stable and "relatively resistant to socialization efforts" (p. 241). Consequently, it is likely that psychopathy will emerge as a central construct in the longitudinal study of offending over the life-span, and have utility for understanding maladaptive and antisocial behaviours among adults, adolescents, and children.

In terms of criminal behaviour, Forth *et al*. (1990) found that psychopathic youth offenders had criminal histories with more previous violent offending and institutional violence than non-psychopathic youth offenders. Other research has shown that adolescent psychopathic offenders are more likely than other offenders to commit a violent offence in the community as well as on release from juvenile detention. They also are more likely to engage in both instrumental and reactive forms of aggression, have more frequent police contact, and to be processed by the juvenile justice system (Brandt *et al*., 1997; Campbell *et al*., 2004; Frick *et al*., 2005; Loper *et al*., 2001; Stafford and Cornell, 2003). Higher psychopathy scores are also related to an increased likelihood of escape from custody, violation of the conditions of probation, and the accumulation of more total, violent, and nonviolent offenses after release from treatment programs (Gretton *et al*., 2001).

STABILITY OF PSYCHOPATHIC TRAITS IN ADULTS

There is an apparent change in psychopathy with age (Coid *et al*., 2009a, b; Hare, 2003). Harpur and Hare (1994), in the largest study to examine the stability of psychopathy across adulthood, reported that psychopathic traits were less prevalent in older cohorts, and that Factor 2 of the PCL-R (social deviance) declined with age, whereas; Factor 1 (interpersonal and affective) remained stable across various age groups. This finding was confirmed by Ullrich and colleagues (2003), applying the three-factor model of psychopathy in a sample of German prisoners, who found an age-related decline for Factor 3 (impulsivity). These findings are not unexpected given the assumption that interpersonal and affective traits (Factor 1) represent core personality traits (which are assumed to be temporally stable); whereas, traits constituting social deviance (Factor 2) are behaviourally related and, therefore, may change over time (see also Poythress *et al*., 2007). Based on research and his experience, Hare (1996) claimed that individuals with psychopathic features do not fundamentally change with age but, instead, may engage in different types of antisocial behaviour with advancing age. However, the cross-sectional nature of these studies precludes firm conclusions from being drawn about the persistence/desistance of psychopathic traits.

PSYCHOPATHY AND CRIMINAL BEHAVIOUR

There is a demonstrable link between psychopathy and criminal behaviour (Hare, 1996; Hart, 1998; Hemphill *et al*., 1998). Indeed, Vaughn and Howard (2005) suggest that psychopathy provides an ideal conceptual framework for studying serious, violent, and chronic delinquency, while, DeLisi (2009) advanced that psychopathy is "the unified theory of delinquency and crime and the purest explanation of antisocial behaviour" (p.256). Psychopathy and criminality are not the same construct (Hart and Hare, 1997). The affective, interpersonal, and behavioural characteristics that demarcate psychopathy do not necessarily involve or imply criminal behaviour (Hare, 1991) and "only a small minority of those who engage in criminal conduct are psychopaths" (Hart and Hare, 1997, p. 22). However, certain psychopathic traits (e.g., impulsivity, lack of empathy, and grandiosity) "both increase the likelihood that affected individuals will consider engaging in criminal conduct and decrease the likelihood that the decision to act will be inhibited" (Hart and Hare, p. 31). Moreover, psychopathy has also been shown to predict antisocial behaviour in environments that should theoretically protect against delinquent behaviour (e.g., those characterised by high socioeconomic status; Beyers *et al*., 2001).

Psychopathic offenders begin offending at an earlier age (Anderson *et al*., 1999; Blackburn and Coid, 1998; Hemphill *et al*., 1998; Moltó *et al*., 2000; Smith and Newman, 1990), commit more offences and more types of offence (e.g., Blackburn and Coid, 1998; Hare, 2003; Moltó *et al*, 2000), are more likely to engage in institutional misbehaviour (Guy *et al*, 2005), and express greater criminal sentiments and pride in antisocial behaviour (Simourd and Hoge, 2000) than other offenders. They are also more likely to possess a weapon and to use threats during the commission of violent crime (Hare and McPherson, 1984). Furthermore, as noted by DeLisi and Vaughn (2008), "as recidivists, psychopaths are quicker, more productive, and more severe [in their criminal behaviour] once released back to the community" (p. 160).

In general, victims of psychopaths are less often family members and more often strangers than is the case with non-psychopathic violent offenders (Häkkänen-Nyholm and Hare, 2009; Weizmann-Henelius *et al*, 2002; Williamson *et al*., 1987), although opposing results have been obtained in sexual crimes (Brown and Forth, 1997). They are also more resistant to therapeutic input than other offenders (Harris and Rice, 2006; Wong and Hare, 2005).

Violent Offending

The association between psychopathy and violent offending has been well established over the past 20 years by an extensive body research (Hare, 1991; Hemphill *et al*., 1998; Salekin *et al*., 1996). A meta-analytic study indicates that psychopathy, as measured by the PCL-R, shows an overall effect size of $r = .27 - .37$ in predicting violence (e.g., Hemphill *et al*., 1998; Salekin *et al*., 1996). In general, psychopaths are more likely than other offenders to use threats of violence and weapons in their crimes (Serin, 1991), as well as be motivated by revenge and retribution (e.g., Cornell *et al*., 1996; Williamson *et al*., 1987). Additionally, alcohol which often relates to aggressive behaviour does not appear to be a causative factor for violent behaviour in psychopaths (e.g., Hare and McPherson, 1984).

Research indicates that the association between the PCL-R and violence is largely attributable to the Social Deviance subscale (Walters *et al*., 2008). This may be partly because the best predictor of future behaviour is past behaviour (Meehl, 1954; see also, Gendreau *et al*., 2003) and partly because this sub-scale measures broad traits such as impulsivity that are not specific to psychopathy but increase the risk for involvement in violence in general (Skeem *et al*., 2005). Furthermore, a recent meta-analytic study reported that the utility of the Social Deviance sub-scale (Factor 2) in predicting violence did not vary as a function of traits measured by the Interpersonal-Affective sub-scale (Factor 1), or vice versa (Kennealy *et al*., 2010).

According to Cleckley (1976), violence perpetrated by psychopaths is more instrumental than the violence committed by other offenders, which is typically reactive. Instrumental violence, also referred to as ‘proactive’ or ‘predatory’ violence, is controlled, purposeful, and used to attain a desired external goal (e.g., money, drugs, or power), whereas, reactive violence is impulsive and emotion-driven in response to a perceived threat or provocation (Meloy, 1988, 1997). In the first empirical test of this assertion, Williamson, *et al*. (1987) examined the characteristics of violent offences committed by 101 Canadian offenders. They found that psychopaths’ violent crimes were significantly more likely to have been motivated by an external goal, such as material gain or revenge (45.2%), than were those of non-psychopaths (14.6%). It is noteworthy, however, that in over half of the cases, psychopaths did not have an apparent external goal. Psychopaths were also found to be less likely (2.4%) to have been in a state of heightened emotional arousal at the time of their crimes than non-psychopaths (31.7%).

In the next study to examine the types of violence committed by psychopathic offenders, Cornell and colleagues (1996) investigated the previous violent crimes of male offenders (*N* = 106) incarcerated in a medium-security state prison (Study 1). Results indicated that psychopathic offenders (as classified by the PCL-R) were more likely to have perpetrated an instrumentally violent crime at some point in their criminal history than were non-psychopathic offenders, who usually committed reactive violence. Furthermore, instrumental violence was most commonly associated with a self-reported lack of emotional arousal during the violent act. In addition, victims of instrumental violence were typically strangers, whereas victims of reactive violence were known to the offender. Cornell *et al*.'s also found that instrumentally violent offenders could be distinguished from reactively violent offenders based on their level of psychopathy. Violent offenders who had committed at least one instrumental act had higher PCL-R total scores than offenders who had only committed reactively violent acts. Further evidence that violence by psychopaths is more instrumental than that of other offenders was provided by Woodworth and Porter (2002), who examined the relationship between psychopathy and homicide (for more details see section: Homicide), and Chase *et al*. (2001), who found a relationship between psychopathy and the use of instrumental violence by non-incarcerated male spousal assaulters (*N* = 60).

Several studies of adolescents have also found support for the suggestion that the violence committed by psychopathic individuals is more likely to be instrumental in nature. Loper *et al*. (2001) found that male and female juvenile offenders who had committed instrumentally motivated violence scored higher in personality features that have been associated with psychopathy. Similarly, instrumentality of prior violence was significantly correlated with psychopathy scores (assessed using the PCL:YV) in a sample of 113 incarcerated adolescent offenders (Murrie *et al*, 2004). Kruh and colleagues (2005) found that higher psychopathy scores were associated with a history of unprovoked violence in a sample of juveniles tried as adults (ages 16 to 21). Finally, in a study by Flight and Forth (2007), delinquent adolescents (*N* = 51) detained in 1 of 3 institutions in Canada who had engaged in prior instrumental violence had significantly higher psychopathy scores than those classified as 'never instrumental'. Furthermore, psychopathy scores were significantly associated with the amount of instrumental violence committed by an individual. However, it should be noted that psychopathy scores were also associated with increased reactive violence.

From these studies, it is evident that the violence committed by adolescent and adult psychopaths is more likely to be instrumental than that of other offenders. It has been suggested that this increased risk for instrumental aggression may be because they do not

interpret their victims' emotional distress cues or view violence as aversive (Blair, 2001; see also Nestor *et al*, 2002), possibly due to reduced amygdala functioning (Blair, 2007). Supporting this, a recent British study found, using a modified version of the Implicit Association Test (IAT), that psychopathic offenders who had committed homicide do not associate violence with unpleasantness, and show diminished negative reactions to violence compared to non-psychopathic murders (Gray *et al*., 2003). Further support has been provided by studies examining facial affect recognition as an index of affective empathy in psychopathy. Specifically, psychopathic offenders were found to evidence impaired facial recognition, predominantly for the recognition of negative emotions, particularly fear and disgust (Blair, 2004; Hastings *et al*., 2008; Munro *et al*., 2007). Other studies, however, have reported no differences in emotion recognition accuracy between individuals high and low in psychopathy (Dolan and Fullam, 2004; Richell *et al*., 2003). The increases in reactive aggression found among psychopaths, by contrast, have been linked to abnormalities in the orbitofrontal cortex (Blair, 2007).

Research examining the sub-components of psychopathy have somewhat helped to refine our understanding of the relationship between psychopathy and instrumental violence. Specifically, several studies have found that instrumental violence is more strongly (but not exclusively) associated with the lnterpersonal-Affective factor (Factor 1) of psychopathy, while reactive violence is more strongly related with the lmpulsive-Antisocial factor (Factor 2). Declercq *et al*. (2012), for instance, found that instrumental violence was positively related to Factor 1 and negatively related to Factor 2, which replicated the findings of several previous studies of adolescents and adults (e.g., Patrick and Zempolich, 1998; Reidy *et al*., 2007; Vitacco *et al*., 2006). Importantly, however, the results of Declercq and colleague's (2012) study were not influenced by the number of previous convictions, suggesting instrumental violence is not attributable to habituation. In contrast, Walsh and colleagues (2009) found a significant positive relationship between the antisocial sub-component of psychopathy and instrumental violence among adults. Furthermore, in a sample of male undergraduates, Reidy *et al*. (2007) found that instrumental aggression on a laboratory aggression task was uniquely related to the Interpersonal-Affective factor of psychopathy; whereas, reactive aggression was associated with both the lnterpersonal-Affective and the Impulsive Lifestyle-Antisocial factors.

The mixed results obtained in the above studies may be due to (a) criterion contamination (e.g., PCL-R Interpersonal-Affective items [e.g., schemes and scams motivated by a desire for personal gain] Hare, 1991), which overlap with the criterion of

instrumental violence); (b) inadequate measurement of violence motivation (i.e., the reliance on sometimes incomplete records to code violence motivation); and (c) methodological differences between studies (e.g., sample type, amount and quality of information available to code violence, protection against criterion contamination in PCL-R scoring).

The extent to which the instrumental–reactive violence distinction is useful in conceptualising the violence committed by psychopathic and non-psychopathic individuals has, however, been questioned (see Woodworth and Porter, 2002). Dempster and colleagues (1996), for instance, reviewed the files of 75 adult male violent offenders attending an inpatient treatment program for violent offenders. Although psychopathic offenders had committed more instrumental violence, they also displayed impulsive behaviour in the context of their crimes. Based on these results, Hart and Dempster (1997) concluded that even if psychopathic offenders commit more instrumentally violent crimes, they may be "impulsively instrumental". Consequently, it is possible that psychopathic offenders could commit crimes that, although goal-orientated, are highly impulsive and involve little forethought (i.e., have elements of both instrumentality and reactivity). Thus, some primarily instrumental crimes may contain a reactive element, and some primarily reactive crimes may contain an instrumental element.

Research also generally supports an association between sadistic violence and psychopathy (Hare *et al*., 1999; Hart and Hare, 1997; Holt *et al*., 1999; Meloy, 2000; Porter *et al*., 2001; Porter *et al*., 2003). Holt *et al*. (1999), for example, explored the prevalence of sadistic traits (using the Millon Clinical Multiaxial Inventory-II and the Personality Disorder Examination items for sadistic personality disorder) in 41 violent psychopathic and non-psychopathic offenders in a maximum-security prison. Psychopathic offenders were significantly more sadistic than other offenders. Furthermore, violent and sexually violent groups did not differ in their level of sadistic personality traits suggesting that these traits were generalised and not tied specifically to sexual pleasure.

Sexual Offending

The relationship between psychopathy and sexual offending is complex. Although associated with various types of sexual offending, some studies have found weak relationships between psychopathy and overall sexual offending (Hare *et al*., 2000; Knight and Guay, 2006). This may in part be because rates (and levels) of psychopathy differ between groups of sex offenders (Firestone *et al*., 2000; Porter *et al*., 2000, 2003; Woodworth *et al*., 2013), with rates tending to be higher in rapists (ranging between 25% and 45%; Porter *et al*., 2000;

Woodworth *et al*., 2013), especially sadistic rapists (Barbaree *et al*., 1994; Hare *et al*., 1999) and sexual homicide offenders (up to 97%; Firestone *et al*., 1998).

Porter and colleagues (2000) suggested that a significant proportion of sexual offender heterogeneity (e.g., criminal diversity, degree of empathy, impulsivity, and victim types) may be related to psychopathic traits. In their study of 329 diverse offenders they found that mixed molester/rapists were more psychopathic than child molesters. This suggests that offenders with more psychopathic traits do not focus on a specific victim type but, instead, sexually assault victims opportunistically. Alternately, they may change victim preferences over time in line with the proposed thrill-seeking motivation of sexual offending in psychopathy. They also found that all sexual offender groups had elevated Factor 1 (interpersonal-affective) scores. Variability in the association between interpersonal-affective (Factor 1) and behavioural (Factor 2) dimensions of psychopathy and sexual offending was also evident in their sample. Rapists, mixed rapists/molesters, and non-sexual offenders all scored significantly higher than exclusive child molesters on Factor 2, suggesting that the latter group had less chronic and diverse antisocial lifestyles than did the other groups. In addition, the direction and magnitude of the association between Factors 1 and 2 of the PCL-R varied according to offender type. For non-sexual offenders, a significant positive correlation was found. However, with the exception of rapists, Factor 1 and Factor 2 were not significantly correlated among the various sub-groups of child molesters. This suggests that psychopathic rapists have a stronger tendency towards a criminal lifestyle than other sexual offender groups (Porter *et al*., 2002). In line with this, psychopathic rapists had more extensive criminal histories than non-psychopathic rapists (Forth and Kroner, 1995)

The relationship between psychopathy and sexual offending has been suggested to be due to the instrumental use of sex, and convenience offending associated with a lack of empathy for their victims (e.g., Blair *et al*., 1997; Knight and Sims-Knight, 2003). Consistent with this, studies have found elevated rates of sexual pleasure from violent offences in psychopathic offenders, a characteristic also known as sadism (e.g., Kirsch and Becker, 2007; Porter and Woodworth, 2007). Furthermore, psychopathic sex offenders have been found to be more impulsive and opportunistic in their sexual violence (Barbaree *et al*., 1994; Forth and Kroner, 1995) and less motivated to offend sexually by the negative pre-crime emotional states that have been identified as general precursors to sexual assault, than non-psychopathic offenders (e.g., Brown and Forth, 1997; see also Groth and Bimbaum, 1979; Pithers *et al*.,

1988). In fact, 40% of the psychopathic rapists in Brown and Forth's sample reported positive feelings in the 24-hours preceding their attack.

Brown and Forth (1997) also found that the intensity of self-reported negative affect during the 24-hours proceeding a sexual offence was negatively correlated with PCL-R total and Factor 1 scores (i.e., the core affective and interpersonal features of psychopathy). Furthermore, sexual offenders scoring high on the PCL-R (35%) were more likely to be classified as either "opportunistic" or "pervasively angry" than those scoring low on the PCL-R, who were more likely to be classified as "sexually non-sadistic". Interestingly, PCL-R correlated with the number of previous non-sexual offences, but not with the number of past sexual offenses or age of sexual offending onset.

In a review of 50 years of research on the relationship between psychopathy and sexual offending, Knight and Guay (2006) concluded that psychopathic offenders are significantly more likely than non-psychopathic offenders to rape and are over-represented in clinical samples of sexual offenders. Furthermore, they suggest that psychopathic traits predict rape among non-offender samples and that psychopaths constitute a small sub-group of rapists that are particularly violent and recidivistic.

In both adolescents and adults, higher PCL-R scores are associated with greater levels of violence during the commission of sexual offences (Gretton *et al*., 1994; Rice and Harris, 1997) again consistent with a thrill-seeking motivation (e.g., Porter *et al*., 2000, 2001; see also Hare, 1996). However, other studies have found no association between victim injury and PCL-R scores (e.g., Brown and Forth, 1997).

Homicide

Several studies have shown that psychopathy is overrepresented among non-sexual homicide offenders, with between 11% and 32% meeting the criteria for psychopathy (e.g., Häkkänen and Hare, 2009; Laurell and Dåderman, 2007; Woodhouse and Porter, 2002). The prevalence of psychopathy varies within the homicide offender population. In mothers who kill their children, for example, psychopathy is rare (Putkonen *et al*., 2009).

In a study examining the relationship between psychopathy and the reactivity-instrumentality of homicide (N = 125), Woodworth and Porter (2002) found that psychopathic Canadian offenders were twice as likely (93.3%) to commit a 'primarily instrumental' homicide (i.e., not preceded by a powerful affective reaction, but premeditated and motivated by an external goal) than non-psychopathic offenders (48.4%). Furthermore,

despite their general impulsivity, and previous research indicating that psychopathic offenders often engage in reactive general violence (e.g., Cornell *et al*., 1996; Serin, 1991), psychopathic offenders were unlikely to have perpetrated a 'purely reactive' (i.e., unplanned and immediately preceded by provocation/conflict) homicide. Consequently, these data call into question the assertion that "psychopaths are impulsive" (Hart and Dempster, 1997; Hare, 2003; see also Poythress and Hall, 2011). Woodworth and Porter (2002) propose a "selective impulsivity" explanation for their results, suggesting that psychopaths' impulsive behaviour in contexts outside of homicide may not be as uncontrollable as it appears. Instead, it may reflect a choice not to inhibit such behaviour when the perceived stakes are lower (i.e., arrest is not probable; see also Arnett *et al*., 1997; Newman and Wallace, 1993). Conversely, when they perceive that the consequences of their actions may be serious (e.g., arrest, injury, lifetime imprisonment), they are able to refrain from acting on impulse and/or delay their response (perhaps resulting in an instrumental homicide). In other words, the poor behavioural controls associated with psychopathy (see PCL-R item 10) might not necessarily reflect an inability to master an impulse, but rather an unwillingness to do so. Consequently, it is conceivable that in certain situations, psychopathic offenders are able to restrain themselves.

An alternative explanation for Woodworth and Porter's (2002) findings is that psychopaths might derive satisfaction from planning and committing an instrumental act of violence. Such an explanation is consistent with previous research indicating an association between psychopathy and sadistic interests (Hart and Hare, 1997; Porter *et al*., 2003). Another finding of the Woodhouse and Porter (2002) study was that Factor 1, but not Factor 2 scores, contributed to the variance associated with the instrumentality of the homicide. The opposite was true for non-psychopathic offenders who had committed murder. Therefore, it would appear that while Factor 2 may have a more direct relationship with criminal offending and recidivism, Factor 1 may help to better explain the specific types of violence in which psychopaths engage (see also Skeem *et al*., 2003). In line with this, Porter *et al*. (2001) had previously reported that psychopathic offenders who had committed murder scored higher on Factor 1 of the PCL-R than did non-psychopathic offenders; those who had not killed showed higher Factor 2 scores than did their counterparts.

A number of studies have examined the post-offence behaviour of psychopathic homicide offenders. Häkkänen and Hare (2009), for instance, in a study of 546 homicide offenders found that those who left the crime scene without informing anyone and

subsequently denied responsibility for the crime had higher PCL-R scores, particularly PCL-R total, Lifestyle, and Antisocial scores. In another study, Porter and Woodworth (2007) compared the narratives of 50 homicide offenders with official reports, and found that psychopathic offenders were more likely than other offenders to exaggerate the reactivity of their crime and omit major details of their offenses while maintaining a seemingly credible account. This was in contrast to the evidence that the homicides committed by psychopathic offenders in the sample actually were significantly more instrumental in nature than were those of the other offenders (see also Woodworth and Porter, 2002). Furthermore, Porter and Woodworth (2007) showed that the manner in which homicides were construed by offenders was related to the interpersonal-affective features of psychopathy (Factor 1), and not its antisocial features (Factor 2).

Other studies of homicide and psychopathy have found that rates of psychopathy are not higher in cases where victim's bodies are discovered in rural areas, that psychopathy is unrelated to the distance between the crime scene and body recovery site, and that offenders guilty of mutilating their victim's bodies do not score higher on the PCL-R than offenders who do not mutilate their victim's bodies (Häkkänen *et al*., 2008; Häkkänen *et al*., 2009).

Sexual homicide

Sexual homicide has been defined as murder "with evidence or observations that indicate that the murder was sexual in nature" (Ressler *et al*., 1998, p. Xiii). These include victim's attire or lack of attire; exposure of the sexual parts of the victim's body; sexual positioning of the victim's body; insertion of foreign objects into the victim's body cavities; evidence of sexual intercourse or evidence of substitute sexual activity, interest, or sadistic fantasy such as mutilation of the genitals (ibid).

The majority of offenders (58-97%) who have committed sexual homicide meet the criteria for psychopathy (Firestone *et al*., 1998; Meloy, 2000; Porter *et al*., 2003). Furthermore, psychopathic sexual-homicide offenders score higher on the PCL-R than other sexual homicide offenders (Firestone *et al*., 1998; Meloy, 2000; Meloy *et al*., 1994), particularly on the interpersonal-affective subscale of psychopathy (Firestone *et al*., 1998; Häkkänen-Nyholm *et al*., 2009). Firestone and colleagues (1998), for instance, in their study comparing 48 sexual offenders and a group of incest offenders who had been assessed in a Canadian sexual behaviour clinic found that homicidal sexual offenders (including homicidal child molesters) scored at approximately the 85th percentile for male offenders on Factor 1 of the PCL-R. Interestingly, Firestone and colleagues speculated that psychopathic offenders'

high Factors 1 scores might indicate a lack of insight and, consequently, may contribute to significant under-reporting of problems in all of the self-report instruments used in the study.

Firestone *et al*. (1998) also found that homicidal sexual offenders had greater incidences of sexual paraphilia than did non-homicidal incest offenders. The American Psychiatric Association (APA; 2000) defines a sexual paraphilia as, "recurrent, intense sexually arousing fantasies, sexual urges, or behaviors generally involving 1) nonhuman objects, 2) the suffering or humiliation of oneself or one's partner, or 3) children or other nonconsenting persons" (p. 566).

Woodworth and Porter (2001) examined the link between the dynamics of homicidal behaviour and psychopathy in a sample of 125 offenders incarcerated in one of two medium security Canadian federal prisons. Results indicated that psychopathic homicide offenders (PCL-R cut-off of ≥30) were significantly more likely to sexually assault their victim before, during, or after murdering them than non-psychopathic homicide offenders. Furthermore, in most cases, psychopathic offenders used a knife rather than a gun, which was the weapon most commonly used by other homicide offenders. Psychopathic offenders were also significantly more likely to engage in gratuitous or unnecessary violence while committing a homicide. Gratuitous violence was operationalized as excessive violence that went beyond that which would be necessary to complete the homicide and/or cause the victim unnecessary pain and suffering. Evidence for gratuitous violence included torture/beating, mutilation, and the use of multiple weapons. Porter *et al*. (2003) also found that psychopath-perpetrated murders (PCL-R cut-off of ≥30) contained significantly greater gratuitous and sadistic violence than those committed by non-psychopathic offenders (53% of non-psychopathic offenders' murders did not include sadistic violence), consistent with a thrill-seeking motivation. Sadistic violence was operationalized as sexual or non-sexual enjoyment or pleasure from inducing suffering on the victim. Furthermore, sadistic violence was significantly related to both PCL-R total scores and Factor 1 scores, but not Factor 2 scores.

Little research has examined sexual homicide in adolescent psychopathic offenders. Myers and Blashfield (1997) found that 11 out of 13 adolescent sexual homicide offenders (assessed with the PCL: YV) had moderate to severe levels of psychopathic traits. Similarly, Dempter and Hart (1996) found that adolescents charged with murder or attempted murder with high scores on the PCL-R were more likely to have committed a sexual homicide.

CRIMINAL CAREER TRAJECTORY IN PSYCHOPATHY

Few studies appear to have examined the criminal career trajectories of psychopathic offenders. Using a PCL-R cut-off score of 30, Porter *et al*. (2001) examined the complete criminal career and community release of 317 Canadian federal offenders as a function of psychopathy. Results revealed that psychopathic offenders consistently committed more violent and non-sexual violent crimes than other offenders for about 30 years, spanning their late adolescence and their early 40s (see also Harpur and Hare, 1994). The number of non-violent criminal offences committed by psychopathic offenders declined greatly in their late 20s compared to violent offences, which declined and then rebounded in the late 30s (for unknown reasons) before a major reduction was evidenced, throughout adulthood. Importantly, the release performance of low PCL-R scorers improved with age, whereas the opposite was seen for high scorers. Interestingly, after their mid-40s, a dramatic drop in convictions for violent offending was found for high PCL-R scorers. It is unclear whether this was the result of actual reductions in offending propensity, lengthier incarceration periods (lack of opportunity to reoffend), getting better at not being caught, or even death, perhaps as a result of their thrill-seeking and risky lifestyles (Harris *et al*., 2007; Rutherford *et al*., 1997). A similar finding was reported by Hare *et al*. (1988) in a study comparing the conviction rates of offenders scoring high or low on the original PCL between the ages of 16 and 45. Hare and colleagues found that psychopathic offenders committed more crimes than low-scoring offenders between the ages of 16 and 40, after which the conviction rate of high scorers decreased substantially compared to low scorers, whose offending was less frequent but more consistent. The decrease in crime by psychopathic offenders was largely accounted for by non-violent offences. This suggests that the capacity for violence among psychopaths may be relatively stable (also see Harris *et al*., 1991).

RECIDIVISM AND PSYCHOPATHY

Psychopathy is an important risk factor for recidivism and, more specifically, for violence. Indeed, Serin and Amos (1995) found that psychopathic offenders were about five times more likely than other offenders to violently recidivate within 5 years of release. Similarly, Hemphill *et al*. (1998) found that rates of recidivism for psychopathic offenders were about approximately four times higher than non-psychopathic offenders. In addition, they found that psychopathy was a robust predictor of general, violent, and sexual recidivism, with average correlations of $r = .27$, $r = .27$, and $r = .23$, respectively. Harris *et al*. (1991)

examined the one-year recidivism rates of 169 male offenders released from a psychiatric facility. They found that nearly 80% of psychopathic offenders committed a new violent offense within this time frame, and that psychopathy was the strongest predictor of recidivism. Indeed psychopathy's effects were stronger than the combined effects of 16 background, demographic, and criminal history variables. Similarly, the MacArthur Foundation study of risk for violence in civil psychiatric patients found that the PCL: SV predicted violence better than did any of 133 other risk variables (Steadman *et al*., 2000). Base rates of recidivism are also high for psychopathic youth, with frequently reported rates around 64% for nonviolent offending, and 41% for violent offending (e.g., Salekin, 2008). Furthermore, consistent with adults, psychopathy is the single most reliable predictor of recidivism among adolescents (e.g., Catchpole and Gretton, 2003).

Salekin *et al*. (1996) conducted the first meta-analysis of 18 (published and unpublished) psychopathy-criminal behaviour studies, and reported mean effect sizes (Cohen's *d*) of .79 for violent recidivism (based on 13 of 18 studies) and .55 for general (violent or nonviolent) recidivism (10 of 18 studies). Although widely cited, concerns about the author's methodology have been raised in the literature (Gendreau *et al*., 2002; Hemphill *et al*., 1998). Specifically, this meta-analysis has been criticised for the inclusion of both prospective and retrospective studies; studies that were not based on independent, mutually exclusive samples of offenders (e.g., some of the studies by the Oak Ridge research group; Harris *et al*., 1991, 1993; Rice *et al*., 1992, 1995); studies not based on behavioural outcomes or recidivism indices (e.g., Serin *et al*., 1994 compared correlations between PCL-R scores and phallometic measures of deviant sexual arousal); and the combining effect sizes across disparate contexts (e.g., institutional and community settings).

Using a large sample of only prospective studies, Hemphill *et al*. (1998) examined the recidivism rates of offenders released into the community, and obtained average weighted correlations of .27 for general recidivism (N = 1275; 7 studies), .27 for violent recidivism (N = 1374; 6 studies), and .23 for sexual recidivism (N = 178; 1 study). Furthermore, PCL-R Factor 2 (antisocial-unstable lifestyle) was more strongly related to general recidivism than was Factor 1 (affective-interpersonal traits). By contrast, neither PCL-R factor was more strongly associated than the other with violent recidivism (i.e., both factors contributed equally to the prediction of future violence; see also Harpur and Hare, 1991). This result for violent recidivism was, however, based on only three studies in which no significant difference was obtained in the relative strength of the correlations between the two PCL

factors and violent recidivism. Studies not included in Hemphill and colleagues' meta-analysis have been more equivocal about the relationship between PCL-R Factor 1 and violent recidivism (see, Salekin *et al*., 1996).

Two further meta-analyses have been published recently (Gendreau *et al*., 2002; Walters, 2003a, b). Gendreau and colleagues reported a weighted effect size for the PCL-R of .23 for general recidivism and .21 for violent recidivism. Considerable heterogeneity among effects was, however, observed, and several relevant studies were omitted from their review (see Hemphill and Hare, 2004). Walters (2003a) reported a weighted point-biserial correlation of .26 for prediction of general recidivism by the PCL-R across 33 studies. Subsequently, Walters (2003b) reported that Factor 1 (affective/interpersonal traits) was less robustly and reliably associated with general (r = .15) and violent (r = .18) recidivism than Factor 2 (antisocial-unstable lifestyle; r = .32 and r = .26, respectively, for these same outcome variables). Considerable heterogeneity in coefficients across studies was noted here as well.

The large effects reported in these meta-analyses suggest that a strong relationship between psychopathy and future criminal behaviour exists. Despite this, the considerable heterogeneity in effect sizes found in these meta-analytic studies raises some concerns about the aggregation of diverse effect sizes across studies. Furthermore, it suggests that there may be sample characteristics (e.g., age, racial, intelligence, socioeconomic status, or cultural background; Heilbrun, 1979; Kosson *et al*., 1990; Walsh and Kosson, 2007) or methodological variables (e.g., design variation [length of follow-up, predictive/postdictive study], measurement variation [self-report vs. PCL instruments, operationalization of recidivism]) that significantly influence the association between psychopathy and recidivism. In line with this suggestion, a prospective study of 199 U.S. offenders found that for European Americans, psychopathy predicted recidivism at lower levels of socioeconomic status (SES) but was unrelated at higher levels of SES. However, for African Americans the predictive power of psychopathy was relatively stable across SES (Walsh and Kosson, 2007).

Although research with male samples generally suggests that Factor 2 of the PCL-R is a better predictor of recidivism than Factor 1 (e.g., Walters, 2003), there is growing speculation about whether Factor 2 is an equally powerful predictor of outcomes in female samples (e.g., Richards *et al*., 2003; Salekin *et al*., 1998). Salekin *et al*. (1998), for instance, in their study of female offenders found that Factor 1 demonstrated a significant association with recidivism; whereas, the relationship between Factor 2 and recidivism was negligible.

This is consistent with suggestions that interpersonal and affective traits of psychopathy are particularly salient factors for women and their risk of reoffending (Odgers *et al*., 2005). However, when interpreting these findings it is important to note that psychopathic females may be less likely than males to reoffend (e.g., Salekin, 2008).

A similar pattern to that found among adult male psychopaths has been observed among adolescents: psychopathy is moderately associated with delinquency, general recidivism, and violent recidivism (Asscher *et al*., 2011; Edens *et al*., 2007), and Factor 2 may be somewhat more relevant than Factor 1 in the predicting general recidivism (Edens, *et al*., 2007).

A number of studies have examined the contribution of psychopathy to recidivism among adult sex offenders. For example, Quinsey *et al*. (1995), in a study of 178 treated rapists and child molesters, found that within 6 years of release from prison more than 80% of offenders with high PCL-R scores had violently recidivated. Seto and Barbaree (1999) found that PCL-R scores predicted both general and serious offending in sex offenders. Rice and Harris (1997) based on a large sample of adult sex offenders, reported that psychopathy was predictive of violent recidivism. Additionally, they found that sexual recidivism (as opposed to violent recidivism in general) was better predicted by a combination of a high PCL-R score and phallometric evidence of deviant sexual arousal, defined as any phallometric test that "indicated an absolute preference for deviant stimuli (children, rape cues, or nonsexual violence cues)" (p. 236). The combination of a high PCL-R score and phallometric evidence of deviant sexual arousal was also found to be strongly predictive of recidivism in a study of adolescent offenders (Gretton *et al*., 2001). However, in this later study, this combination was more strongly predictive of recidivism in general than it was of sexual reoffending. Serin *et al*. (2001) also found that the combination of a high PCL-R scores and deviant sexual arousal was predictive of general reoffending.

Consistent with the results of studies using adult sex offenders, an association between psychopathy scores and general and violent recidivism has emerged in studies of juvenile sex offenders. Auslander (1998) found that whereas total PCL-R scores predicted violent and non-sexual recidivism, Factor 1 of the PCL-R was related to lower sexual recidivism. In a study of young sex offenders (ages 15-20 years), PCL-R scores predicted general but not sexual recidivism (Långström and Grann, 2000). Similarly, using the PCL: YV in a sample of 222 adolescent sex offenders, Gretton *et al*. (2001) found that psychopathy

scores were strongly and positively associated with general and violent offending but not sexual reoffending.

Considerable debate has arisen about the relative contribution of psychopathy in predicting recidivistic behaviour in comparison to other risk factors and measures. In some studies the PCL/PCL-R has been found to perform as well as (and in some cases better than) statistically derived actuarial measures designed specifically to predict future violence (Harris *et al*., 1993; Hemphill *et al*., 1998; Rice and Harris, 1995; Serin *et al*., 1990; Quinsey *et al*., 1998). However, some recent meta-analyses (Gendreau *et al*., 2002; Walters, 2003a) have concluded that the PCL instruments are not the "unparalleled" measures of risk that was claimed earlier (Salekin *et al*., 1996). Moreover, their predictive validity may only be comparable to, or perhaps even less, than other instruments that are not linked to the potentially stigmatising term "psychopath" (Hemphill and Hare, 2004). Furthermore, it has been argued that when measures of psychopathy predict violence, it is because they assess dis-inhibition, heightened affectivity, and a tendency towards externalising behaviour (e.g., Walters, 2003). Despite these criticisms, a number of studies have found that psychopathy is predictive of recidivism even when controlling for other known risk factors (Hemphill, *et al*., 1998; Skeem and Mulvey, 2001). Salekin's (2008) longitudinal study found that psychopathy predicted both general and violent delinquency across a 3- to 4-year time span, even after controlling for 14 correlates of delinquency including delinquent peers, drug use, family arrests, socioeconomic status, family background, intelligence, prior delinquency, school absences, education, race, gender, and age.

Although around one in four psychopathic offenders are not reconvicted for a violent offence, even after an 8-year follow-up (Serin and Amos, 1995), the characteristics of non-recidivating psychopathic offenders have received little attention. One study (Burt, 2004), examining offenders with PCL-R of $\geq$25 who had completed at least 4 months in a violent offender treatment program (N = 123) did, however, find that psychopaths who desisted from violent offending (or perhaps did not get caught; 47%) had significantly lower PCL-R Factor 2 scores but higher Factor 1 scores.

CONCLUSION

We have identified several directions for future research that will provide much-needed information and hopefully generate additional theoretical and empirical research. First, the majority of research and discussion about psychopathy relates to its presence in

Western cultures. Consequently, research is needed to examine the applicability of the construct, and its prevalence, in Asian and Eastern European countries, particularly within prison populations. Second, little research has been conducted to ascertain whether the PCL instruments provide incremental validity above and beyond self-reports, particularly in settings where the motivation to provide a positive or negative impression may be high. Third, there is a paucity of research examining the temporal stability of psychopathic traits across the lifespan. Consequently, further research is needed to determine the stability of these traits using both cross-sectional and longitudinal methods. Finally, there is considerable debate in criminal psychology about the construct validity and dimensionality of the various psychopathy measures. In particular, most self-report measures of psychopathy have been tested within general or student populations where the prevalence and level of psychopathic traits is very low. Previous research indicated higher levels of psychopathy within the prison population (particularly maximum security units), therefore, application of self-report measures along with the PCL-R in prisons is crucial for future research.

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