TREATING PSYCHOPATHIC OFFENDERS:

TREATMENT NON-COMPLETION AND EFFECTIVENESS

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Abstract

This thesis aimed to enhance clinical understanding of treatment for psychopathic offenders by examining existing empirical evidence on treatment non-completion for this high-risk group of offenders and evaluating the effectiveness of the Chromis programme. Chapter 1 of this thesis established context by providing a review of relevant literature on the conceptualisation and assessment of psychopathy in clinical practice, with a particular focus on the PCL-R and a critical review of empirical literature on treatment for psychopathic offenders. Chapter 2 presents a systematic review with an overarching aim of synthesising empirical research on treatment non-completion among psychopathic offenders. Seven of the thirteen included studies explicitly reported attrition rates, providing a median non-completion rate for psychopathic offenders of 46%. Whilst synthesised empirical evidence suggested an association between psychopathy as measured by the PCL-R and treatment non-completion, variable findings between the PCL-R construct (facets) and treatment non-completion raises doubt over the reliability of the observed psychopathy (PCL-R total score) and treatment non-completion association. Furthermore, scant evidence established that the predictive relevance of psychopathy and treatment non-completion to recidivism was inconclusive. The systematic review makes a unique contribution to the clinical understanding of treatment attrition among psychopathic offenders and provides needed insight into empirical ambiguities and pertinent clinical issues. In order to further existing research, Chapter 3 examined the treatment responsivity of psychopathic offenders, by examining the effectiveness of a violence treatment programme (Chromis), implemented within a high-security personality disorder treatment service. A high attrition rate (44%) was evident within the availability sample of 120 offenders who had engaged in treatment, with PCL-R total (and factor) scores for this sample not being significantly associated with treatment non-completion. Group- and individual-level analysis of self-reported measures showed treatment gains across the evaluated outcomes; however, this was not moderated by psychopathy level (moderate or high). The findings add to the research around the treatability of psychopathic offenders. Contrary to clinical lore, certain aspects of treatment can deliver a positive outcome with respect to risk-related treatment need areas for psychopathic offenders. Finally, an overall discussion of the work

is presented (Chapter 4), drawing together the main findings and implications for future research and practice.

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Chapter One: Introduction

Contextual background and overview of thesis

Extensive research has been conducted on psychopathic offenders with regard to the risk they pose, the nature of their disorder and the effectiveness of treatment methods. Despite this, the clinical understanding of psychopathy[1] and the practice of addressing the risk posed by this unique offender population remain contentious issues. This is a serious concern – the prevalence of psychopathy in prison populations has been estimated at between 7% and 25% (Blair, Mitchell & Blair, 2005; Coid et al., 2009; Hare, 1996; Hare, Clark, Grann & Thornton, 2000), and it is estimated that this unique offender population perpetrates twice as many violent crimes as non-psychopathic offenders (Hare, 1996; 1999; Porter, Birt & Boer, 2001). It is easy to understand why psychopathy has been described as 'the single most important clinical construct in the criminal justice system' (Hare, 1998, p. 99), a sentiment echoed by researchers including Vien and Beech (2006) and Vitacco, Lishner and Neumann (2012).

The treatment of psychopathic offenders has been plagued with pessimism, with a long-standing view that such offenders are 'untreatable' (Howells & Tennant, 2010) and with evidence suggesting that treatment may increase the risk posed by those with high levels of psychopathic traits (Harris & Rice, 2006; Rice, Harris & Cormier, 1992). These findings had significant implications for policy and practice, and have contributed to the prevailing view that those with high levels of psychopathic traits should be excluded from treatment (Tyrer et al., 2010). Due to increased clinical concern over risk management and treatment in cases involving psychopathic offenders, the United Kingdom government initiated a programme for the assessment and

[1] Psychopathy is described in greater detail within this chapter, but in brief, is considered to reflect a complex set of dimensions and is rendered a disorder that is difficult to capture and define (Ogloff, 2006). This difficulty is further compounded by the lack of agreement among researchers as to what constitutes the essence of psychopathy and by a lack of agreed diagnostic criteria for the disorder. Nevertheless, a common working definition conceptualises psychopathy as a personality disorder that includes a cluster of interpersonal, affective, lifestyle, and antisocial traits and behaviours.

treatment of offenders considered to have a dangerous and severe personality disorder[2][3][4] (DSPD programme, 2004). The concept of 'dangerousness' was described as posing a 'high risk' of causing significant harm to others. The severity of personality disorder was classified as the presence of psychopathic traits either to a sufficient degree or a sufficient number of different personality disorders (DSPD programme, 2004). The DSPD programme was delivered in four forensic secure units: two in special hospitals (Rampton and Broadmoor) and two in high-security prisons (HMP Frankland and HMP Whitemoor). In the context of the equivocal evidence surrounding the effectiveness of the DSPD units (e.g., Barrett & Byford, 2012; Barrett et al., 2009; Burns, 2011; Howells et al., 2011; Kirkpatrick et al., 2010; Tyrer et al., 2007, 2009, 2010), the services were reviewed, and a new strategy was published in 2011. The Offender Personality Disorder (OPD) pathway (Joseph & Benefield, 2012) was implemented as the joint responsibility of the Department of Health and the National Offender Management Service (NOMS). These services took a coordinated approach to the commissioning and development of personality disorder pathway services and treatment interventions across community and custodial settings. The OPD differs from the DSPD programme in that it provided a treatment pathway within the criminal justice system, which enables progression through different environments and levels of security (Joseph & Benefield, 2012).

The OPD pathway is considered an important development in the treatment of offenders with personality disorder (Skett, Goode & Barton, 2017). Whilst research into the effectiveness

[2] The DSPD programme was initiated following a tragic killing and the subsequent conviction of an offender, who was said to have a severe personality disorder and was allegedly denied access to psychiatric care. Whilst this tragic event may have been the immediate precipitant to the DSPD introduction, there was also a more general and widespread dissatisfaction with how psychiatrists responded to individuals with high levels of psychopathic traits (Marden, 2007).

[3] The definition of **personality disorder** does differ depending on source, however, the official criteria for diagnosing personality disorders are listed in the Diagnostic and Statistical Manual of Mental Disorder (DSM) and the International Classification of Diseases (ICD). In brief, personality disorders are classified as mental disorders, and characterised by enduring maladaptive patterns of behaviour, cognition, and inner experience, exhibited across context and deviating from those accepted by the individual's culture. Personality disorders are reflected as an impairment in both self-organization and interpersonal relations, caused by pathological (extreme) personality traits.

[4] There is no definite definition of **severe personality disorder** within the DSM and ICD, both being unable to categorise those with severe personality disorder due to a lack of any scientific evidence and creditability (Tyrer & Johnson 1996). During the development of the DSPD it was emphasised that severe personality disorder was not a clinical category or classification. The working definition was determined by an individual presenting a significant risk (of serious physical or psychological harm from which it would be difficult or impossible for the victim to recover), a significant disorder of personality, and for the presented risk to be functionally linked to the personality disorder (Department of Health et al, 2004).

of services within the OPD pathway is scant, preliminary indicators from evaluations to date are positive (Brown, Beeley Patel, & Vollm, 2015; Bruce, Horgan, Kerr, Cullen & Russell, 2017; Clark & Chuan, 2016). As services, treatment and research related to personality disorders have increased, empirical evidence has become available to suggest that the pessimistic view of the effectiveness of treatment was fuelled by the failure of inappropriately applied interventions (Vien & Beech, 2006) and by outdated and poorly designed studies (Wong & Olver, 2015). Important recent advances in both treatment design and empirical research have yielded more positive outcomes (Chakhssi et al., 2010; Thornton & Blud, 2007; Tock, Johnson & Gibson, 2018; Salekin, Worley & Grimes, 2010), challenging the view of psychopathic offenders as 'untreatable'.

Despite such shifts in empirical findings and clinical understanding, the manifest challenges (DeSorcy, Olver & Wormith, 2016; Hobson, Shine & Roberts, 2000; Ogloff, Wong & Greenwood, 1990) of working clinically with psychopathic offenders has helped to sustain pessimistic views among clinicians about the treatability of this complex group of offenders. Further empirical research is needed to enhance clinical understanding and practice, in the hope of diminishing the long-standing pessimism and developing effective approaches to addressing the risk posed by this group.

This introduction (Chapter 1) aims to establish the context for this thesis by setting out a review of the relevant literature on conceptualising and assessing psychopathy in clinical practice, with particular focus on the Psychopathy Checklist (PCL) (Hare, 1991; 2003). Chapter 1 will also discuss literature on the effectiveness of treatment for this unique population, giving consideration to theoretical propositions and empirical findings on treatment engagement and non-completion. The next chapter (Chapter 2) details a systematic review with the overarching aim of synthesising empirical research on treatment non-completion[5] among psychopathic

[5] Treatment non-completion refers to the premature cessation of treatment and it may take three forms: exclusion due to inappropriate behaviour, administrated exit for transfer or release, or patient-initiated dropout (Howell & Day, 2007; Wormith & Olver, 2002).

offenders. The thesis will then go on, in Chapter 3, to investigate the clinical effectiveness of a violence treatment programme (Chromis), delivered within the high-security personality disorder treatment service at HMP Frankland (Westgate unit). The study's findings on the short-term evaluation of treatment needs and desired outcome will also be discussed. Following this, Chapter 4 will provide an overall discussion of the work presented, drawing together the main findings and considering the implications for future research and practice. The final chapter (Chapter 5) of the thesis will provide a reflective account of the author's development and growth in competence as a research practitioner.

History and conceptualisation of psychopathy

Psychopathy is a disorder with a substantial history in clinical and forensic psychology. Originally, the term was used to describe a wide variety of emotional traits and mental disabilities (Koch, 1891). Over time more refined formulations were developed, with conceptions reflecting normal mental abilities with some combination of traits, whether behavioural (e.g. explosive or reckless behaviour), affective (e.g. shallow affect, emotional coldness) or interpersonal (e.g. charm, social dominance, persuasiveness) (Kraepelin, 1904, 1915; Pinel, 1962; Prichard, 1835; Schneider, 1950, 1958).

In the development of the psychopathy construct, the most influential formulation came from Hervey Cleckley, who developed the first comprehensive list of characteristics (Cleckley, 1941, 1988). These included superficial charm and good intelligence; absence of delusions and neurotic manifestations; unreliability and untruthfulness; lack of remorse and shame; inadequately motivated antisocial behaviour; pathological egocentricity and incapacity for love' and deficits in affective reactions, insights and interpersonal relations. Based on Cleckley's conceptualisation, Patrick (2006) formulated three categories of traits: positive adjustment, behavioural deviance and emotional-interpersonal deficits.

Cleckley's checklist inspired the development of contemporary models of psychopathy. The most commonly known model is that created by Robert Hare, which conceptualised psychopathy as a pattern of destructive traits, relating to interpersonal, affective, cognitive and behaviour problems. In this construct, interpersonally, psychopaths are superficially charming, grandiose, deceitful and manipulative. Affectively, psychopaths are callous, lack empathy or guilt, have a shallow range of emotion and fail to accept responsibility. And behaviourally, psychopaths live an impulsive irresponsible lifestyle (Hare, 1991; 2003). Hare's model has been critical to the modern conceptualisation of psychopathy and underpins the most widely used instrument in clinical practice – the PCL (Hare, 1991; 2003). The PCL is discussed in further detail in the next sub-section.

Although Hare's psychopathy model was based on Cleckley's criteria, critics noted that there were substantial differences between Cleckley's psychopath and the construct depicted in Hare's main PCL measurement instruments (Skeem, Polaschek, Patrick & Lilienfeld, 2011). It was contended that in comparison with Cleckley's psychopath, Hare's model reflected a colder, angrier and more thoroughly antisocial individual. This concept of psychopathy more closely resembled a formulation by Cleckley's contemporaries McCord and McCord (1964), who described a more antisocial, callous and aggressive psychopath with the same lack of emotion and impulsive tendencies as Cleckley's depiction. Unsurprisingly, both Hare and the McCords developed their concepts using prison samples, whereas Cleckley's psychopath was developed by studying psychiatric patients. Hare later acknowledged that his model was not solely based on Cleckley's criteria and that he took into account the opinions of other clinicians as well as many years of empirical research during the development of his measurement instrument (Hare & Neumann, 2008).

The debate regarding the construct of psychopathy is deeply rooted in the literature. In brief, psychopathy is often associated with a constellation of affective, interpersonal, and behavioural traits (Skeem, et al., 2011), however, there remains a lack of consensus over the role

of certain core features of psychopathy, notably the nature and manifestation of antisocial behaviour (Skeem et al, 2011). Moreover, opinions diverge regarding whether seemingly adaptive features (e.g. emotional resilience, social poise and lack of anxiety) are part of the psychopathy construct (Lilienfeld et al., 2012; Miller & Lynam, 2012; Skeem et al., 2011). It is postulated that these conceptual uncertainties stem partly from the dominance of the main assessment tool, PCL-R[6] (Hare, 1991; 2003) in the field over the past three decades. Critics argue that the heavy focus on antisocial and criminal behaviour in PCL-based instruments has contributed to an under-emphasis on affective and interpersonal features in psychopathy (Skeem & Cooke, 2010).

Given the apparent clinical importance of psychopathy, it is pertinent that the prevailing view is that the disorder is confusingly defined and poorly understood (Skeem et al., 2011). The clinical uncertainty about the disorder is in part underpinned by the lack of consensus regarding the construct of psychopathy itself, and by a lack of agreed diagnostic criteria for psychopathy in the Diagnostic and Statistical Manual of Mental Disorders (DSM) (American Psychiatric Association, 1994; 2013). In addition, psychopathy is often misperceived as synonymous with antisocial personality disorder as defined by the DSM-5 (American Psychiatric Association, 2013) and its precursors (Berg et al., 2013). However, antisocial personality disorder diagnostics mostly reflect a list of socially deviant and criminal behaviours, whilst ignoring the crucial affective and interpersonal component of psychopathy. Thus, these two conditions have disparate implications for violent and criminal behaviour (Lilienfeld, 1994; Hare, 2003).

Despite the aforementioned issues relating to the conceptualisation of psychopathy, it is a disorder that remains accepted in clinical practice (Strickland et al., 2013) and efforts have been

[6] The **PCL-R** is described in greater detail within this chapter but in brief the PCL-R is a 20-item clinical construct rating scale that uses a semi structured interview, case history information, and specific scoring criteria to rate each item on a 3-point scale (0, 1, 2) according to the extent to which it applies to a given person. The PCL-R total score can range from 0 to 40 and reflect the degree to which the person matches the prototypical psychopathic person, in line with recent evidence that, at the measurement level, the construct underlying the PCL-R (and its derivatives) is dimensional in nature rather than taxonic.

made to strengthen clinical understanding of the disorder. Indeed, new theoretical models have been developed that accord greater emphasis to affective and interpersonal psychopathic traits, and less emphasis to antisocial and criminal behaviour (Cooke, Hart, Logan & Michie, 2012; Patrick, Fowles & Krueger, 2009). Nevertheless, because the PCL psychopathy remains to some extent a dominant conception in modern research and practice and the empirical study of this thesis is grounded on the PCL-R clinical assessment of psychopathy, it is the concept in focus in this thesis.

PCL construct and assessment

As previously discussed, Hare's PCL (Hare, 1991; 2003) has been critical to the modern conceptualisation of psychopathy. Hare's team developed the PCL by assessing a prison sample using Cleckley's conception of psychopathy (Hare, 1980). During this procedure, items perceived as redundant or difficult to score were removed from the list and preliminary scoring criteria were developed for the remaining items. On this basis, 22 items were identified, forming the first PCL assessment scale, which was later revised by removing two of the items, altering the names of 11 items and improving the descriptors and scoring for each of the items, creating the Psychopathy Checklist-Revised (PCL-R) (Hare, 2003).

The PCL-R has gained compelling evidence for its reliability and validity (Hare, 1991, 2003), and the instrument has been considered to be the most reliable tool for assessing psychopathy in both clinical and forensic settings (Kiehl & Hoffman, 2011). The PCL-R clinical assessment tool is a 20-item clinical rating scale that uses collateral information and an in-depth interview to measure personality traits and behaviours related to a conception of psychopathy (Hare, 2003). PCL-R scores can vary from 0 to 40, reflecting the extent to which an individual shares traits with the prototypical psychopath.

The PCL-R traditionally treats psychopathy as if it were taxonomical, assigning a cut-off score to differentiate those who are 'psychopaths' from those who are not. A cut-off score of

between 25 to 30 on the PCL-R is often used for diagnostic and research purposes (Hare, 1991; 2003). However, it is important to note that this cut-off score is entirely arbitrary, and that research evidence appears to support the conceptualisation of psychopathy as a dimension (Edens, Marcus, Lilienfeld & Poythress, 2006; Guay, Knight, Ruscio & Hare, 2018; Guay, Ruscio, Knight & Hare, 2007; Walters, Duncan, & Mitchell-Perez, 2007, Walters, Wilson, & Glover, 2011). Given the nature of the traits that make up the disorder and the potential for differences across individuals, many researchers and practitioners consider that the traits and disorder fall on a continuum, further supporting the notion that the construct of psychopathy does not represent a discrete taxon. This argument is in line with developments in the wider psychiatric practice regarding a move away from discrete diagnosis and a focus more on individual traits (Anckarsäter, 2010). Although the weight of evidence clearly supports a dimensional framework, many PCL-R-based studies still use cut-off scores to create psychopathic and non-psychopathic, or high- and low- risk psychopathy groups (Harris, Rice & Cormier, 1991; Langton, Barbaree, Harkins & Peacock, 2006). The use of a cut-off score can make comparison simpler and aid clinical decision-making, notably to identify those with higher levels of those traits, and therefore, those who are likely to present higher levels of risk or to require a more intensive treatment approach.

The PCL-R has been widely researched, and whilst it has gained empirical support, there are a number of ongoing debates regarding the structure and nature of PCL psychopathy. One such debate relates to whether the underlying structure of the PCL is unitary or multifarious, and to the exact number of components that comprise the structure. The PCL was originally constructed with the intention of capturing a single syndrome; nevertheless, through analytical research, two correlating underlying dimensions were identified (Hare, 1991). The first dimension (Factor 1) relates to interpersonal and affective personality traits and the second dimension (Factor 2) chronic antisocial and poorly regulated behaviours and unstable or dysfunctional lifestyles. Subsequent analytical review by Cooke & Michie (2001) identified a three-factor model, in which the traditional Factor 1 (Hare, 1991) was split into two distinct

factors, named ‘arrogant and deceitful interpersonal style’ (PCL-R interpersonal items) and ‘deficient affective experience’ (PCL-R affective items). The third factor comprised the ‘impulsive and irresponsible behaviour style’, but importantly, excluded antisocial behaviour. The authors argued that antisocial behaviour should be seen as a product of psychopathy rather than defining the personality features of the disorder (Cooke, Michie, Hart & Clark, 2004; Skeem & Cooke, 2010).

Whilst the three-factor model gained empirical support, Hare (2003) critiqued the validity of the three-factor model, arguing that the removal of fundamental items would impede upon the concept of psychopathy. Subsequently, Hare (2003) developed a two-factor four-facet model. The factors reflect higher-order constructs than those in the original two-factor model, with Factor 1 being divided into two facets (Facet 1: interpersonal items and Facet 2: affective items) and Factor 2 being divided into two further facets (Facet 3: lifestyle items and Facet 4: antisocial items).

The number of factors indicative of psychopathy continues to be debated, with support being found for both the three-factor and the two-factor four-facet models in some studies (Cooke, Kosson & Michie, 2001; Hare, 2016; Hoppenbrouwers, Neumann, Lewis & Johansson, 2015; Neumann, Vitacco & Mokros, 2015; Skeem, Mulvey & Grisso, 2003; Vitacco, Neumann & Jackson, 2005; Warren et al., 2003; Weaver, Meyer, Van Nort & Tristan, 2006). When compared on their abilities to predict external correlates, the two-factor four-facet model outperformed the three-factor model in predicting aggression and violent reconvictions (Walters, 2012). Whilst the models differ in that the three-factor model excludes criminal behaviour as a central component of the psychopathy construct, it is pertinent that these models are very similar in including emotional and interpersonal deficits and behavioural components. This thesis will focus on the two-factor four-facet model (Hare, 2003) as the most prominent model applied in practice so as to make the findings more easily comparable to previous research. Its

conceptualisation also encompasses the three-factor model within it, aiding comparisons to that literature as well.

In terms of the psychometric properties of the PCL-R, validation studies have revealed high internal consistency, and interrater reliability (Hare, 2003) with good to excellent intra-class correlation coefficients (ICC) for the total score (.86 to .94), Factor 1 (.69 to .95) and Factor 2 (.74 to .94) being reported (Cooke, Hart & Michie, 2004; Hare, 2003; Ismail & Looman, 201; Laurell & Daderman, 2007; Porter, Woodworth, Earle, Drugge, & Boer, 2003). In addition, good to excellent agreement between research and clinical ratings has been reported for the total score in some studies (Declercq, Willemsen, Audenaert & Verhaeghe, 2012; Hare, 2003; Harris, Rice & Cormier, 2013). Nevertheless, research examining PCL-R assessments completed in clinical practice has observed lower levels of agreement than expected between evaluators and there is evidence suggestive of partisan alliance influencing PCL-R scores (Boccaccini, Turner & Murrie, 2008; DeMatteo et al., 2014; Edens, Cox, Smith, DeMatteo & Sorman, 2015; Lloyd, Clark & Forth, 2010; Murrie, Boccaccini, Johnson & Janke, 2008; Murrie et al., 2009). On the basis of these findings, it has been reported that PCL-R scoring is affected by the evaluation context, with adversarial settings producing scores that diverge much more than would be expected based on the ICC statistics reported in the PCL-R professional manual (Hare, 2003). This has raised a salient clinical issue: that the predictive validity of the PCL-R found in some empirical research studies may not be representative of clinical practice (Murrie, Boccaccini, Caperton & Rufino, 2012).

With regard to clinical utility, the PCL-R has been found to correlate with a number of behavioural measures. Most pertinent is evidence that has demonstrated relationships between PCL-R scores and aggression and violent offending (Singh, Grann & Fazel, 2011; Vitacco et al, 2005; Yang, Wong & Coid, 2010). When the PCL-R is disaggregated into its two factors, the prevailing literature indicates that Factor 2 is a stronger predictor of recidivism and violence than Factor 1 (Hare, 2016; Hoppenbrouwers et al, 2015; Kennealy, Skeem, Walters & Camp, 2010;

Neumann et al., 2015; Olver, Neuman, Wong & Hare, 2013; Walters et al., 2011; Yang et al., 2010). At the facet level, most research (Walters, Knight, Grann & Dahle, 2008) has indicated that Facet 4 is a stronger predictor of general and violent recidivism than the remaining facets, which is consistent with research suggesting that Facet 4 is also the subscale that is most reliably scored by raters in both basic and field research (Jeandarme, Pouls, Oei, Bogaerts, 2017). It is advocated that the predictive relationship between Factor 2 and violent recidivism relates to the theoretical view that future behaviour is best predicted by past behaviour (Gendreau, Goggin & Smith, 2002) and that the Factor 2 subscale measures broad traits such as impulsivity that are not specific to psychopathy but increase the risk for involvement in violence in general (Skeem, Polaschek & Manchak, 2005).

Somewhat in contrast to the aforementioned, a recent study by Jeandarme et al., (2017) found the PCL-R to hold poor predictive validity within a forensic psychiatric sample (inclusive of hospital and prison samples). Neither the PCL-R total score nor Factor 1 predicted general or violent recidivism, which is in line with previous empirical findings. Whilst Factor 2 scores significantly predicted general recidivism for all groups, Factor 2 scores were only predictive of violence for a combined population (prison and hospital scores) with a small effect size reported. On the facet level, Facet 3 scores were the only significant predictors of general (all and hospital scores) and violent recidivism (all scores), again with a small effect size reported. The observed small effects were somewhat surprising, given the good predictive validity of the PCL-R with regard to general and violent recidivism in well-controlled research designs in the extant research. The authors argue the poor predictive validity may have been due to more effective risk management for this high-scoring psychopathic offender sample with high-risk status, which could have attenuated effect sizes. Nevertheless, a level of concern over the validity of the clinical assessment tool is further warranted given prior research showing the lack of predictive validity of the PCL-R in field settings (Murrie et al., 2012; Neal, Miller & Shealy, 2015).

Taken together, whilst extensive support for the psychometric properties of the PCL-R exists, more recent empirical findings have raised doubt over the reliability and validity of the clinical assessment scale. Despite these criticisms and other empirically-supported measures being available – such as the Psychopathy Checklist: Screening Version (PCL: SV) by Hart, Cox & Hare (1995) and the Personality Inventory (PPI) by Lilienfeld & Fowler (2006) – the PCL-R remains the most widely used tool in the clinical assessment of psychopathy.

Effectiveness of offence-focused treatment for psychopathic offenders

Systematic review outcomes

To date there have been a number of broad and comprehensive systematic reviews that have explored the effectiveness of treatment for psychopathic offenders. Findings have in part been contradictory, and have contributed to the enduring debate about whether psychopathic offenders are treatable. In 2002, Salekin published a meta-analysis featuring 42 studies ranging between large-scale evaluations of programmes featuring several hundred patients to single case studies. The included studies represented over 60 years of therapeutic research. The conclusion was that there was a significant mean rate of successful interventions for psychopathic offenders, with approximately 62% of patients having benefited from treatment. The authors reported that the highest success rates were often reported for studies of single interventions featuring single case design; however, within larger studies, more favourable outcomes were observed for psychoanalytic methods (59% success rate) and cognitive behavioural therapy (CBT) (62% success rate). In contrast, the review observed less effective outcomes for electroconvulsive therapy (22% success rate), Therapeutic Community (TC) (25% success rate), and unspecified treatment (17% success rate). Whilst on the surface the findings appeared encouraging, the results further confirmed conclusions from previous reviews (Dolan & Coid, 1993; Hemphill & Hart, 2002; Wong, 2000) that many of the studies included were neither well-designed nor carried out with acceptable scientific rigour. Nevertheless, the authors concluded that the widely held belief

that psychopaths did not respond to treatment was unfounded and that psychopaths could benefit from treatment.

However, Salekin's (2002) review was subsequently criticised for the over-inclusiveness of studies in the meta-analysis. Harris and Rice (2006) argued that there were a number of critical considerations of Salekin's (2002) review that impeded upon the trustworthiness of the review's conclusions. Firstly, few studies included within the review used validated assessments of psychopathy such as the PCL-R, and frequent reference was made to studies that used ambiguous criteria for psychopathy. Furthermore, only eight studies included untreated control or comparison groups. Hare (2006) postulates that only controlled studies can be informative regarding treatment efficacy and that no conclusions can be drawn from uncontrolled studies. Hare (2006) reported that few studies (< 20%) within Salekin's (2002) review assessed outcomes in terms of criminal behaviour, that even fewer (< 10%) mentioned violence or aggression, and that the evaluation of effectiveness was most often (> 70%) based on therapist impressions. Hare and Rice (2006) contended that therapists' impressions of clinical progress could not be robust measures of treatment effectiveness for psychopathic offenders, and that independent measures of criminal conduct must be at least part of the outcome of an evaluation of psychopathic offenders. Based on these considerations, Harris and Rice (2006) concluded that there was no evidence that any treatment was effective in reducing violence for psychopathic offenders, and that in fact, some treatment had demonstrated harmful effects for psychopaths.

A subsequent systematic review (D'Silva, Duggan & McCarthy, 2004) examined whether individuals with high PCL-R scores showed a negative response to treatment. The review adopted a search strategy of treatment outcome studies that had applied the PCL-R or its derivatives, including the PCL:SV (Hart, et al, 1995) and the Psychopathy Checklist: Youth Version (PCL:YV) (Forth, Kosson & Hare, 2003). The review identified 24 studies but only 10 met the study's Adequate Study Rating. As in previous reviews, the authors reported upon the methodological weakness of the included studies. Notably, only three studies were considered to

be of an appropriate design, of which only one used a suitable control group. The authors reported that the studies had been widely cited in support of the proposition that psychopaths were untreatable, an erroneous conclusion given the methodological weakness of the studies. The authors established that, based on available evidence, a conclusion as to whether high-scoring psychopaths have a negative response to treatment could not be made at that time.

In a more recent review of psychopathy literature, Salekin, Worley, and Grimes (2010) reviewed a number of treatment studies published subsequent to Salekin's (2002) review. Their review was based on 13 studies (eight treatment studies on adults and five studies on children and youth) that utilised a coherent operationalisation of psychopathy and employed relevant outcome criteria and a contemporary model of intervention such as CBT or variations of TC. They found that treatment effects tended to be small, with children and adolescents generally deriving greater benefit. Salekin et al., (2010) reiterated the lack of sound evidence of treatment efficacy and theories to guide treatment for this specific group of offenders.

A review of the literature evaluating treatment efficacy specifically for violent psychopathic offenders (Reidy, Kearns & DeGue, 2013) reported that, despite strong views for and against the effectiveness of treatment, there is a relative dearth of research, particularly when addressing violence as an outcome. The review was based on 16 studies of the effectiveness of violence treatment within adult and adolescent forensic populations. The authors expressed that the lack of consensus on whether psychopaths can be effectively treated is underpinned by existing studies being beset by methodological weakness, a sentiment that has resonated within previous reviews. More specifically, the authors reported that only two published studies within the review employed a no-treatment control group (that is, those by Abracen, Looman, Ferguson, Harkins & Mailoux (2011) and by Rice, Harris & Cormier (1992)), albeit each study was marked by significant limitations. Nevertheless, the authors report that the extant research suggests that with intense and rigorous intervention, the risk of violence can be reduced for this unique offender population (Caldwell, Skeem, Salekin & Rybroek, 2006; Caldwell, 2011).

When considering the limitations of preceding reviews of psychopathic treatment literature, it becomes pertinent that the lack of methodologically sound studies impeded upon the development of robust conclusions regarding the effectiveness of treatment for psychopathic offenders. Nevertheless, a level of guarded optimism is presented (Reidy et al, 2013; Salekin et al., 2010). In the remainder of this chapter, I will discuss some of the studies from the aforementioned reviews and assess more recent studies that have evaluated treatment effectiveness for adult male violent offenders. In doing so, a critical evaluation of current understanding regarding the treatability of psychopathic offenders will be provided.

Measuring treatment effectiveness through recidivism outcomes

Statistical methods for evaluating treatment efficacy have typically focused on comparing the recidivism rates of treatment completers and non-completers or comparison participants. Outcomes from these studies have provided variable findings with regard to the treatment effectiveness for psychopathic offenders. Seto and Barbaree (1999) conducted the earliest study on this subject; the study examined recidivism (both violent and sexual) in 438 male sexual offenders (sample PCL-R mean = 16.6 (Standard Deviation (SD) = 7.1)) as an outcome of treatment, with progress assessed via therapist ratings. Psychopathy was correlated with recidivism showing both an increased amount of and a shorter time to reoffending. More specifically, psychopaths who made better-than-average progress were more likely to reoffend violently within the 32-month follow-up period. The authors concluded that psychopathy is related to poorer outcomes compared to non-psychopathy among treated participants. In evaluating this study, it is pertinent to acknowledge that the definitional threshold for high psychopathy applied within this study (PCL $\geq$ 15) was unique and well below the cut-off score of 30 (Hare, 1991), thus, the misclassification of some non-psychopathic offenders as psychopathic offenders is conceivable, impeding upon the validity of the study's findings. Furthermore, the lack of an untreated comparison group does not allow for a determination of the degree to which participants gained from treatment. Notably, although psychopaths showed

higher recidivism rates after treatment, it could be the case that they still gained from treatment as much as, or more than, the non-psychopathic offenders.

Barbaree (2005) conducted a follow-up study to that by Seto and Barbaree (1999) and whilst essentially the same sample was used, the outcome measure differed both by the amount of follow-up (62 months) and by the use of more accurate reconviction data via a national database of criminal charges and convictions. Based on the same PCL-R (≥ 15) definitional threshold, the study found that psychopathy was related to recidivism for a lengthier follow-up period, but not for the shorter time period of three years, which is contrary to Seto and Barbaree's (1999) findings. The study further observed that whilst psychopathy continued to be a significant predictor of general and serious recidivism, treatment behaviour was no longer related to either general or serious recidivism, and that there was no statistically significant interaction observed between psychopathy and treatment behaviour. The authors report that the variation in findings from the previous study (Seto & Barbaree, 1999) could be explained by the use of more accurate recidivism data. The authors concluded that psychopathy is related to serious recidivism after treatment, at least over longer time periods. Nevertheless, the methodological approach taken by Seto and Barbaree (1999) remains an issue, and impedes upon the robustness of the study's conclusions.

Developing on these findings, Wong and Gordon (2006) compared 34 male treatment completers with untreated controls matched on PCL-R scores (psychopathy group mean PCL-R = 28.6 and control group mean PCL-R = 28), age, past criminal history and length of follow-up (mean of 7.4 years). The study found that the treated and matched control group did not significantly differ in the number of violent reconvictions. However, treated men subsequently received significantly shorter sentences, with sentence length being perceived as a reasonable proxy for the level of violence or severity of offending. The study concluded that whilst treatment does not aid the desistance from offending for those with significant levels of psychopathy or even decrease the frequency of reoffending, treatment did reduce the severity of reoffending.

These findings were supported by Wong, Gordon, Gu, Lewis & Olver (2012) who found no differences in reconviction rates between treatment completers (n = 32) and an untreated control group (n = 32) who had been matched on PCL-R scores (PCL-R mean = 28.60 and 28 respectively). The authors concluded that high-risk psychopathic offenders do not appear to cease reoffending following intensive treatment; however, they do appear to commit less severe offences, suggesting significant harm reduction as an effect of treatment. The authors interpret the study's findings in relation to the theoretical understanding of desistance, in particular desistance as a gradual reduction of reoffending (Kazemian, 2007). On this basis, the authors suggested that psychopathic offenders receive more intense treatment and further support in their transition into the community to aid the desistance process. Whilst both controlled studies (Wong & Gordon, 2006; Wong et al., 2012) provide valuable insight, it is notable that they are based on small samples, a fact that impedes upon the robustness of their findings and the persuasive power of the studies. Furthermore, whilst matching procedures were applied, including a range of criteria, other unknown and unmatched variables, such as readiness for change could have impacted upon reoffending.

Overall, whilst empirical studies on evaluating treatment efficacy through measuring recidivism outcomes provide a level of insight into treatment effectiveness, there are a number of methodological weaknesses associated with this type of research design that warrant consideration. Pertinently, treatment completion does not guarantee that attendees achieve the changes required to reduce recidivism (Olver & Wong, 2013), a perspective that is readily supported by the fact that recidivism rates are often relatively high among those who complete treatment (Polaschek, 2011). Furthermore, this approach limits clinical insight into the mechanism of change within offenders as an effect of treatment, thus limiting insight into the psychological process of treatment and into the treatment effect on attributes directly associated with violent behaviour, namely dynamic risk factors (McGuire, 2008).

Moreover, the use of recidivism as the primary outcome measure of treatment effectiveness is inherently problematic. Notably, whilst officially documented recidivism has high specificity, it is accepted that many offences go underreported, therefore providing an underestimation which could impede upon reliable evaluation of treatment effect (Hanson, 1997). It is also crucial to consider that recidivism is a distal outcome, and pays limited attention to extraneous factors that could influence reoffending after treatment. It is now widely understood and supported by empirical evidence, that the presence of external protective factors is fundamental in the transitional process from custody to the community, and supports desistance from further offending. Therefore, it is prudent to consider that the absence of external protective factors may impede upon the effect of prior treatment in managing reoffending (Jung & Gulayets, 2011; Serin, Lloyd, Helmus, Derkzen & Luong, 2013), a salient point that is not considered or indeed evaluated within recidivism studies.

Within-treatment change of dynamic risk factors and recidivism outcome

In light of the aforementioned limitations, more recent evaluation studies of treatment for offenders have begun to examine within-treatment change, that is, proximal change within treatment (Beggs, 2010). It is advocated that moving from a sole between-groups analysis to a within-person analysis is essential in understanding the mechanism of change, and aids with better gauging of treatment effectiveness (Kroner & Yessine, 2013; Olver & Wong, 2013).

In one of the first studies to evaluate within-treatment change in a sample of psychopathic offenders, Hildebrand and de Ruiter (2012) found no pre-treatment differences between psychopathic (PCL-R > 22, n = 43) and non-psychopathic (PCL-R < 22, n = 44) patients on measures of negative attitudes and lack of insight (measured by the Minnesota Multiphasic Personality Inventory–2 (MMPI-2), Butcher et al., (1989) and the Interpersonal Checklist-Revised (IL-R), and by LaForge & Suczek (1955)). This was despite significantly higher scores on egocentrism, hostility and impulsivity (measured by the MMPI-2) in the psychopathy group at baseline. The authors concluded that contrary to their expectations, psychopaths and non-

psychopaths showed more similarities than differences in dynamic risk factors at baseline. The study also observed no differential treatment responses between the psychopathic and non-psychopathic clients on the assessed indicators of dynamic risk after 20 months of treatment. This was despite an increase in interpersonal aggression, dominance and assertiveness within the sample. The authors suggested that the lack of significant differences between the two groups might have been related, in part to the relatively low cut-off PCL-R score of 22 to divide the sample into psychopathic and non-psychopathic, albeit using a cut-off score of 26 and 30 also revealed that psychopathy was not related to treatment progress. The authors further elucidated that the limited change in dynamic risk observed within the study may have been related to serious personality pathology within the sample, suggesting that dynamic risk change may be hard to accomplish. The authors acknowledged the small sample size of the study and thus the lower statistical power of their analysis. They further clarified that the measures employed may not have been sensitive enough to evaluate changes in dynamic risk variables within the evaluated sample and the complex treatment regime of the study.

A multiple (five offenders) case study evaluation of the Chromis programme (Tew, Dixon, Harking & Bennett, 2012) found a reduction in self-reported anger as measured by the Novaco Anger Scale and Provocation Inventory (NAS-PI) (Novaco, 1994), with all five cases demonstrating significant improvement in their overall NAS scores and on the behavioural and arousal subscales. Across all cases, a reduction in physical incidents across time was observed, with the exception of one offender who had a peak in physical aggression mid-treatment. In addition, whilst verbal aggression reduced across time, it was observed that four offenders showed significantly more acts of verbal aggression than expected during treatment, and that all five perpetrated more acts after leaving the Personality Disorder Treatment Service (PDTS). The findings provide a positive indicator for the effectiveness of Chromis in reducing violence; however, it is crucial to recognise that the evidence presented provides a narrow evaluation based on a small sample.

A further study by Young et al., (2013) demonstrated that in a sample of 16 male psychopathic offenders (PCL-R = 28.21, SD = 4.26), significant improvements as a result of treatment were observed on the Social Problem-Solving Inventory-Revised: Short Form (SPSI-R:SF) (D'Zurilla, Nezu & Maydeu-Olivares, 2002), subscales of impulsivity, avoidance and total scores, with no significant change on the rational, positive and negative problem-solving scales. A consistent pattern of results was observed by Clarke, Cullen, Walwyn and Fahy (2010) and Cullen et al., (2011) who had evaluated the same mode of treatment (Reasoning and Rehabilitation programme) with mentally disordered offenders. Collectively the authors assert that treatment impacts the varied functional modalities on the SPSI-R:SF. Notably, the problem areas most improved appear to be those related to problem-solving style rather than to positive or negative orientations. In other words, treatment held a tendency to reduce maladaptive approaches when solving problems, which suggests that offending may be reduced by improved self-control in accordance with the theory of crime (Gottfredson & Hirschi, 1990). Furthermore, the study observed significant improvements on the arousal and behavioural domains of anger on the NAS-PI, a finding that was not observed by Cullen et al., (2011).

In a retrospective evaluation study of an emotion modulation component of treatment (Bowes & Johnson, 2016) delivered by a high-security prison PDTS (Westgate unit), significant change was observed in the assessed treatment need areas; understanding, modulating and managing emotions (measured by the Emotional Control Questionnaire (ECQ) (Roger & Najarian, 1989) and the State–Trait Anger Expression Inventory–II (STAXI-II) (Balsamo, 2013). Furthermore, within the sample of 48 male offenders who had completed treatment, the study observed that psychopathy scores (moderate PCL-R group ≤ 29, $n = 18$ and high PCL-R group ≥ 30, $n = 30$) did not moderate treatment gain effects across the evaluated treatment need areas. A further retrospective evaluation study, but of a social competence treatment programme also delivered at the Westgate PDTS, observed significant improvements in some but not all of the assessed treatment need areas (Mullan, Johnson & Tomlinson, 2017). With an availability sample of 44 male treatment completers, the study observed statistically significant change across the

treatment need areas of identifying and monitoring personal patterns of social behaviour and ability to demonstrate socially competent behaviour (measured by the Inventory of Interpersonal Problems (IIP) (Horowitz, Alden, Wiggins & Pincus, 2000) and perspective-taking (measured by the Interpersonal Reactivity Index (IRI) (Davis, 1980). The study observed no statistically significant improvement in empathic concern as measured by the IRI. The authors concluded that whilst addressing empathy deficits is an integral aim of the treatment component, doing so provides comparatively less focus to this treatment need area. It is concluded by the authors that some treatment need areas may be unable to be addressed, a notion that has previously been conceded (Harpur & Hare, 1994; Howells & Tennant, 2010; Rice et al., 1992). The study further explored treatment change between moderate (PCL-R $\leq$ 29, n = 22) and high psychopathy (PCL-R $\geq$ 30, n = 21) groups, with no statistical differences observed, other than for the treatment need area of self-esteem (measured by the Self-esteem Scale (Thornton, Beech & Marshall, 2004)). It was found that whilst the moderate psychopathy group's self-esteem scores undesirably decreased pre- to post- treatment, statistically significant improvement in self-esteem was evident for the high psychopathy group. This finding contradicts previous research, which has highlighted that clinical change is less for individuals with high levels of psychopathy (Hughes, Hogue, Hollin & Champion, 1997; Olver, Lewis & Wong, 2013).

Whilst both studies (Bowes & Johnson, 2016; Mullan et al., 2017) provide respected evidence that supports the implementation of both evaluated components of treatment within the PDTS, it is important to accept that both studies provide a short-term evaluation of each component, with no evaluation of long-term treatment gain. This is a relatively serious concern, taking into consideration evidence that suggests that skill retention diminishes more for high-scoring psychopathic offenders (Blud, Thornton & Ramsey-Heimmermann, 2003). Furthermore, the small samples in both studies suggest that the power of the statistical tests for significance was low and that the absence of an untreated comparison group impedes upon the robustness of conclusions regarding treatment effect.

Furthermore, it is pertinent that whilst there is extant research that supports Schema Therapy as effective treatment for personality disorder, in particular borderline personality disorder (e.g., Farrell, Shaw & Webber, 2009; Giesen-Bloo, et al., 2006, Nadort et al., 2009), empirical studies that have examined psychopaths treatment responsiveness in addressing maladaptive schemas is scant. A single case study evaluation of Schema Therapy (Chakhssi, Kersten, de Ruiter, & Bernstein, 2014) for a client with psychopathic features, observed significantly improved scores in four of the five Early Maladaptive Schema (EMS; Young & Brown, 1994) domains over a four-year treatment period, with no significant change in the Other-directedness domain. The authors concluded that treatment was able to address the clients emotional detachment as reflected in significant improvements in the schema domains; disconnection, impaired autonomy and limits, and over vigilance. A finding that was consistent to an earlier pilot study of forensic patients (Van den Broek, Keulen-de Vos & Bernstein, 2011), whereby treatment was found to be effective in addressing the client's vulnerable emotions. In contrast, Doyle, Tarrier, Shaw, Dunn and Dunn (2015) observed no significant improvement across the schema domains within a sample of personality disordered offenders following schema-focused treatment.

Empirical studies that have developed based on a sole proximal change within treatment evaluation have included behavioural change (recidivism) as a more accurate measure of treatment effectiveness. This methodological approach allows for an evaluation of indirect and direct measures of treatment effectiveness. If criminogenic needs are functionally related to violent behaviour, it is plausible to conclude that positive changes in these violence related variables should be accompanied by a concomitant reduction in violent recidivism (Gullhaugen & Nøttestad, 2012). For example, Olver and Wong (2009) examined the therapeutic response of psychopathic sex offenders (full sample $n = 156$ of which 45 had a PCL-R score of ≥ 25) in terms of therapeutic change as measured by the Violence Risk Scale – Sexual Offender version (VRS-SO) (Wong, Olver, Nicholaichuk, & Gordon, 2003). The results demonstrated that positive treatment change was associated with reductions in both sexual and violent recidivism after

psychopathy was controlled, providing evidence that offenders with psychopathic traits can reduce their risk of reoffending as a result of treatment. The authors contend that the results do not support the notion that psychopaths are untreatable or that treatment makes psychopaths worse and more likely to reoffend.

In a comparable study, Olver et al., (2013) examined the interrelationships of PCL-R, therapeutic change as measured by the VRS (Wong & Gordon, 2006) and violent recidivism in a sample of 152 male offenders, of which 42 met the 30-point PCL-R cut-off and 98 met the criteria using the 25-point cut-off. The study found a significant negative correlation between VRS therapeutic change scores and PCL-R scores, particularly Factor 1, and the affective facet. Furthermore, VRS-assessed change was associated with reductions in violent recidivism after controlling for psychopathy. The findings suggest that higher levels of psychopathic traits were associated with decreased therapeutic progress; nevertheless, risk-related treatment change demonstrated by high-risk psychopathic offenders can be predictive of reductions in violent recidivism. Considered together, with the caveats of the studies limitations, evidence presented by Olver et al., (2013) and Olver & Wong (2009) lead to a tentative conclusion that psychopaths per se may have limited bearing on the success of treatment; they do indeed change, and the amount of change they make inversely predicts whether they will be reconvicted.

Individual analysis in evaluating treatment effectiveness

Whilst examining aggregate differences within a group of treated offenders has implications for assessing the efficacy of a programme as a whole, evaluating treatment completers as a single cohort provides no indication of how any individual performed in treatment; that is whether each individual has changed on an individual case basis (Beggs, 2010). Thus, a group-level approach possesses little practical and clinical significance, when considering individual offenders. This is an important consideration taking into account that psychopathic offenders are not a homogenous group (Brinkley, Newman, Widiger & Lynam, 2004), which

accentuates the clinical importance of individual-focused analyses to investigate possible differential outcomes within this unique offender population.

One such approach has compared individual change using an outcome measure with a reliable change index (RCI) for each measure (Jacobsen & Truax, 1991), allowing for the possibility of measurement error. Change scores that exceed the RCI represent statistically significant change, thereby allowing estimation of the proportion of the sample that has made reliable change using a given treatment. There is a significant controversy within this strand of outcome research, centred around the correct method for calculating the RCI, with a developed argument that simplified methods, such as the RCI do not provide sufficient control over potential sources of errors in the difference scores such as regression to the mean (Wise, 2004). Whilst alternative and more conservative formulae for calculating the RCI have been advanced (Heaton Temkin, & Dikmen, 2001), in practice the various formulae tend to converge on similar outcomes. Therefore, the Jacobsen and Truax (1991) RCI method has been an approach advocated in more recent treatment efficacy studies (Chakhssi, de Ruiter & Bernstein, 2010; Draycott, Kirkpatrick and Askari, 2012; Tock et al., 2018; Wilson, Freestone, Taylor, Blazey & Hardman, 2014), the research findings of which are discussed below.

In a forensic psychiatric sample of 74, of whom 27 had a PCL-R score greater than 26, Chakhssi et al., (2010) evaluated the effectiveness of a therapeutic approach in addressing treatment needs related to violence. Both psychopathic and non-psychopathic patients demonstrated commensurate improvements in social skills, level of insight, attribution of responsibility and self-regulation strategies (measured by the BEST-index (Reed, Woods, & Robinson, 2000) across repeated follow-ups over a 20-month period. These findings illustrated that both psychopaths and non-psychopaths were responsive to forensic treatment, with few significant differences between these two groups in terms of change. However, individual analysis using the RCI (Jacobson & Truax, 1991) method found that a subset of psychopathic offenders – approximately 7% – demonstrated reliable change with regard to violent behaviour.

Of this subset, 22% demonstrated reliable deterioration and 70.4% demonstrated uncertain change (they neither improved nor deteriorated with regard to violence). The study also observed that approximately one-third of the psychopaths showed reliable improvement according to BEST-index total scores and factors measuring social skills and insight. Whilst providing a level of optimism, the findings suggest that for a subset of psychopathic offenders, treatment is not effective or at least that this subset is not amenable to change. The study provides a unique and explanatory evaluation of treatment for psychopathic offenders; nevertheless, the lack of a no-treatment control group hinders firm conclusions regarding treatment change within the sample. Whilst it is postulated that a calculation of reliable change indices can go some way towards accounting for this limitation, without a control group it is not possible to confidently conclude that change is an effect of treatment rather than an attribution of age or external management of risk. Furthermore, the study applied a behaviour-based measure to assess change, and whilst satisfactory interrater reliability is reported, it is uncertain if and how habituation of the staff to patients' behaviour affected the observed change.

Draycott et al., (2012) examined reliable change using the VRS and Historical Clinical Risk Management–20 (HCR-20) (Webster, Douglas, Eaves & Hart, 1997) to assess 29 male offenders who participated in the DSPD service for 21 months at a high-security hospital. The sample's average PCL-R score was 25.7 (SD = 5), of which nine patients had a score greater than or equal to 30. The study did not report group analysis outcomes, although individual-level analysis illustrated few patients demonstrating significant change, with only one patient improving across the clinical and risk management subscales of the HCR-20. Of particular concern was that none of the patients showed any positive change on the VRS, a measure that has been advocated for use with psychopathic offenders (Wong & Gordon, 2006). The findings seem to illustrate that risk change within the sample of offenders participating in DSPD services was curtailed. It is also pertinent that the clinical risk assessments used to measure treatment outcome may be subject to a level of experiment bias, a consideration that is not acknowledged by the authors.

In a medium secure sample of personality-disordered offenders (n = 47) with a mean PCL-R score of 23.61 (SD = 5.41), Wilson et al., (2014) reported statistically significant reductions overall in risk scores on the VRS, but not on the HCR-20 clinical and risk management subscales. Further analysis of the HCR-20 scores demonstrated an initial improvement over two years of treatment leading to an increase in violence risk for patients in the third year of treatment. The authors interpret this finding as coinciding with some patients commencing community leave in the later stages of treatment, which necessitated a change in scoring the HCR-20 to reflect a change in environment from the secure and contained environment of the treatment unit. With regard to individual analysis of reliable change within the sample, it was found that 72% of the sample made no significant change in the HCR-20 (clinical and risk management combined) outcome as a result of treatment, with 21% of the sample making positive change and only 1% making negative change. With regard to the VRS, again, a higher proportion of the sample made no significant improvement, 42% showed positive change and none negative change. Whilst the findings are in contrast to those presented by Draycott et al., (2012), similar methodological limitations are seen as in the study by Wilson et al., (2014).

A more recent retrospective empirical study (Tock et al., 2018) found significant reductions in scores on the VRS and the HCR-20 clinical and risk management scales within a sample of 41 high-risk psychopathic offenders from high-security prison PDTS (Westgate unit). The study observed a significant reduction in scores on the VRS scales pre- to post- treatment, a finding that is consistent with previous studies (Olver et al., 2013; Wong et al., 2012; Wilson et al., 2014). This finding provides support for the notion that high-risk, psychopathic offenders are able to reduce risk through engagement in treatment, and that the VRS is sensitive to this change. In addition, the significant reduction in scores on the clinical and risk management scales of the HCR-20 is in contrast to previous findings (Wilson et al., 2014). The study observed no significant interaction between treatment and the psychopathy group (moderate PCL-R (≤ 29), n = 22) and high PCL-R (≥ 30), n = 30)) across the risk outcomes. The study reported a higher

proportion of reliable positive change within the full sample across the risk management scales in comparison to previous studies (Draycott et al., 2012; Wilson et al., 2014) with a clear trend towards reliable improvement across time. More specifically, 82% of the sample demonstrated positive reliable change in VRS dynamic risk scores across their engagement within the PDTS, whilst 46% demonstrated reliable change in clinical risk and 49% in risk management as measured by the HCR-20. Whilst comparable methodological limitations apply (Chakhssi et al.,, 2010; Draycott et al., 2012; Wilson et al., 2014), the study findings provide, alongside others already discussed, much-needed insight into treatment responsiveness within this complex population.

It is apparent that the responsiveness of this high-risk, high-need offender population varies, and it is now evident as a result of enhanced research approaches that individual variability in psychopaths is masked in group-level analyses. Individual analysis has yielded valuable insight into the treatment change of this unique offender population. The evidence suggests that although a subset of psychopathic offenders is not amenable to treatment attempts, treatment does not, at least, make the majority of psychopaths worse, which is an encouraging finding (Chakhssi et al., 2010).

When considering treatment effectiveness studies, it is prudent to note that perhaps the most critical issue contributing to the lack of consensus on whether psychopathic offenders can be effectively treated is that the studies that do exist are beset by methodological problems, which understandably temper interpretations (Doreen & Yates, 2008; Reidy et al., 2013). To some extent, some methodological difficulties are inevitable and thus evaluating the effectiveness of offender treatment will remain a contentious issue. Nevertheless, it is encouraging in terms of developing clinical understanding that more recent empirical studies are attempting to address the methodological limitations inherent in past research and are using alternative research approaches to enhance clinical understanding. The most recent applied method of individual-focused analysis is yielding meaningful and needed clinical insight into the differential outcomes

within this heterogeneous group of offenders. More specifically, in contrast to studies that solely explore whether treatment is effective (which must be addressed through randomised control trials), individual-level analysis allows for an evaluation to ascertain 'for whom does this treatment work?' – a more meaningful clinical outcome (Draycott et al., 2012).

Treatment non-completion

Offender treatment attrition: defining the problem

The failure of offenders to complete treatment is a salient clinical concern, which has been related to an array of serious implications, notably a decline in treatment outcomes and increased risk (Olver, Stockdale & Wormith, 2011; Wormith & Olver, 2002). In addition, it has been evidenced that offenders who do not complete treatment are more likely to reoffend in comparison to those who have not engaged in treatment at all (McMurran & Theodosi, 2007). Treatment non-completion also utilises valuable resources, which is an important consideration in the current economic climate as it prevents new admissions from benefitting from such services (McMurran, Huband & Duggan, 2008).

Treatment non-completion refers to the premature cessation of treatment and it may take three forms: exclusion due to inappropriate behaviour, administrated exit for transfer or release or patient-initiated dropout (Howell & Day, 2007; Wormith & Olver, 2002). Comparatively, the rates of non-completion for offender treatment programmes have varied substantially. A meta-analysis revealed a rate of non-completion of cognitive behavioural treatment varying between 14.6% for institutional samples and 45.5% in community samples (McMurran & Theodosi, 2007). The authors speculate that higher attrition rates within the community are underpinned by there being more available options to discontinue treatment in comparison to secure settings, particularly opportunities to reoffend and the risk of arrest. Due to a lack of clarity over reasons for non-completion within the included studies, a concrete conclusion could not be drawn. The

review further conceptualised that the profiles of offenders who do not complete treatment show higher risk, leading the authors to hypothesise that offender treatment programmes do not serve the needs of high-risk offenders. Further, it is argued that 'non-completers do worse in treatment than untreated offenders' (McMurran & Theodosi, 2007, p. 341), an argument that the authors raise with caution due to a range of alternative factors also related to risk.

In terms of offender type, attrition rates of between 10% and 86% have been reported for sex offender treatment (Browne, Foreman & Middleton, 1998; Craisatti & Beech, 2000; Larochelle, Diguer & Laverdiere, 2011; Seto & Barbaree, 1999) and between 12% and 90% for violent offender treatment, including domestic violence interventions (Gondolf & Foster, 1991; Hornsveld, 2005). In a meta-analysis of 114 studies, representing 41,438 offenders, Olver et al (2011) reported significantly higher attrition rates for domestic violence programmes (50.8%) across treatment modality, with 32.3% for violent treatment and 29.4% for sexual offender interventions. The authors expressed that whilst it was uncertain what may have contributed to higher attrition rates in cases relating to domestic violence treatment, all the included studies were community-based, which may have been a moderating factor. The review observed lower attrition rates for CBT programmes (33.4%), with an attrition rate of 39.6% reported for TC approaches to treatment, 44.9% for Duluth programmes and 48% for unspecified treatment approaches. Furthermore, lower attrition rates were observed for prison-based interventions (21.5%), with a reported attrition rate of 31.5% reported for community-based treatment. As with McMurran and Theodosi (2007), the authors expressed that higher attrition rates in community samples might be related to limited incentives in comparison to institutional programmes. Both McMurran and Theodosi (2007) and Olver et al., (2011) considered the wide variation of attrition rates, and suggested that several factors could have contributed to such differences, including different criteria and operational definitions of 'dropout', the nature of offender groups or programme type, and the treatment setting.

In light of the implications of treatment non-completion for offenders, a substantial amount of research has been devoted to identifying factors that predict dropout. In an extensive review of dropout literature, Daly and Pawlowski (2000) found that unemployment, being unmarried (or childless), lower income, lower level of education, prior criminal history, substance abuse, mental health concerns and relationship difficulties were predictors for treatment non-completion within domestic violence treatment. Further treatment studies have observed low motivation (Latendresse, 2006) and denial (Beykyo & Wong, 2005; Hunter & Figueredo, 1999) as contributing factors to treatment dropout. In considering predictors of offender treatment attrition, Olver et al., (2011) identified personal characteristics (ethnic minority status, youth, single status and lower levels of education) including high risk and high treatment need as strong predictors. Furthermore, antisocial personality disorder and psychopathy (both diagnosis and dimensional PCL-R (Hare, 2003)) were found to be significant predictors of attrition.

Alongside research into factors related to treatment non-completion, several theoretical models have been developed to guide methods of offence-focused treatment, as a means of supporting engagement, and thus treatment completion. The treatment interventions that have demonstrated the largest effects in reducing various forms of criminal recidivism tend to follow the principles of risk, need, and responsivity (RNR) (Andrews & Bonta, 2003; 2010). The RNR treatment model has gained empirical support, not only in supporting offender engagement (Ward, Day, Howells & Birgden, 2004) but in causing greater reductions in recidivism across offence types (Andrews & Bonta, 2010; Andrews & Dowden, 2006; Hanson, Bourgon, Helmus & Hodgson, 2009; Hart & Logan, 2011; Koehler, Losel, Akoensi & Humphreys, 2013; Landenberger & Lipsey, 2005; Smith, Gendreau & Swartz, 2009). The RNR model is based on a broad personality and cognitive social learning perspective of human behaviour and aims to identify factors to support treatment effectiveness. The risk principle states that treatment intensity or dosage should be matched to the risk level of the offender, with the need principle asserting that dynamic risk factors linked to the origin and maintenance of antisocial behaviour have the potential to change through treatment. The need principle states that treatment should

focus on offenders' criminogenic needs, which refers to risk factors that can be changed, namely dynamic risk factors. The responsivity principle states that treatment should employ cognitive behavioural methods of behaviour change, and that treatment should be adapted to the unique characteristics of offenders including motivation, cognitive ability and personality. Whilst the RNR model has garnered positive outcomes, it has been criticised for lacking clarity regarding the construct of responsivity and how it is effectively implemented within clinical practice (Day, Casey, Ward, Howells & Vess, 2010).

Despite several reliable predictors of treatment non-completion identified and theoretical models of treatment engagement proposed, the problem of offender treatment attrition remains an ongoing and serious concern. It is pertinent to acknowledge that identified predictors frequently point to important responsivity issues that can impede upon treatment engagement and service delivery. A greater acceptance and awareness of these factors among treatment referrals should alert service providers to which offenders are at risk of treatment disengagement and dropout, so that further efforts may be directed to retain these clients (Andrews & Bonta, 2010).

Psychopathy and treatment non-completion

Psychopathic offenders as a high-risk, high-need group of offenders and those with elevated scores on the PCL-R have been found to be a challenging population to treat, typically presenting with limited motivation, greater resistance to change and difficulties in forming therapeutic alliances (Hemphill & Hart, 2002; Ogloff et al., 1990). Furthermore, psychopathic offenders engage in more disruptive behaviour during treatment when compared to non-psychopathic offenders (Hildebrand, de Ruiter & Nijman, 2004). Naturally, therapists notice their difficult behaviour, rating such clients as less motivated and less malleable (Hobson et al., 2000). Furthermore, empirical studies have reported high rates of attrition for such high-risk offender populations (DeSorcy et al., 2016; Hobson et al., 2000; Ogloff et al., 1990)

Whilst it is crucial to acknowledge the evidence base that affirms psychopathic offenders as a challenging group for treatment, it is equally important to acknowledge past evidence that has critiqued treatment provision for this group of high-risk offenders (D'Silva et al., 2004; Skeem et al., 2009; Vien & Beech, 2006). More specifically, few of these treatment programmes followed the principles of RNR, and they would not therefore be likely to be effective in reducing risk for any individual convicted of offending, let alone those high in PCL psychopathy (Andrews, Bonta & Hogue, 1990; Skeem et al., 2011).

In recent years, however, there have been significant advances in designing psychopathy treatment programmes (Wong & Hare, 2005); psychopathic offenders are not only portrayed as high-risk individuals with myriad treatment needs but also as individuals with a responsivity issue. Whilst more recent treatment efficacy studies have demonstrated positive outcomes, the early finding that psychopathic offenders were associated with more difficulties during treatment has remained consistent through the research (Langton et al., 2006; Olver et al., 2013; Olver & Wong, 2009). Therefore, it is conceded based on collective psychopathy treatment research that given the appropriate treatment, individuals with high PCL-R levels are treatable, and on the face of it, may be more difficult to treat than similar individuals with low PCL-R levels or non-psychopathic offenders. Nevertheless, these high-risk offenders are the highest priority for treatment, and whilst managing their problematic behaviours in treatment may just be part of the process of working therapeutically with them, there is a clinical importance in furthering our understanding of the relationship between psychopathy and treatment non-completion.

The standpoint that psychopathy creates challenges for otherwise effective treatment processes fits well with psychopathy's placement in the RNR model as a specific responsivity factor that interferes with treatment engagement (Andrews et al., 1990). It is now clinically understood that PCL-R Factor 1 traits are associated with treatment interfering behaviours, with therapeutic alliance, treatment motivation or readiness, and information processing being adversely affected (Wong & Hare, 2005; Wong et al., 2015). More specifically, the interpersonal

facet (Facet 1) traits (e.g. grandiosity and deceitfulness) could contribute to resistance to engagement and openness, caused by developed beliefs or resistance to change. Facet 2, the affective facet, represents a lack of emotion that may impede on therapeutic relationships and meaningful engagement with emotion-based components of treatment, or even treatment engagement at all (Wong et al., 2012; Wong & Olver, 2015). Overall, these interpersonally exploitative and affectively shallow personality traits are resistant to change and behavioural manifestation of these traits can significantly interfere with treatment. PCL-R Factor 2 traits have been related to the criminogenic needs of treatment, rather than to inherent responsivity issues (Wong et al., 2012; Wong & Olver, 2015). This is on the basis that PCL-R Factor 2 has been found to be predictive of violent and general recidivism (Hare, 2016; Hoppenbrouwers et al., 2015; Kennealy et al., 2010; Olver et al., 2013; Walters et al., 2011; Yang et al., 2010) and represents established dynamic risk factors or proxies for dynamic risk factors (Wong et al., 2012). Empirical support exists, therefore, for the argument that making risk-relevant changes to dynamic treatment needs is associated with decreases in most recidivism outcomes (Olver et al., 2013).

The RNR model and subsequent empirical evidence have provided a theoretical foundation for understanding psychopathy as a responsivity factor that hinders treatment engagement, therapeutic alliance, motivation and readiness (Wong & Hare, 2005). Nevertheless, there is clinical importance in enhancing understanding of the relationship between the construct of psychopathy and treatment non-completion.

Overarching aims of the thesis

Psychopathy is a prominent area for criminal justice practice. Identifying those with higher levels of psychopathic traits and supporting risk management within this complex offender population is an extremely important, yet challenging task. Whilst it is now understood that

'psychopathic individuals are not uniquely "hopeless" cases who should be disqualified from treatment, but instead are general "high-risk" cases who need to be targeted for intensive treatment to maximize public safety' (Skeem et al., 2011, p. 96), it is evident that the relationship between psychopathy, risk and treatment are not straightforward.

It is clinically understood that psychopathic offenders as a high-risk, high-need population present an array of challenges that impede upon their engagement in treatment. The reported high rate of treatment non-completion for this unique population poses a range of adverse consequences. It is inevitable that an approach that minimises the impact of treatment non-completion could be to exclude these high-risk offenders or to 'warehouse' them as a means of managing risk (Tyrer et al., 2010). This is an undesirable outcome and contradicts the evidence-based risk principle of engaging high-risk offenders in intensive treatment (Andrews et al, 1990). Whilst it is prudent to acknowledge that there have been developments in treatment programmes for psychopathic offenders, this unique offender population continues to pose challenges to treatment attempts. Whilst acknowledging previous empirical evidence that has identified psychopathy as being related to treatment attrition, to date no review has been conducted to explicitly explore this postulated association.

Thus, as an important clinical objective, the first aim of this thesis is to systematically review the existing literature to explore associations between the construct of psychopathy and treatment non-completion (Chapter 2). The following overarching research question is posed:

To what extent is the construct of psychopathy associated with treatment non-completion, and does this relate to risk?

In order to answer this, the review will compare treatment attrition rates for this high-risk offender population, with comparisons between treatment modalities (treatment approaches) and settings (prison and secure hospitals). Secondly, it will identify studies that explored the relationship between psychopathy, treatment completion and non-completion with relevant

outcomes in order to examine whether treatment non-completion is associated with increased risk and recidivism for psychopathic offenders.

With regard to treatment effectiveness for this unique high-risk, high-treatment-need group of offenders, it would seem that the pessimistic view of treatment effectiveness for psychopathic offenders has been fuelled by methodologically weak research and inappropriately designed treatment. However, there have since been significant advances in designing psychopathy treatment programmes and more recent empirical studies have provided positive outcomes providing support for the position that psychopathic offenders are treatable. Based on recent evidence it appears that when appropriately designed treatment programmes are implemented, the effectiveness of treatment can be demonstrated. Nevertheless, psychopathy treatment literature is still in a condition where no firm conclusions can be drawn about treatment efficacy. Thus, there remains clinical importance in developing the understanding of treatment for psychopathic offenders, with findings being replicated to strengthen conclusions and to support clinical practice.

Therefore, the second overarching aim of the thesis is to empirically examine whether psychopathic offenders are amenable to change through contemporary treatment methods based on the best available evidence of what works with offenders more generally and psychopathic offenders in particular (Chapter 3). The following overarching research question is posed:

To what extent is the Chromis programme effective in producing significant and reliable changes in treatment need areas related to violence for individual psychopathic offenders?

As such, Chapter 3 will examine the treatment effectiveness of the Chromis programme by examining whether psychopathic offenders show significant improvements in the evaluated treatment need areas of problem-solving, anger, impulsivity, locus of control and maladaptive schemas following treatment as a whole and the two main treatment components (Cognitive

Skills and Enabling Change). This will initially be evaluated through group-level analysis to facilitate a comparison with previous literature using this methodology. Although as offenders' responses to treatment are variable, an individual change analysis will also be conducted as means of investigating differential outcomes within the group of psychopaths.

Chapter Two: Treatment non-completion of psychopathic offenders: – A review of the evidence

Abstract

It is postulated that the failure of offenders to complete psychological treatment and interventions poses significant problems, such as adversely affecting treatment effectiveness and increasing the risk of recidivism. Clinical concerns are inevitably increased by the clinical acceptance that psychopathic offenders, as a high-risk, high-treatment-need group of offenders, are more challenging to engage in treatment and more likely to disengage or be removed from treatment. The main aim of this study was to conduct a systematic review of the literature on psychotherapeutic interventions for psychopathic offenders in order to examine the relationship between psychopathy and treatment non-completion. Two subsidiary aims were to compare treatment attrition rates for psychopathic offenders across treatment modalities and settings, and to identify studies that reported on the relationship between psychopathy and treatment non-completion. Thirteen empirical studies were identified; however, due to variations in design and analysis, the included studies could not be considered a homogeneous group for meta-analysis. The median non-completion rate for psychopathic offenders was 46%, but only seven of the included studies specifically reported attrition rates, which impeded meaningful comparative evaluations of modes of treatment and settings for psychopathic offenders. There is varying evidence to support psychopathy being a contributing factor to treatment non-completion, albeit there is clinical utility to the findings of the included studies. The predictive relevance of psychopathy and treatment non-completion to recidivism is inconclusive. Implications for clinical practice and research are discussed.

Introduction

The fundamental purpose of offender treatment programmes is to reduce the recurrence of future offending. Despite past pessimism about treatment effectiveness, there is a growing body of research to demonstrate that certain models of offender treatment are effective in reducing recidivism following programme completion (Ross, Quayle, Newman & Tansey, 2013). Indeed, the adoption of risk, need and responsivity (RNR) principles (Andrews & Bonta, 2003; 2010) has contributed to increased clinical improvements and positive outcomes for offender treatment (Andrews & Bonta, 2010; Andrews & Dowden, 2006; Hanson et al., 2009; Landenberger & Lipsey, 2005; Smith et al., 2009; Ward et al., 2004).

Despite developments in treatment models, the non-completion of treatment by offenders remains a major clinical concern which has been related to an array of serious implications and adverse outcomes – notably reduced treatment effectiveness and disengagement with professional services – that hinder progression and risk management (McMurran et al., 2010). Furthermore, treatment non-completion has been related to increased recidivism, with evidence suggesting that offenders who do not complete treatment are more likely to reoffend than those who have not engaged in treatment (Day et al., 2010; McMurran & Theodosi, 2007). More specifically, McMurran and Theodosi (2007) reported on a meta-analysis that observed a difference of -0.16 in effect size in reoffending ($d = -0.16$) between offenders who had not engaged in treatment (untreated offenders) and treatment non-completers, accentuating that failing to complete treatment is associated with elevated levels of reoffending. This is an important finding, but it must be interpreted with caution due to the existence of variable factors that can influence risk. A theoretical understanding of the association between treatment non-completion and increased risk remains unclear, although McMurran and Theodosi (2007) hypothesise that removal from treatment may contribute to an increase in anti-social attitudes, decrease in confidence, a sense of worthlessness, and arrested development of risk management strategies: all factors associated with risk of offending.

Offender treatment attrition: defining the problem

The term 'treatment non-completion' has been chosen here to include a range of definitions of premature termination of treatment, covering service-initiated exclusion (premature termination because of non-attendance, disruptive behaviour or failure to engage in treatment) and service user-initiated dropout (the individual electing to discontinue treatment). In exploring the wider literature base on treatment non-completion, a meta-analysis of psychotherapy attrition studies that included few, if any, offenders (Wierzbicki & Pekarik, 1993) reported a mean non-completion rate of 47%, finding three significant predictors of treatment dropout: ethnic minority status, low income and low levels of education. Furthermore, McMurran et al., (2010) reported a median non-completion rate of 37% for personality disorder treatment, with variables associated with treatment non-completion being: participant characteristics (e.g. youth, unemployment, juvenile conviction, emotional neglect in childhood and being in a relationship for less than six months); need factors (e.g. diagnoses, lower levels of cognitive functioning, poor problem recognition/competencies and increased antisocial aggressiveness); and environmental factors (e.g. treatment length and therapeutic relationships).

Treatment attrition rates for offender populations vary substantially, with rates between 10% and 90% reported (Browne et al., 1998; Gondolf & Foster, 1991; Hornsveld, 2005; Larochelle et al., 2011; Seto & Barbaree, 1999). In a meta-analysis of 114 studies that represented 41,438 offenders, Olver et al., (2011) reported significantly higher attrition rates for domestic violence programmes (50.8%), with 32.3% for violent treatment and 29.4% for sexual offender interventions. With regard to treatment mode and environment, the review observed lower attrition rates for cognitive behavioural treatment programmes (33.4%) and prison-based interventions (19.9%). In consideration of predictors of offender treatment attrition, the review identified personal characteristics (e.g. ethnic minority, young, single and lower levels of education) and status as high-risk and high-need offenders as being strong predictors. Furthermore, antisocial personality disorder and psychopathy were found to be significant predictors of attrition. This is an important finding, which suggests that further exploration of the

relationship between the construct of psychopathy and treatment non-completion is necessary to support clinical understanding and practice.

Several factors could potentially be contributing to the evident variation in attrition rates, including different criteria for and operational definitions of dropout, nature of offender group or programme type and treatment setting (McMurran & Theodosi, 2007; Olver et al., 2011). These are all factors that need to be considered when interpreting empirical findings and relating evidence to practice. Furthermore, it is apparent that identified predictors of treatment non-completion frequently point to important responsivity issues that can impede treatment engagement and service delivery. A greater acceptance and practical understanding of these factors when dealing with treatment referrals would help service providers to determine which offenders are at risk of treatment disengagement and drop-out, so they can direct efforts towards retaining these clients (Andrews & Bonta, 2003, 2010).

Psychopathy and treatment non-completion

Psychopathic offenders as a high-risk, high-need group of offenders and those with elevated scores on the PCL-R have been found to be challenging populations to treat, typically presenting with limited motivation, greater resistance to change and difficulties in forming therapeutic alliances (Hemphill & Hart, 2002; Ogloff et al., 1990). Therefore, from a clinical perspective it is unsurprising that empirical studies have reported high rates of attrition for these high-risk offender populations (DeSorcy et al., 2016; Hobson et al, 2000; Ogloff et al., 1990). This is an important concern, considering that psychopathic offenders are reported to be five times more likely than non-psychopathic offenders to recidivate violently (Olver & Wong, 2006; Salekin, 2008; Serin & Amos, 1995). This already elevated risk may be further increased with treatment non-completion, given the association between treatment non-completion and increased risk of reoffending (McMurran & Theodosi, 2007). On this basis, treatment non-completion for this unique offender population is a pertinent clinical concern.

There have been significant advances in designing psychopathy treatment programmes (e.g. Wong & Hare, 2005) whereby psychopathic offenders are not understood only as high-risk individuals with a myriad of treatment needs but also as individuals with significant responsivity issues, such as those envisaged by the RNR model (Andrews & Bonta, 2003; 2010). Nevertheless, the early finding that psychopathic offenders were associated with having more difficulties during treatment has been substantiated through the research (Langton et al., 2006; Olver & Wong, 2009; Olver et al., 2013).

Whilst previous empirical evidence has identified psychopathy as being related to treatment attrition, to date, no review has been conducted specifically to explore evidence of this relationship. The aim of this systematic review is to synthesise existing literature on psychotherapeutic treatment for psychopathic offenders, and more precisely, to explore associations between the construct of PCL psychopathy and treatment non-completion. In addition, there were two subsidiary aims: firstly, to study treatment attrition rates for this high-risk offender population, with comparisons between treatment modalities and settings. Secondly, to identify studies that explored the relationship between psychopathy and treatment non-completion on the one hand, and relevant outcomes, such as recidivism, on the other. Identifying correlates and predictors of attrition for this high-risk, high-need offender population is an important clinical objective and may be useful in developing clinical understanding that will support the development of strategies for engagement and retention of psychopathic offenders in treatment.

Method

Literature search strategy

Prior to conducting the literature search, the Cochrane Database of Abstracts and Reviews of Effects (DARE) was searched to confirm that a similar review had not recently been completed. Literature searches took place in July 2018, and involved database searching, hand

searching of selected journals, and contacting authors and professionals who might have had knowledge of relevant unpublished papers. The author also relied on personal knowledge of research on treatment outcomes for psychopathic offenders.

The following databases were searched to identify appropriate studies (published or unpublished) conducted up to July 2018: EMBASE, Medline, PsychINFO, Psyarticles and Proquest (a database of unpublished dissertations searched to obtain all relevant studies and limit publication bias). The search strategy combined terms for the following concepts: psychopathy, treatment and non-completion (see Appendix 1 for search strategy terms).

Selection criteria and assessing the quality of included studies

The obtained studies were screened for topic relevance using their titles and abstract content. Irrelevant and duplicate studies were excluded. The remaining potentially relevant studies were obtained and examined for their suitability for inclusion using the following criteria: (a) empirical exploration of treatment non-completion[7], completion and/or treatment engagement (length of treatment) for psychopathic offenders; (b) any psychotherapeutic treatment or intervention provided by forensic services excluding medical treatment; (c) the study of detained (convicted or sanctioned) adult offenders (male or female), with no restrictions on offence type; (d) use of the PCL-R as the clinical diagnostic assessment of psychopathy, with a sub-set of the study sample meeting PCL-R criteria for diagnoses; (e) operationalisation of treatment attrition (most frequently coded as a binary variable in which completers were compared to non-completers or length of time in treatment); (f) examination of the relationship between PCL psychopathy and treatment non-completion.

As the review concerned exploring treatment non-completion for psychotherapeutic interventions only, studies evaluating medical treatments were excluded. Furthermore, the current

[7] As previously discussed, for the purpose of this review, non-completion of treatment includes the premature cessation of treatment through client-initiated dropout or exclusion by treatment providers.

review aimed to explore the relevance of the PCL psychopathy construct to treatment non-completion, thus, studies that did not employ the PCL-R (Hare, 1991; 2003) as the clinical and diagnostic tool for psychopathy were excluded. The PCL-R has gained compelling support for its reliability and validity (Hare, 1991, 2003; Kiehl & Hoffman, 2011), and despite opposing evidence that has raised a level of uncertainty over the reliability and validity of the clinical assessment tool (DeMatteo et al., 2014; Edens et al., 2015; Jeandarme et al., 2017; Murrie et al., 2012; Neal et al., 2015), the PCL-R remains the most frequently applied assessment of psychopathy within clinical and forensic settings. Nevertheless, other assessment tools are available; and as they have garnered empirical support, it is imperative to consider the inherent limitations of these tools and the potential effect on outcome with regard to this review. Whilst screening assessment tools such as the Psychopathy Checklist: Screening Version (PCL:SV; Hart et al., 1995) have been developed, these tools are not considered to be reliable diagnostic assessments of psychopathy (Hart et al., 1995), and thus should not be used as an accurate measure of psychopathy. Furthermore, with other existing measures of psychopathy there is considerable heterogeneity, partly due to the variable scales being based on differing conceptualisations of psychopathy. For example, the Psychopathy Personality Inventory or PPI (Lilienfeld & Fowler, 2006) is a self-reported measure of psychopathy that does not measure the anti-social behaviours related to the disorder. It is also postulated that self-reported assessments may not provide an accurate reflection of personality functioning, thus, possibly yielding biased results and hindering the reliability of the assessment outcome (Lilienfeld & Fowler, 2006). Thus the inclusion criteria of empirical studies that have employed the PCL-R (Hare, 1991; 2003) as an assessment of psychopathy, allow for a standardised evaluation of one construct of psychopathy in relation to treatment non-completion, whilst reducing the potential for extraneous variables to influence outcome.

The studies that met the inclusion criteria were quality assessed using the proforma presented in Appendix 2. The Critical Appraisal Skills Programme (CASP) criteria and the Centre for Research and Dissertations (CRD, 2008) guidance were used as guides for developing

the quality criteria, to confirm that all recommended areas of assessment were included while adapting the criteria to the field of interest. A total of 16 quality criteria were developed and used to assess the 13 identified papers. Each criterion was scored accordingly: high quality = 1, partially addressed or unclear = 0.5, low quality = 0 and not applicable = 0 and a total score was calculated for each paper. Unclear classifications were further investigated by contacting the authors. Where no response was received, no scoring adjustments were made. The overall quality score for each study was calculated by summing the scores given for each item. Due to the scarcity of studies available for review, the purpose of critical appraisal in this review was not to exclude papers on methodological grounds but to incorporate this critical review into the analysis process by acknowledging the limitations and rigour of each study.

Results

Studies identified

Electronic searches identified 1330 records, which reduced to 1124 after the removal of obvious duplicates. As shown in Figure 1, an additional three records (including one unpublished dissertation) were identified following requests from experts, and a further 12 from hand searching of reference lists and relevant journals. Detailed inspection of the abstracts resulted in the removal of 1083 records, resulting in 56 studies for which a full copy was obtained. After inspecting these studies, 43 were removed using the inclusion and exclusion criteria (reasons for exclusion are presented in Figure 1). This resulted in 13 studies remaining for the review. Details of included studies are presented in Table 1.

The quality assessment was initially carried out independently by the primary author. A second reviewer (a registered forensic psychologist with practice and research experience in the field of psychopathy treatment) was used in order to ensure inter-rater reliability. All 13 papers were independently reviewed, which resulted in a Kappa co-efficient for overall agreement of 0.75, indicating adequate inter-rater agreement (Randolph, 2008). All criteria associated with

differences between raters were reviewed and amended where appropriate. Appendix 3 presents an overview of the main findings pertaining to the quality assessment of included studies.

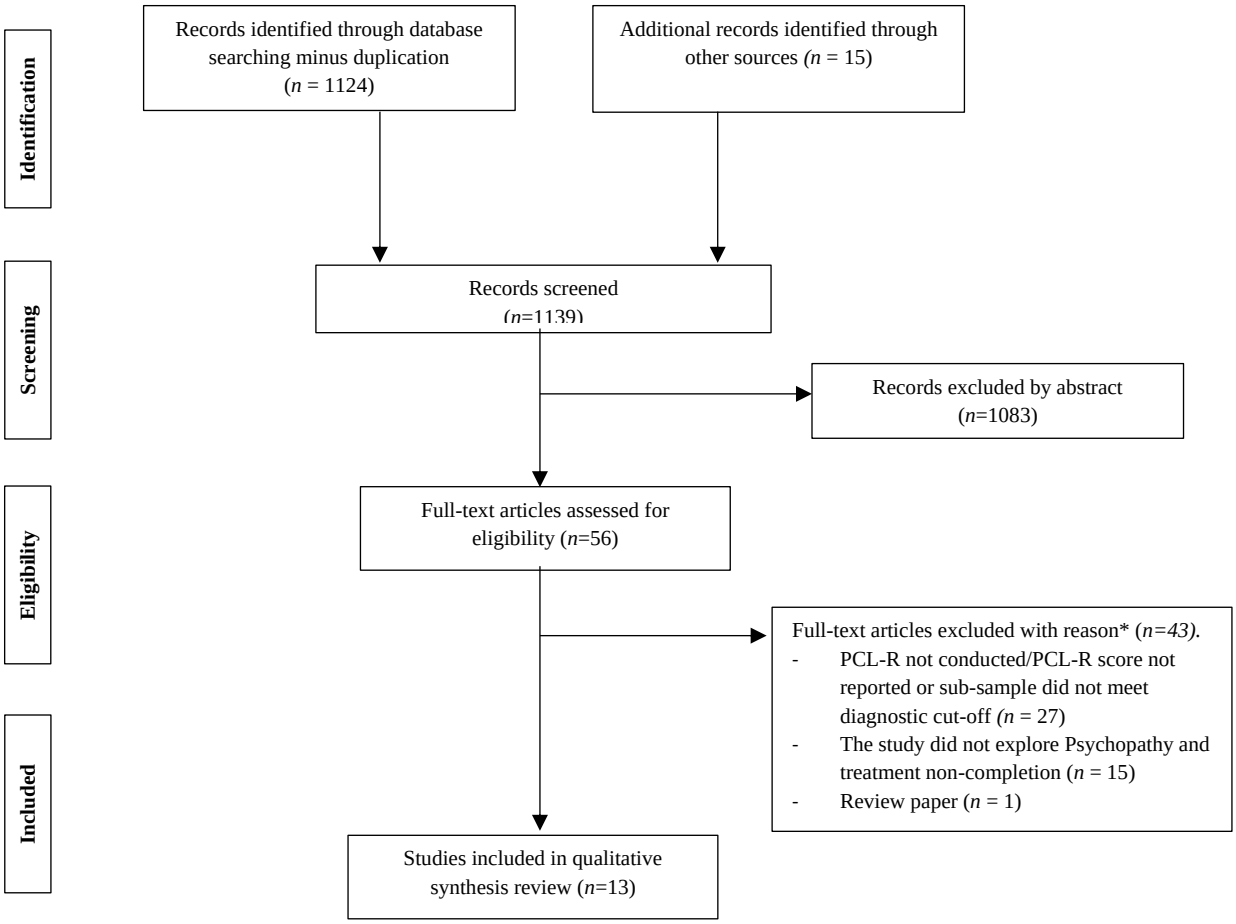

Figure 1: PRISMA flow diagram.

*Full-text articles were frequently excluded for multiple reasons. The primary reason for exclusion is listed.

The included studies varied markedly in a number of ways, including study design and analysis, resulting in statistical heterogeneity. Thus, the data collated could not be considered as a homogenous group for the purpose of meta-analysis. In addition, the authors believed that a qualitative analysis would be the most meaningful form of analysis due to the paucity of research studies found, coupled with overlapping participant sample within the selected studies. Thus a narrative synthesis was used as a means of reporting the findings systematically (Popay et al., 2006).

Table 1: Included studies – Demographics and summary of outcomes

Author	Full sample	PCL-R scores	Treatment	Psychopathic Offender sample attrition rates	Main outcomes
Bennett (2015)	92 male offenders (violent and sexual offenders)	Full sample mean PCL-R = 30	High-security prison PDTS with a CBT approach. Treatment length not reported.	45% non-completers (mean PCL-R = 30) vs. 55% completers/currently engaged in treatment (mean PCL-R =29.5)	PCL-R total was not significantly predictive of treatment non-completion (p = .69) with narcissistic PD found to be the only predictive variable ($p<.05$).
Daffern et al., (2008)	51 male offenders (general offenders)	50 participants PCL-R assessed with score range of 6 to 30 and a mean PCL-R total = 18.09 (SD = 5.93)	Medium-security psychiatric hospital with a CBT approach to treatment. Open ended treatment (1 month to 4 years) with median length of stay of 10 months.	Not reported	PCL-R total, Factor 1 and 2 were not significantly associated with dropout (p > .05 (exact p value not reported)).
Daffern et al., (2013)	51 male offenders (general offending)	Full sample PCL-R assessed with a score range of 6 to 30 and a mean PCL-R total = 18.02 (SD = 5.72)	Medium-security psychiatric hospital with a CBT approach to treatment. Open ended treatment (2 months to 4 years) with median length of stay of 13 months.	Not reported	PCL-R Factor 1 (p < .01) and treatment non-completion (p < $.01$) were the only significant predictors of reoffending with a mean follow up period of 7 years. PCL-R Factor 1 and non-completion recorded an odd ratio of 2.27 and .013 (inversed), respectively. PCL-R Factor 2 was almost significant at $p=.054$.
Dickie (2003)	108 male sexual offenders	Full sample PCL-R assessed with a mean total of 25.5 (SD = 6.29)	Psychiatric hospital. CBT sex offender treatment.	47% psychopathic offenders (PCL-R ≥ 27) vs. 28% of non-psychopathic offenders	Psychopathic offenders were significantly more likely to drop out

		and 24.8% (n= 23) with score ≥ 25	Treatment duration not reported.		of treatment compared to non-psychopathic offenders ($p < .05$). No significant difference between psychopathic and non-psychopathic offenders with regard to time spent in treatment ($p>.05$; (exact p value not reported)), although PCL-R Factor 1 was significantly related ($p<.01$) to treatment length.
Hildebrand & de Ruiter (2012)	87 male offenders (sexual and violent offenders).	Full sample PCL-R assessed with 31% (n = 27) with a score ≥ 26. For the purpose of analysis a median PCL-R split of 22 was used with 43 patients classified as *'psychopathic'* on this basis	Psychiatric high- security hospital with a Therapeutic Community (TC) ethos to treatment. Treatment length ranged between 15 and 36 months (median 19 months).	Not reported	PCL-R total for dropouts was significantly higher than for completers (p <.05). Factor scores (Factor 1; p =.119 and Factor 2; p=.095) and categorical diagnoses of psychopathy (p =.250) did not differ significantly.
Jeandarme et al., (2017)	221 male and 3 female offenders (sexual and violent)	Full sample PCL-R assessed with 8.9% (n = 20) having a PCL-R score ≥ 30 and 33.5% (n = 75) with a PCL-R score ≥ 25	Three medium-security units. CBT mode of treatment. Mean treatment length of 2 years.	56.9% of high PCL-R (≥ 25) compared to 37.8% for medium PCL-R (16-24) and 17.4 % for low PCL-R (≤ 15)	Significantly higher drop-out rates for medium and high levels of psychopathy cohorts ($p < .001$). PCL-R ($p < .001$), Factor 1 and 2 ($p < .001$), and facets (1 = $p < .01$, 2 = $p < .01$, 3 = $p < .001$ and 4 = $p < .001$) were significantly associated with treatment non-completion. After controlling for offence related and

					clinical variables the PCL-R (p=.003) and Factor 1 (p= .011*)* were predictive of treatment non-completion, whereas Factor 2 and facets scores were not significantly predictive.
Langevin (2006)	778 male sexual offenders	Full sample PCL-R assessed with 9.2% (n =71) having a PCLR ≥ 30	Hospital (community). Variety of sex offender treatment units. Treatment duration not reported.	Not reported	Significantly higher PCL-R scores for those who did not engage in treatment (p > 0.01) and non-completers (p < .001).
Ogloff et al., (1990)	80 male offenders	Within the full sample PCL-R assessed; 21 had a high PCL-R score (≥ 27), 47 a moderate PCL-R score (18-26) and 12 low PCL-R score (≤ 17)	TC (8 months)	Not reported	High PCL-R group remained in treatment for significantly (p <.01) shorter periods of time (103 days) in comparison to the moderate (207 days) and low (241) PCL-R groups.
Olver (2003)	113 male sexual offenders PCL-R assessed (full sample 321)	Within the full sample 28 were assessed as having a PCL-R ≥ 25	Clearwater programme: high-intensity CBT inpatient sex offender treatment (8 months)	27% psychopathic offenders (PCL-R ≥ 25)	Higher proportion of non-completers met the PCL-R criteria (PCL-R ≥ 25) for psychopathy than completers (p <.01). PCL-R total, factor and facets were not significantly related to length of time spent in treatment (p>.05). PCL-R total (p <.01*)* and Factor 1 *(*p<.05) and Factor 2 (p <.05*)* scores were significantly predictive of treatment non-completion.

Olver & Wong (2009)	156 male sexual offenders	Full sample PCL-R assessed with 45 having a score ≥ 25.	Clearwater programme: high-intensity CBT inpatient sex offender treatment (8 months)	27% psychopathic offenders (PCL-R ≥ 25)	Psychopathy designation and dimensional PCL-R total were significant predictors of treatment non-completion ($p < .01$). With a mean follow-up period of 9.9 years, Psychopathic offenders who did not complete treatment showed the highest prevalence of reconviction with a significant group difference with respect to violent recidivism ($p < .05$) but not to sexual recidivism ($p > .05$).
Olver & Wong (2011)	154 male sexual offenders	Full sample PCL-R assessed. PCL-R ≥ 25 was used as a diagnostic cut-off for psychopathy (*n* not reported).	Clearwater programme: high-intensity CBT inpatient sex offender treatment (8 months)	15% with a mean PCL-R score of 24.0 (SD 7.6) compared to 85% (SD 7.2) with a mean PCL-R score of 19.7	Treatment non-completers had significantly higher mean PCL-R (p <.01), Factor 1 (p <.01), and Factor 2 (($p < .05$) scores in comparison to completers. PCL-R ($p<.01$) and VRS-SO dynamic risk factors ($p<.05$) were significantly related to treatment non-completion. PCL-R factors ($p<.05$) made significant independent contribution to predicting dropout, whilst dynamic risk factors did not (p>.05). Univariate correlations showed each facet was significant predictor of dropout, but only affective facet

					(*p<.01)* made significant independent contribution.
Sewall & Olver (2018)	302 male sexual offenders	283 PCL-R assessed. PCL-R cut off ≥ 25 (*n*= 87)	Clearwater programme: high-intensity CBT inpatient sex offender treatment (8 months)	29.9% high-psychopathic offenders (PCL-R ≥ 25) compared to 6% non-psychopathic	High-psychopathy men had significantly higher rates of treatment non-completion in comparison to low-psychopathy men (*p-value not reported*). PCL-R facets were positively correlated with treatment non-completion ($p < .01$). In logistic regression analysis only lifestyle facet uniquely predicted treatment non-completion ($p < .01$). The study observed no group differences (psychopathy and treatment status) in rates of sexual and violent recidivism ($p > .05$).
Shine & Hobson (2000)	104 PCL-R assessed	Full sample PCL-R assessed with 26% (*n*= 25) of the sample having a PCL-R ≥ 30	TC (18 months)	Not reported	PCL-R total ($p < .01$) and Factor 1 ($p < .01$) scores were significantly associated with a failure to progress from AU onto a therapy wing. Trend but non-significant association between PCL-R total and treatment non-completion ($p = .07$).

Among the studies that met the inclusion criteria, four stemmed from one sample of sexual offenders who had completed the same treatment programme (Olver, 2003; Olver & Wong, 2009; Olver & Wong, 2011; Sewall & Olver, 2018) and two studies used overlapping samples from a medium-security psychiatric hospital (Daffern, Duggan, Huband & Thomas, 2008; Daffern et al., 2013). Whilst limiting with regard to a systematic review, the studies were based on distinct research aims and thus evaluated different outcomes. Therefore, it was considered that each study provided valuable evidence, and each study was retained within the review.

Psychopathy and treatment non-completion

Of the 13 included studies, seven reported treatment-specific attrition rates for the sub-group of psychopathic offenders (PCL-R total score ≥ 25) within the sample, these are reported in Table 1. The reported non-completion rates ranged from 30% (Sewall & Olver, 2018) to 56.9% (Jeandarme et al., 2017), with the overall median non-completion rate being 46%. Due to shared samples amongst four of these studies (Olver, 2003; Olver & Wong, 2009, 2011; Sewall & Olver 2018), the attrition rate from the most recent study with an extended sample was used as collective attrition rate of these studies.

Of the included studies, only one was based on a prison sample (high-security). This study found an attrition rate of 45% (Bennett, 2015) within a sample of 92 male offenders, for which the mean PCL-R score varied marginally between treatment non-completers (mean PCL-R = 30) and completers (mean PCL-R =29.5). The remaining studies were derived from medium- and high-security hospital samples, with a median attrition rate of 47% reported. Due to a limited variation in treatment setting and treatment modalities across these studies, a meaningful comparison of attrition rates was not possible.

Six studies reported that psychopathic offenders are significantly more likely to drop out of treatment (Dickie, 2003; Hildebrand & de Ruiter, 2012; Jeandarme et al., 2017; Langevin,

2006; Olver, 2003; Olver & Wong, 2009; 2011), and one further study observed a trend but not a significant difference between PCL-R score levels and treatment non-completion (Shine & Hobson, 2000). Opposing outcomes were reported in studies that explored the relationship between psychopathy and time spent in treatment. In Ogloff, Wong & Greenwood's (1990) study higher PCL-R scores were significantly related to shorter periods of time spent in treatment (TC). Within the study sample, 26% (*n* =21) had a PCL-R score of 27 or greater with a mean treatment length of 103 days, which was significantly shorter than for those with moderate (207 days) and low (241 days) levels of psychopathy. In contrast, Olver (2003) and Dickie (2003) observed no significant relationship within their respective samples.

Psychopathy construct as a predictive factor of treatment non-completion

Whilst the above findings illustrate differences in non-completion rates as a function of psychopathy, this section examines the predictive relationship of the construct of psychopathy with treatment attrition. In the majority of studies, the authors used univariate statistics to identify correlates, although some made use of multivariate techniques such as logistic regression to identify the predictive nature of the psychopathy construct. A consentient finding across the studies was a significant relationship between the PCL-R total, factors and facets with treatment non-completion for psychopathic offenders (e.g. Ogloff et al., 1990; Olver & Wong, 2009; 2011; Sewall & Olver, 2018), nevertheless the predictive significance of the PCL-R construct (factor and facets) yielded less consistent findings.

Four of the included studies were based on a sample of sexual offenders who had received treatment services from the Clearwater Sex Offender Treatment Programme, a cognitive-behavioural, offence-focused intervention. The earliest study (Olver, 2003) comprised a sample of 113 offenders, and observed univariate significant correlations between the PCL-R total and component (factor and facet) scores with treatment non-completion. Furthermore, PCL-R total and factor scores were found to be significantly predictive of treatment non-completion. With the same sample, Olver and Wong (2009) observed psychopathy designation and dimensional PCL-

R total scores as being significant predictors of treatment non-completion. Based on a marginally larger sample (*n*=154), Olver and Wong (2011) found that each PCL-R factor made significant contributions to predicting treatment attrition, albeit neither factor was found to be uniquely predictive. Furthermore, whilst each facet was significantly predictive of drop-out in univariate correlations, only PCL-R Facet 2 (affective) showed a significant unique contribution following the completion of a logistic regression. Sewall and Olver (2018) examined the association between the PCL-R facets with a larger availability sample (*n* =302). All four PCL-R facets had significant positive correlation with binary treatment non-completion, however, developing on Olver and Wong's (2011) findings, a logistic regression analysis found that the lifestyle facet was the only predictive variable for treatment non-completion.

A further study by Jeandarme et al., (2017) replicated significant associations between PCL-R total, factor and facet scores with treatment non-completion in patients (*n*=221) from medium-security hospitals, however, only the PCL-R total and Factor 1 were predictive components of treatment non-completion. In contrast to the aforementioned pattern of results, Bennett (2015) found the PCL-R total not to be predictive of treatment non-completion, with narcissistic personality disorder diagnosis being the only predictive variable within the prison-based sample (*n*=92) of high-risk psychopathic offenders.

Psychopathy, treatment non-completers and outcome (risk and recidivism)

Extending upon the aforementioned findings, this section examines empirical evidence concerning the relationships between psychopathy, treatment non-completion and outcome, more specifically risk and recidivism. Of the included studies, four examined these relationships; only one considered the effect on risk (Olver & Wong, 2011). This study found PLC-R scores to correlate with the Violence Risk Scale – Sexual Offence version or VRS-SO (Wong et al., 2003) dynamic factors. Furthermore, the treatment responsivity factor of the risk scale was found to significantly correlate with the PCL-R Factor 1 and the interpersonal and emotional facets, whilst the VRS-SO Criminality factor was strongly correlated with PCL-R Factor 2. Whilst exploring

the relative contributions of sex offender risk and psychopathy, it was found that each PCL-R factor made a significant contribution to predicting treatment non-completion, while dynamic and static risk did not.

The remaining three studies explored the relationship between psychopathy, treatment non-completion and recidivism. Based on a sample of 28 patients discharged from a psychiatric unit that implemented a therapeutic approach (underpinned by CBT) to treatment, Daffern et al., (2013) reported treatment non-completion and PLC-R Factor 1 as being significant predictors of reoffending. The PCL-R Factor 1 variable had a significant odd ratio of 2.27, suggesting that a one unit increase in PCL-R Factor 1 score doubled the odds of reoffending. Likewise, treatment completion status was a significant predictor with long odds of .013 (inversed), suggesting that participants were more likely to be reconvicted if they did not complete treatment. The PCL-R Factor 2 scores were found to be almost significant within the logistic regression.

Olver and Wong (2009) compared recidivism rates of four groups; non-psychopathic completers (*n*=98), non-psychopathic dropouts (*n*=11), psychopathic completers (*n*=33) and psychopathic dropouts (*n*=12). With a follow-up period of 9.9 years (ranging from 2.1 to 18 years), fifty-one (32.7%) offenders were either charged or convicted of a sexual offence, and 85 (54.5%) of a violent offence. The study observed that the psychopathic dropout group held the highest prevalence of reconviction (50% reconvicted of a sexual offence and 91.7% reconvicted of a violent offence) with a significant group difference with respect to violent recidivism, but not for sexual recidivism.

With a similar comparative study design, Sewall and Olver (2018) examined associations between psychopathy and treatment completion with recidivism (sexual and violent) with a mean follow-up period of 17.9 years. Four groups were compared via indicator contrasts; low PCL-R completers (*n*=197), low PCL-R non-completers (*n*=12), high PCL-R completers (*n*=61) and high PCL-R non-completers (*n*=26). A statistically insignificant difference in rates of sexual

recidivism as a function of psychopathy and treatment completion status was observed, a finding that was consistent with and without controlling for baseline risk as measured by the VRS-SO and Sex Offender Risk Appraisal Guide or SORAG (Quinsey, Harris, Rice & Cormier, 1998). With regard to violent recidivism, low-psychopathy completers and non-completers each had lower rates of violent recidivism, in comparison to the high-psychopathy non-completers. After controlling for risk, only the low psychopathy-completer group had significantly lower rates of violent recidivism than the high psychopathy non-completers, albeit the difference was not significant.

Discussion

The main aim of this systematic review was to synthesise existing literature on treatment for psychopathic offenders to strengthen understanding of treatment non-completion for this high-risk, high-treatment-need offender population. In total, 13 studies met the criteria for inclusion, of which, concerningly, only seven studies reported attrition rates for their sample of psychopathic offenders (four of these studies were based on a shared sample). Though there was some variation in attrition rates, the overall median attrition rate was 46%, comparatively higher than the offender non-completion rates reported in a previous meta-analysis review of offenders (Olver et al., 2011) and in a systematic review of psychotherapy for personality disordered clients (McMurran et al., 2010). However, it is comparable to the dropout rate of 47% identified in a meta-analysis of psychotherapy generally (Wierzbicki & Pekarik, 1993).

Based on the available attrition rates, psychopathic offenders do not appear to be more significantly prone to non-completion than other client groups. However, due to the limited number of included studies that reported attrition rates for psychopathic offenders, a warranted level of caution must be applied to any conclusions. Furthermore, irrespective of comparisons with other offender and client groups, the rate of non-completion for psychopathic offenders can be considered to be substantial, certainly in the studies that observed higher attrition rates

(Bennett, 2015; Dickie, 2003; Jeandarme et al., 2017). This does suggest the potential for wider adverse consequences on service cost-efficiency, therapist morale, and on other clients in group treatment modalities (McMurran, Huband & Overton, 2010). The variations in reported attrition rates for psychopathic offenders from 30% (Sewall & Olver, 2018) to 56.9% (Jeandarme et al., 2017) is also notable, and may be related to the provision and clinical utility of treatment services. More specifically, studies that observed lower attrition rates may provide treatment services with enhanced strategies for attending to responsivity variables, which may help keep psychopathic offenders in treatment. Whilst a plausible hypothesis, in the interpretation of these findings it is prudent not to negate other factors, notably the evident attrition variations across studies that may be underpinned by the heterogeneity of the psychopathic offenders, variable PCL-R cut-off scores applied across studies, and variations in the definition and applied assessment of treatment non-completion.

In further considering the attrition rates, it is important to give attention to the variability between samples (psychopathic and non-psychopathic, or different levels of psychopathy). Sewall and Olver (2018) observed a 29.9% attrition rate for their high psychopathy sample compared to 6% for the low psychopathy sample. Whilst a notable difference, the attrition rates presented are relatively low and compare favourably to dropout rates from sex offender treatment reported in the literature which ranged upward from 30% or 40% (e.g. Browne et al., 1998; Craisatti & Beech, 2001). Furthermore, the reported completion rate (70%) of highly-psychopathic offenders within Sewall and Olver's (2018) study, suggests that the clinically expected high attrition rates for this high-risk, high-need group of psychopathic offenders are not inevitable. This encouraging finding is overshadowed by studies reporting significantly higher attrition rates. For example, Jeandarme et al., (2017) reported a non-completion rate for their sample of psychopathic offenders of 56% (PCL-R $\geq$ 25), which was significantly higher than that for non-psychopathic offenders (17.4%).

The three studies that explored psychopathy and time spent in treatment presented opposing findings. Ogloff et al., (1990) observed that higher PCL-R scores were significantly related to shorter periods of time in treatment (TC). In contrast, Olver (2003) and Dickie (2003) observed no significant relationship among samples from sex offender treatment, suggesting that PCL-R scores are not inversely related to length of time spent in treatment, giving some support to the view that psychopathic offenders are not necessarily doomed to leave treatment early. The variability in findings may be caused by a range of factors, including the treatment model and approach (TC approach to treatment versus sex offender treatment) and thus the level of responsiveness of psychopathic offenders. Indeed, Ogloff et al., (1990) acknowledge that the TC model applied within their study may have been overly intrusive (constructive confrontation of psychopath's attitudes and behaviour by fellow peers and staff) thus contributing to their early termination of treatment. This tentative conclusion warrants further examination to explore specific reasons for treatment non-completion by psychopathic offenders and thereby enhance clinicians' ability to retain psychopathic offenders in treatment.

Psychopathy as predictive factor of treatment non-completion

A mostly consistent finding across the studies was a significant association between psychopathy and treatment non-completion (e.g. Jeandarme et al., 2017; Olver & Wong, 2011; Sewall & Olver, 2018), providing tentative evidence of a central relationship between PCL-R scores and treatment attrition. Daffern et al., (2008) presented opposing findings, whereby PCL-R total and Factor 1 and 2 scores showed no significant associations with treatment completion status. In interpreting these findings, it is important to consider the apparent limitations of the study, notably that the findings may be a consequence of a small and under-represented sub-sample of psychopathic offenders, potentially reducing the strength and clinical applicability of findings to psychopathic offenders.

In relation to the predictive significance of the psychopathy construct, the included studies present inconclusive findings. Three of the studies explicitly explored the predictive

relationship between the PCL-R total and treatment non-completion, with two studies (Jeandarme et al., 2017; Olver & Wong, 2009) observing a significant predictive relationship between PCL-R total and attrition. Nevertheless, one prison-based study included within this review yielded a contrasting finding (Bennett, 2015). This finding may suggest a variation that highlights the primacy of psychopathy to treatment non-completion within treatment settings (prison-based versus hospital setting samples), a finding that warrants further empirical exploration. However, it is more probable that the opposing finding may best be explained by the evaluated sample's psychopathy levels being too uniform across treatment non-completers (mean PCL-R score = 30) and completers (mean PCL-R score = 29.5) to allow for meaningful differences to be detected, rather than by concluding that psychopathy is unrelated to treatment non-completion.

Whilst not diminishing the clinical bearing of the PCL-R and its relevance to treatment non-completion, it is important to acknowledge that the PCL-R total score represents a broad range of challenging personality disorder traits. Furthermore, it is pertinent that the PCL-R is a multifaceted as opposed to a unitary construct (Hicks & Patrick, 2006). It is reasonable to infer that evaluating the PCL-R total score as a global representation of the construct of psychopathy provides restricted insight into the relationship between psychopathy and treatment non-completion. Thus, it is plausible that the separate components (factors and facets) of the PCL-R can reveal more about differences in behaviour. It is notable that across the included studies there is evidence in support of PCL-R factors being important contributors to treatment non-completion, with each factor (Factor 1 e.g. lack of remorse, callousness/lack of empathy, shallow affect, pathological lying and manipulative behaviour, and Factor 2 e.g. impulsivity, irresponsibility, proneness to boredom, poor behavioural controls) retaining strong relationships with programme attrition (Jeandarme et al., 2017; Olver, 2003; Olver & Wong, 2011). This provides support for the argument that treatment for psychopathic offenders should focus on PCL-R factors and their respective traits. More specifically, treatment should be attentive to the criminogenic traits of Factor 2, while also carefully accounting for PCL-R Factor 1 characteristics, to keep offenders in treatment (Wong & Olver, 2015). This is in line with the

RNR model (Andrews et al., 1990) that acknowledges psychopathy as a specific responsivity factor.

In relation to the PCL-R facets, the affective facet (e.g. shallow affect, callousness/lack of empathy and failure to accept responsibility) of Factor 1 has garnered a level of support as being a strong, unique predictor of treatment drop-out in comparison to the remaining facets (Olver, 2003; Olver & Wong, 2011). However, the aforementioned studies were based on a shared sample, thus the observed similar outcomes across these studies is unsurprising. This emphasises the paucity of research on the relevance of psychopathy to treatment non-completion. Nevertheless, the predictive relevance of the affective facet makes clinical sense, as it reflects the relationship between the core features of psychopathy that have been associated with difficulties with treatment engagement. Indeed, features of psychopathy such as lack of emotion and empathy, callousness and aloof mannerisms, have been advocated as responsivity issues that may impede upon the development of meaningful affective relationships with therapists (Won & Hare, 2005). In addition, the affective and empathy deficits, which are core to this facet, may relate to a lack of emotion-based motivation to change and may hinder engagement with emotion-based components of treatment, restricting the development of insight, or the capacity or willingness to internalise the value of treatment. This may, in turn, contribute to a perception of disengagement by treatment providers and/or the client maintaining a level of internal resistance that results in their disengagement or removal from treatment (Olver & Wong, 2011; Thornton & Blud, 2007; Wong & Hare, 2005).

In addition to the aforementioned, Sewall and Olver (2018) found that the PCL-R lifestyle facet (e.g. proneness to boredom, lack of long-term goals, impulsivity and irresponsibility) was the only factor to bear a significant predictive association with treatment non-completion, again a finding that is unique to this study and that has not been replicated. This distinct finding may be related to the increased sample size used within this study in comparison to that of Olver and Wong's (2011), which observed the lifestyle facet not to be a predictive factor

of dropout. The finding may suggest that the lifestyle facet also has responsivity implications. For example, Sewall and Olver (2018) suggest that the poor therapeutic work ethic that is associated with this facet can contribute to the decline in attendance and engagement in treatment. Further, it is clinically important to acknowledge that the lifestyle facet may manifest in treatment-interfering behaviour, particularly deficits in sustaining engagement and following through with treatment goals. This maybe demonstrated during treatment by behaviours such as boredom, failing to complete homework, missing treatment sessions, and an increased likelihood of treatment withdrawal (Thornton & Blud, 2007).

In contrast to the aforementioned, Jeandarme et al., (2017) found that only the PCL-R total and Factor 1, but none of the facets, were predictive of treatment non-completion. Whilst not seeking to diminish the value of these findings, it is important to acknowledge in the interpretation of the outcomes that the authors report a low PCL-R assessment inter-rate reliability, thus questioning the reliability of the PCL-R assessment outcomes and the impact this may have had on the outcome.

There is a clear gap in the literature on the relationship between psychopathy and treatment non-completion, a notable observation given the developed view amongst researchers and clinicians relating psychopathic offenders with exceptionally high attrition rates. The evidence, whilst contradictory, does suggest a relationship between the construct of psychopathy and treatment non-completion. The evidence therefore reiterates the clinical importance of treatment being designed and delivered to meet the unique individual needs of psychopathic offenders, so as to enhance their on-going engagement (Andrews & Bonta, 2003; 2010). Whilst it would also yield important clinical insight into the relationship between psychopathy and treatment completion, further empirical exploration is needed to support clinical practice.

Psychopathy, treatment non-completers and outcome (risk and recidivism)

In an exploration of psychopathy, sex offender risk and treatment non-completion, Olver and Wong (2011) concluded that the construct of psychopathy is a better predictor of treatment completion than dynamic risk need (higher risk for sexual offending per se). Whilst an important clinical finding, it is a conclusion with fairly weak support due to a lack of replicated findings and the current ambiguous findings relating to the predictive relevance of the psychopathy construct to treatment non-completion.

With regard to recidivism, there is evidence in support of treatment non-completion increasing the risk of violent recidivism for psychopathic offenders (Daffern et al., 2013; Olver & Wong, 2009). This finding is consistent with evidence previously reported for non-psychopathic offenders (Day et al., 2010; McMurran & Theodosi, 2007). However, Sewall & Olver (2018) presented opposing findings (using an extended sample from Olver & Wong, 2009), showing no significant differences between high-psychopathic completers and non-completers with regard to recidivism rates (including violent recidivism). The authors suggest that the expanded sample and extended follow-up period from the previous evaluation (Olver & Wong, 2009) may have resulted in this finding.

In addition, both Olver and Wong (2009) and Sewall & Olver (2018) found that the treatment completion status of high-psychopathic offenders did not differentiate post-treatment sexual recidivism rates. Overall, the findings may imply that treatment completion status has a limited impact on recidivism, and more specifically, that completing treatment does not guarantee meaningful risk change for highly-psychopathic offenders. However, whilst a possible hypothesis, further findings presented by Olver and Wong (2009) and Sewall & Olver (2018) cast a level of doubt over this conclusion. Both studies establish that by omitting treatment completion status, risk change becomes a unique predictor of both sexual and violent recidivism. Olver and Wong (2009) observed that psychopathic offenders who demonstrated positive risk change (irrespective of treatment completion status) as a result of treatment were less likely to be

involved in both sexual and violent recidivism. In addition, Sewall and Olver (2018) reported that high-psychopathic and low-psychopathic offenders did not significantly differ in risk change scores, indicating that psychopathic offenders did not necessarily benefit less from treatment.

To further interpret the aforementioned findings, it is important to consider the shortcomings of treatment completion status as meaningful predictor of recidivism. Notably, applying such an approach in isolation inevitably infers at some level that all treatment completers benefit equally with regard to risk reduction, and to some extent that treatment non-completers gain restricted benefit, a concept that is not clinically supported. Thus it is prudent to suggest that treatment completion status in isolation is a fallacious method and a weak proxy of risk of recidivism, raising a level of doubt over the reliability exploring this relationship. Clinically, it appears reasonable to suggest that risk change as a result of treatment (irrespective of treatment completion status) has more value in terms of appraising the risk of recidivism. Thus, whilst there may be some value in future research exploring psychopathy, treatment completion status and recidivism, such research is unlikely to yield robust and meaningful insight. It would perhaps be more useful therefore, for enhancing clinical understanding and practice, to focus future research efforts on exploring a wider range of factors that may contribute to treatment non-completion for psychopaths.

Critique of reviewed studies

As identified in the quality assessment, there are limitations in the studies reported that need to be considered whilst interpreting the results. All included studies were conducted on relatively small samples of psychopathic offenders meeting the diagnostic cut-off, with a reported range between 21 (Ogloff et al., 1990) and 87 (Sewall & Olver, 2018). This suggests that the analysis in the included studies may not have been adequately powered, reducing confidence in the results. In addition, the majority of studies did not provide sufficient data for the calculation of effect sizes, and so the clinical significance of the findings is unclear. These limitations may in part explain some of the contradictory findings observed across the studies, although the variations

could equally be related to the heterogeneity of the psychopathic offenders, or the location and type of treatment.

It was notable that some studies did not offer a clear definition for their applied assessment of treatment non-completion (Jeandarme et al., 2017; Langevin, 2006; Ogloff et al., 1990; Shine & Hobson, 2000) and that within the remaining studies the operational definition applied was variable, ranging from not completing all sessions or not completing the full duration of treatment to premature withdrawal or termination from treatment. Furthermore, non-completion was persistently recorded in a singular manner (e.g. client-initiated versus programme-initiated) with limited exploration of different reasons for treatment attrition. The lack of a consistent definition across studies and the fact that a wider range of contributory factors to treatment non-completion was not explored affects the robustness of findings and restricts the potential for further clinical insight. This limitation in particular has been identified in previous reviews regarding treatment attrition, and thus is reflective of a fundamental limitation of the treatment efficacy literature as a whole (Larochelle et al., 2011; McMurran et al., 2010; Olver et al., 2011).

A proportion of the studies included in the review did not report attrition rates for their sub-group of psychopathic offenders. Whilst, in part, this may relate to the integral aims of the study, for instance an exploration of treatment length rather than an explicit exploration of treatment non-completion, the omission of attrition rates (Daffern et al., 2008; 2013; Hildebrand & de Ruiter, 2012; Langevin, 2006; Shine & Hobson, 2006) may imply a source of bias and may suggest that attrition rates for psychopathic offenders are more variable than have been reported.

The applied PCL-R cut-off score for diagnoses of psychopathy or classification as having a 'high' level of psychopathic traits varied across the studies, ranging between 22 to 27 (e.g. Hildebrand & de Ruiter, 2012; Ogloff et al., 1990) and 30 (Jeandarme et al., 2017; Langevin, 2006; Shine & Hobson, 2000). Furthermore, while Daffern et al., (2008; 2013) reported a sample PCL-R mean score of 18 with a score range of 6 to 30 across both studies (and thus it could be

implied that a sample will have met the PCL-R diagnostic cut-off) the exact number of psychopathic offenders is not reported. In addition, several of the studies either do not report the applied PCL-R assessment procedure or completed file-based PCL-R assessment. Whilst there is a lack of research in which standard assessment (semi-structured and file-based assessment) and file reviews are directly compared, researchers have found that a file-based PCL-R cut-off score of 25 provides an optimal predictor of a standard PCL-R score of 30 (Hare, 2003). Nevertheless, considerable caution may need to be taken when basing PCL-R ratings on file information alone as there is a potential to lose important information relating to the client's interpersonal 'style', thus possibly contributing to lower PCL-R scores (Guay et al., 2007; Serin, 1992). Thus, it is plausible that the variation in the completion of the PCL-R assessments and applied PCL-R cut-offs may have contributed to imprecise (under- or over-scored) diagnoses of psychopathy or assessments of psychopathic traits, potentially contributing to the mixed findings.

It is also worth noting that some of the included studies did not specify who carried out the PCL-R assessment or just stated that it was conducted by an independent reviewer (Dickie, 2003; Langevin, 2006; Ogloff et al., 1990). Other studies explicitly reported varying professionals, for example forensic psychiatrists, researchers and assessors with master's or medical degrees. For the reliability of completed PCL-R assessments it is important that professionals are adequately trained (Hare, 2003). The omission of details pertaining to the PCL-R and IRR procedures within some of the reviewed papers does raise concerns about the clinical accuracy of the PCL-R assessments completed.

Although concealing participants' assessment outcomes was unnecessary in the studies as results of the designs employed, blinding treatment providers to PCL-R assessment scores could have improved study quality by reducing another potential source of bias. Only one study (Ogloff et al., 1990) blinded treatment providers to the PCL-R score whilst also ensuring that researchers did not participate in admission or discharge decisions. Furthermore, the collective

studies relating to the Clearwater sex offender treatment programme evaluation (Olver, 2003; Olver & Wong, 2009; 2011; Sewall & Olver, 2018) reported that PCL-R assessors (primary researchers) were blind to recidivism status.

Finally, a bias towards male offenders is apparent in the studies, with only one study including a sample of female offenders, albeit a small one (*n*=3) (Jeandarme et al., 2017). This is reflective of the disparity in gender amongst offenders (Prison Reform Trust, 2017) and indeed is in line with paucity of empirical studies relating to female psychopathy and offenders. Nevertheless, it is important to highlight that findings from research that has predominantly focused on male offenders cannot be generalised to female offenders, thus associations between psychopathy and treatment non-completion cannot be assumed. On the basis that female detention rates are increasing (Prison Reform Trust, 2017), ensuring that sufficient clinical understanding exists regarding treatment efficacy and retention is vital in preventing recidivism. This emphasises the urgent need for further research focusing on female populations.

Limitations of the review

It must be acknowledged that a critical feature of any systematic review is the completeness and representativeness of the studies that are captured (Lipsey & Wilson, 2001). Whilst extensive efforts were made to include as many appropriate studies (published and unpublished) as possible through the search strategy to reduce the potential of research bias (Hopwell, McDonald, Clarke & Egger, 2008), some limitations must be acknowledged. The search was limited to English language papers, and additional studies that could have garnered further evidence to aid interpretations may have been missed. Furthermore, despite sourcing attempts, relatively few studies came from unpublished 'grey' literature, and thus it is possible that they are underrepresented. In addition, whilst attempts were made to contact authors for clarity and missing information, this was not consistently received and due to time limits further attempts to source needed evidence were not possible.

After data collection and analysis of the included studies, it was highlighted by a professional with clinical and research experience within the field that the search terms ‘parolee’ and ‘criminal’ may have been appropriate additions to the search strategy that may have yielded further key papers. A search of relevant journals using the additional search terms produced no further papers. Any future review of this type should give consideration to various terms used to describe offenders and the types of studies that each term might identify.

As the overarching aim of the current review was to explore PCL psychopathy in the context of treatment non-completion, empirical studies that did not employ the PCL-R tool as their clinical assessment of psychopathy were excluded. Whilst this method provided a level of control over possible extraneous variables that may have impacted upon outcome, it is important to acknowledge the limitations imposed by this exclusion criterion. Notably, excluding studies on this basis inevitably restricted the number of empirical studies and thus limited evidence that could have been included within the review. Replicating this systematic review, but including other empirically supported psychopathy assessments, may be of benefit to further clinical understanding into the relationship between psychopathy, treatment non-completion and outcome.

Practical implications and recommendations for future research

The review makes a unique contribution by synthesising existing literature on treatment non-completion among psychopathic offenders. The scarcity of studies in this area and the largely inconclusive findings presented herein, have restricted the development of definite interpretations and thus few practice implications can be defined robustly.

The limited number of studies reporting non-completion rates for psychopathic offenders prevented a comparative evaluation of treatment modalities and settings from being made. It also

limited the possibility of developing concrete conclusions regarding the prevalence of treatment attrition among psychopathic offenders. The relatively high number of studies included within this review that did not report attrition rates is of notable concern and may suggest that attrition amongst psychopathic offenders is more variable than is understood. Nevertheless, based on the available evidence, it is prudent to acknowledge that whilst psychopathic offenders do appear to be more prone to treatment non-completion compared to other offender and client groups, the tendency is not significantly higher and is, to some extent, comparable. On this basis, it is arguable that psychopathic offenders can be effectively managed and retained in treatment that is designed to accommodate their responsivity needs. Clinicians should therefore avoid undue pessimism when forming expectations about treatment adherence by members of this group.

There is evidence in support of psychopathy being a contributing factor to treatment non-completion. Whilst research has explored the construct of psychopathy in relation to attrition, the findings remain inconclusive. There is, however, clinical utility in the pattern of findings presented, for example, as regards the need for treatment to be attentive to PCL-R traits (Wong & Olver, 2015) in keeping with the RNR model (Andrews & Bonta, 2003; 2010; Andrews et al., 1990) that acknowledges psychopathy as a specific responsivity factor. Taking into account that psychopathic offenders are now clinically accepted as a heterogeneous group of offenders, an exploration of the relationship between PCL-R traits and treatment non-completion could yield more meaningful insight.

In light of the paucity of studies in this area and the somewhat inconclusive evidence, it is imprudent to draw inferences on the relationship between psychopathy, treatment completion and recidivism. Whilst two studies (Daffern et al., 2013; Olver & Wong, 2009) presented evidence of treatment non-completion being related to greater risk on release for violent recidivism (in comparison to psychopathic offenders who completed treatment), this finding was not replicated (Sewall & Olver, 2017). Furthermore, it is evident that treatment completion status is unrelated to sexual recidivism for psychopathic offenders (Olver & Wong, 2009; Sewall &

Olver, 2017). Whilst this may imply that highly-psychopathic offenders completing treatment did not significantly lower their risk of sexual recidivism compared to those who failed to successfully complete treatment, it is important to explore the robustness of treatment completion status as a measure of treatment effectiveness. Indeed, it is evident that risk change is a valuable indicator of recidivism for psychopathic offenders (Olver & Wong, 2009; Sewall & Olver, 2017). This observation emphasises the clinical value of individually assessing risk, rather than simply concluding that treatment non-completion is an isolated factor that increases risk for psychopathic offenders.

The lack of literature and conclusive findings in this area highlights the clinical importance of further robust treatment outcome studies for this high-risk, high-need offender population. Whilst it has already been previously reported (McMurran et al., 2010; Olver et al., 2011), it is worth reiterating that treatment outcome studies should incorporate details pertaining to the programme, as well as completion and attrition rates, while exploring a wider range of factors that could interact with the treatment-dropout continuum. There is an evident need for this field to evolve, and for a more comprehensive approach to be taken to the study of factors that affect the completion status of this unique offender population. These factors should include not only traits associated with psychopathy, but also external factors and client views about their treatment. Others have suggested (McMurran et al., 2010), and we concur, that further research is needed that incorporates the examination of additional variables and treatment responses, individual analysis to ascertain engagement throughout the course of treatment (Blatt, Besser & Ford, 2007; Vermote et al., 2009) and study of the effects of the therapeutic climate (Howells et al., 2009). Such needed clinical insight could provide meaningful evidence to aid understanding of the treatment engagement process and other factors related to treatment non-completion, support programme development and assist with retaining this high-risk, high-need and high-responsivity offenders in treatment. Furthermore, due to the evident paucity of published studies relating to custodial settings, and female psychopathic offenders, further research into these areas would help strengthen clinical insight.

This review makes a unique contribution to the clinical understanding of treatment attrition among psychopathic offenders. Synthesising the available evidence has helped identify ambiguities in understanding as well as important clinical issues pertaining to the treatment of psychopathic offenders. Evidence in this area is limited and future research efforts need to be directed carefully so that they employ suitable methodologies, have wider research aims and provide further transparency to avoid potential research bias. Further research of this sort could have implications for front-line practice, and could provide further clinical insight to support the design and delivery of treatments in ways that could maximise retention among this high-risk, high-treatment-need group of offenders.

Chapter Three: The Effectiveness of the Chromis Programme for High-risk Psychopathic Offenders

Abstract

There remains a level of uncertainty over whether treatment attempts reduce risk for psychopathic offenders, which is concerning given the high-risk nature of this population. This study investigated the effectiveness of a violence treatment programme (Chromis), implemented within a high-security personality disorder treatment service. A high attrition rate (44%) was evident within the availability sample of 120 offenders who had engaged in treatment, with PCL-R total (and factor) scores not being significantly associated with treatment non-completion. Self-reported measures administered at five set points across treatment were employed to evaluate changes in self-reported anger, impulsivity, problem solving, locus of control and maladaptive schemas within a sample of moderate- (n = 20) and high- (n = 21) scoring psychopathic offenders as measured by the PCL-R (treatment completers sample) (n = 41). Group- and individual-level analysis showed treatment gains across the evaluated outcomes, however, this was not moderated by psychopathy level (moderate or high). Repeated-measures analysis revealed significant improvement in anger, impulse control, problem solving and locus of control after treatment, with significant change attributed to the Cognitive Skills component of the Chromis programme. Significant improvements in eight maladaptive schemas were attributed to treatment in its entirety. Individual-level analysis showed a large sample falling within the reliable change category. Unreliable change was the least common across the studies' outcomes. The study findings add to the research around treatability of psychopathic offenders, and contrary to clinical lore, demonstrate that certain aspects of treatment can deliver a positive outcome with respect to risk-related treatment need areas for psychopathic offenders at moderate and high PCL-R levels. Limitations and implications for practice are discussed.

Introduction

There has been a long-standing debate over whether treatment attempts reduce risk for psychopathic offenders. Indeed, reviews of treatment effectiveness for this unique group of offenders have offered rather discrepant interpretations (D'Silva et al., 2004; Harris & Rice, 2006; Reidy et al., 2013; Salekin, 2002; Salekin et al., 2010) but consistently present a view that the effectiveness of treatment for psychopathic offenders has received limited rigorous study. Whilst more recent empirical studies remain hindered by inherent methodological weaknesses, in light of significant advances in designing psychopathy treatment (e.g., Wong & Hare, 2005), positive outcomes with regard to addressing risk among psychopathic offenders have been observed (e.g., Olver et al., 2013; Olver & Wong, 2009; Tock et al., 2018; Wong & Gordon, 2006; Wong et al., 2012). However, there is still a need to strengthen empirical outcomes to enhance clinical understanding of the psychological process of treatment (McGuire, 2008), and the effect of treatment on attributes directly associated with violent behaviour, namely dynamic risk factors (Dodge & Pettit, 2003).

When considering studies on the effectiveness of treatment, it is important to acknowledge the clinical complexity of treating this unique offender population (Hemphill & Hart, 2002; Ogloff et al., 1990). Indeed, empirical studies have reported high rates of attrition related to this high-risk group of offenders (DeSorcy et al., 2016; Hobson et al., 2000; Ogloff et al., 1990), with the systematic review within this thesis (Johnson, Heym & Hamilton, 2019) reporting a median non-completion rate of 46% for psychopathic offenders and exploratory evidence in support of an association between psychopathy and treatment non-completion. Despite this understanding, there is still a need to further understand the relationship between psychopathy and treatment non-completion in order to enhance treatment engagement and effectiveness.

Risk-related treatment needs for psychopathic offenders and treatment effectiveness

Empirical evidence has substantiated an association between psychopathy and aggression (Flight & Forth, 2007; Reidy, Zeichner, Miller & Martinez, 2007), and has demonstrated psychopathic offenders' propensity for instrumental and impulsive, reactive violence caused by complex motivational patterns within their personalities (Blair, 2010; Harenski & Kiehl, 2010; Walsh, Swogger & Kosson, 2009; Woodworth & Porter, 2002) and a confluence of dynamic risk factors, including congenital emotion dysfunction, ineffective coping, impulsivity, antisocial beliefs and problems relating to locus of control (Blair, 2006; Douglas, Yeomans & Boer, 2005; Hart & Dempster, 1997; Herba et al., 2007; Simourd & Hoge, 2000; Wong & Gordon, 2006). Furthermore, whilst empirical research into the prevalence of maladaptive schemas in psychopathic offenders is somewhat scant, there is a developing theoretical understanding that antisocial and psychopathic offenders commonly make use of schema modes that involve over-compensatory coping styles, contributing to their aggressive and antisocial behaviour (Ball & Cecero, 2001; Bernstein, Arntz & de Vos, 2007; Tremblay & Dozois, 2009).

Thus, there is a confluence of dynamic risk factors that reflect core deficits of psychopaths and are identified empirically as factors that contribute to psychopaths' violent offending and recidivism. It is theorised that dynamic risk factors, or 'treatment need areas' as they are commonly referred to within the literature, can be changed, resulting in a decrease in recidivism (Bonta, Law & Hanson, 1998; Howells, 2004; Monahan & Appelbaum, 2000; Olver et al., 2013; Wilson, Desmarais, Nicholls, Hart & Brink, 2013). There may, therefore, be support for the accepted clinical understanding that effective treatment to reduce recidivism requires targeting appropriate risk-related treatment need areas in offenders (Andrews & Bonta, 2003; 2010). When considering this, it is also pertinent to consider evidence that supports treatment for psychopathic offenders focusing on modifying underlying treatment need areas, such as antisocial attitudes, cognition, behaviour and aspects of lifestyle related to the Factor 2 features of the PCL-R (Olver et al., 2013; Wong & Hare, 2005).

Empirical studies that have evaluated change in risk-related treatment need areas of psychopathic offenders have had inconclusive outcomes; however, there is prominent evidence demonstrating that psychopathic offenders are amenable to treatment across an array of risk-relevant attributes, including anger and emotion control, impulsivity, problem solving and maladaptive schemas (Bowes & Johnson, 2016; Chakhssi et al., 2014; Chakhssi et al.,, 2010; Mullan et al.; 2017; Tew et al., 2012; Van den Broek et al., 2011; Young et al., 2013[8]). Nevertheless, there is also opposing evidence (Doyle et al., 2015; Draycott et al., 2012; Hildebrand and de Ruiter, 2012) that raises doubt regarding the effectiveness of treatment in addressing risk-related treatment need areas for this high-risk group of offenders.

It has also been evidenced within wider empirical studies that high-scoring psychopathic offenders make less treatment progress or improvement compared to non-psychopathic and moderately scoring psychopathic offenders (Hughes et al., 1997; Ogloff et al., 1990; Olver, Lewis and Wong, 2013). Nevertheless, there are some contrasting findings (Bowes & Johnson, 2016; Chakhssi et al., 2010; Hildebrand & de Ruiter, 2012; Tock et al., 2018) where PCL-R score level did not moderate the effect of treatment. In this regard, it is pertinent to acknowledge the current clinical understanding that psychopathic offenders are not a homogeneous group of offenders (Brinkley et al., 2004): this population differs greatly in terms of presentation, needs and difficulties (Bebbington et al., 2017; Hart & Hare, 1989, Hildebrand & de Ruiter, 2004; Hilege, Das & de Ruiter, 2010). On this basis, it is difficult to conceive of psychopathic offenders as a single treatment group, giving strength to the notion that individuals with different combinations of classifying traits and behavioural features may benefit from varying treatment approaches (Thornton & Bliud, 2007) or respond differently to treatment (Chakhssi et al., 2010; Looman, Abracen, Serin & Marquis, 2005). Therefore, it appears important to highlight that group-level analysis of psychopaths' response to treatment is of little clinical interest and does not reflect the differential development of individuals during treatment. There is a need for more individual-

[8] Referenced studies have been discussed in detail in Chapter 1.

focused analyses to investigate patterns of change and possible differential outcomes within samples of psychopathic offenders.

In overview, whilst there is now a developing evidence base in support of the effectiveness of treatment for psychopathic offenders, the literature on treating psychopaths is still unable to supply firm conclusions about the efficacy of treatment due to the paucity of methodologically sound empirical research and the presence of contradictory evidence. Thus, it is important to understand the treatment of psychopathic offenders and replicate findings in order to strengthen conclusions and to support clinical practice. The present study aimed to contribute further empirical evidence by evaluating the effectiveness of a purposefully designed treatment programme (Chromis programme delivered at the Westgate Personality Disorder Treatment Service (PDTS)) in the United Kingdom for addressing violence-related risk for psychopathic offenders.

The Westgate PDTS and the Chromis programme

The Westgate PDTS is part of the Offender Personality Disorder Pathway (Joseph & Benefield, 2012), and provides a therapeutic environment facilitated by a multi-disciplinary team. Treatment is supported by a structured and varied regime delivered within an ethos based on the 'Good Lives Model' (Ward & Brown, 2004), and on 'Conditions of Success' and 'Strategy of Choices'. The PDTS treatment framework is based on the Risk Need Responsivity model (Andrews & Bonta, 2003; 2010), incorporating multimodal skills-based, cognitive behavioural methods. Criteria for admission to the PDTS, include motivation and commitment to engage, and offenders:

- posing a high risk of re-offending;
- having been diagnosed with complex personality disorder (which can include psychopathy); and

- having a functional link between their personality disorder diagnoses and their offending.

The service delivers a range of treatment and services, of which the Chromis programme is one part. The Chromis programme draws on best practice in addressing offending behaviour; including the 'what works' literature (McGuire, 1995), the 'good lives' approach (Ward & Brown, 2004), and risk, need and responsivity principles (Andrews & Bonta, 2003; 2010). The programme aims to reduce violent tendencies in high-risk offenders whose level or combination of psychopathic traits disrupts their ability to engage in standard, prison-based treatment. The Chromis programme combines the identification, reduction and management of risk to others with an emphasis on developing new, fulfilling ways of living prosocially. The programme was accredited by the Correctional Services Accreditation Panel (now known as the Correctional Services Accreditation and Advice Panel) in 2005.

The Chromis programme consists of three phases of treatment, each with integral treatment aims: *Motivation and Engagement (ME), Cognitive Skills (CS)* and *Enabling Change (EC).*

The *ME component* consists of 11 treatment sessions delivered over a period of approximately five weeks. It aims to support the engagement of prisoners in Chromis treatment and in the wider treatment services of the Westgate unit. The component is delivered on an individual basis to motivate offenders to choose to constructively engage in treatment, reinforce self-choice and self-responsibility, enable offenders to understand their own strengths and needs, enhance constructive, open and respectful involvement and introduce the 'good life' approach.

The *CS component* is delivered over a period of approximately nine months and comprises three phases of treatment that promote creative thinking, problem solving and handling conflict. The overarching aims of this phase of treatment are to support offenders in developing their thought processes, developing risk-management strategies to manage interpersonal conflict, and

developing and attaining personally meaningful goals without the use of aggression. The creative thinking phase (27 treatment sessions) introduces participants to skills for making sense of and solving problems, attaining goals and limiting boredom. The problem-solving phase (25 treatment sessions) aims to develop critical reasoning and problem definition and resolution. The handling conflict phase (42 treatment sessions) explores ways of making sense of, avoiding and resolving interpersonal conflict. Overall, the CS component aims to address treatment needs related to anger, impulse control, problem solving and locus of control.

The *EC component* is the final component of the Chromis programme. This component is delivered over approximately five months and aims to support prisoners to develop more adaptive core beliefs so as to reduce maladaptive behaviours and to enhance underdeveloped, more functional behavioural strategies. The component is delivered in three phases. Phase one (delivered individually over 15–20 sessions) identifies unhelpful thinking patterns and core beliefs held by the offender via a case formulation approach. This formulation informs phase two of the EC component (delivered in a group setting over 45 treatment sessions) where behavioural experiments are designed and implemented to test the validity of unhelpful beliefs as well as newly constructed beliefs. Phase three (delivered over six treatment sessions) aims to prepare the offender for progression by consolidating learnt skills and encouraging ongoing risk management.

The Chromis programme is delivered responsively based on individual need and progress, with gaps between components to allow for consolidation of learning or for offenders to engage with other services delivered by the PDTS unit. The programme is delivered across an offender's engagement with the PDTS with the final component of Chromis (Enabling Change) being the offender's final phase of treatment. The average length of time offenders spend in the PDTS unit (assessment and treatment) is variable, with an average completion time of approximately six years.

The Chromis programme was developed alongside other aspects of the Westgate PDTS, ensuring they were complimented within the finalised treatment framework, and whilst the Chromis programme from its commencement in 2004 till 2017 has remained unchanged[9], the Westgate PDTS has encountered a number of changes to its service delivery. Whilst the clinical influence of these changes to the delivery of the Chromis programme are uncertain, they are worthy of consideration (Bennett, 2015). Following the introduction of the Offender PD Pathway (Joseph & Benefield, 2012) part of the Westgate Unit was re-rolled into a category A Psychologically informed Planned Environment (PIPE) in 2012, thus, reducing the Westgate's Service's capacity from 80 to 65. In addition, a change in admission criteria[10] at this time contributed to a varied population within the unit (Bennett, 2015). In order to accommodate the complex needs of the population, the Westgate PDTS have developed and delivered other treatment programmes, albeit with varied treatment aims than the Chromis programme. It is also pertinent that given the recession influence on government funding cuts within the Prison Service in England and Wales, a number of changes have impacted upon staff structure and levels at the Westgate PDTS. Whilst the impact of these changes have not been evaluated, it is reasonable to suggest that reduced staffing within the unit may have had a negative influence on the therapeutic regime of the unit.

To date, there have been few evaluations of the Chromis programme (Tew et al., 2012; Tew, Bennett & Dixon, 2015). The most prominent was a multiple case study (five offenders) that observed significant improvements in all five subjects' experiences of anger as measured by the Novaco Anger Scales and Provocation Inventory (NAS-PI) (Novaco, 1999). Across all cases, clinicians observed a reduction in physical incidents, with the exception of one offender who had a peak in physical aggression mid-treatment. Verbal aggression reduced in general, but four of

[9] The Chromis programme is a manualised offence focused intervention that encourages for consistency in delivery by a variety of professionals. Whilst treatment delivery is clinically audited, consistency of treatment delivery cannot be guaranteed owing to potential variations that could influence treatment effectiveness and outcome.

[10] The admission criteria changed from having a PCL-R score of above 30 and one personality disorder diagnoses to the presence of a complex personality disorder evidenced by either a PCL-R score of 30 and above; a PCL-R score of between 25 and 29 combined with at least one personality disorder other than anti-social personality disorder; or two or more personality disorder diagnoses.

the offenders displayed significantly more acts of verbal aggression than expected during treatment, and all five offenders performed more acts after leaving the PDTS. Whilst acknowledging the valuable insight from the study's findings, it is crucial to recognise that the evidence presented provides a narrow analysis based on a small, selective sample. Thus, at best, the study's findings can only provide cautious optimism for the effectiveness of Chromis, and further research is warranted to strengthen clinical insight and to inform ongoing delivery and development of this specialist intervention.

The present study

The present study examined treatment need changes in a sample of male psychopathic offenders who had engaged with PDTS in a high-security prison (Westgate Unit, HMP Frankland), and who, during this engagement, had completed violence intervention (Chromis) for high-risk, high-need adult male psychopathic offenders. To enhance the empirical evidence presented in the current systematic review of this thesis, the first aim of this study was to explore the differences and associations between psychopathy and treatment completion status within the sample.

With regard to the evaluation of treatment need change, the present study utilised a large psychometric data set generated as part of the clinical research strategy at the Westgate PDTS. This data had been collated primarily to assess changes in treatment needs within the Chromis programme. The research approach took into account that in the clinical application of psychometric scales, there are ethical considerations regarding the selection of psychometric tests, their reliability and validity, and their use within offender treatment. The psychometric properties of the majority of the applied scales that formed the psychometric battery used by the Westgate PDTS had not been evaluated in the context of psychopathic offenders within the wider literature. Thus it could not be assumed that the measures would allow for a valid assessment of treatment need (Beggs, 2010; Fanniff & Becker, 2006). Therefore, the second aim of this study

was to evaluate the psychometric properties of the battery of scales employed by the PDTS to ascertain whether they were reliable and valid, and thus able to provide meaningful evidence of treatment change in core areas of treatment need.

The third and overarching aim of the present study was to then utilise available data to investigate the clinical effectiveness of the Chromis programme as a whole and of the two main treatment components (relating to Cognitive Skills and Enabling Change) in reducing aggression and treatment need areas, specifically experiences of anger, problem solving, anger, impulsivity, locus of control and maladaptive schemas. These variables, whilst not exhaustive, cover a broad range of factors which are generally considered relevant to violent reoffending in psychopathic offenders (Ball & Cecero, 2001; Blair, 2006; Bernstein et al., 2007; Douglas et al, 2005; Hart & Dempster, 1997; Herba et al., 2007; Simourd & Hoge, 2000; Wong & Gordon, 2006; Tremblay & Dozois, 2009), and which, at least in theory, are apt to change. This study evaluated direct clinical change through pre- and post-treatment psychometric assessment at group level and individual level, utilising the reliable change index (RCI) (Jacobson & Traux, 1991) to investigate differential outcomes within the group of psychopaths. A subsidiary aim was to examine differences in treatment effects as a function of psychopathy trait levels (moderate and high) to ascertain whether treatment change differs between the psychopathy groups.

Based on the available evidence, the following hypotheses have been proposed:

Hypothesis 1: Treatment non-completers will have significantly higher PCL-R total and factor scores in comparison to treatment completers.

Hypothesis 2: Following treatment (pre- to post- treatment), offenders will show significant improvements in the evaluated treatment need areas of problem solving, anger, impulsivity, locus of control and maladaptive schemas.

Hypothesis 3: Since offenders' responses to treatment are variable, it is hypothesised that regardless of group-level changes, a proportion of participants would achieve reliable change in the evaluated treatment need areas.

Hypothesis 4: Whilst existing evidence is contradictory, it is hypothesised that treatment need change (pre- to post- treatment) will be moderated by psychopathy trait levels (moderate and high) at both the group and individual level.

Method

Design

This study was a retrospective secondary data analysis study, utilising a within-subject repeated-measures design to evaluate short-term measures of clinical change. Multiple psychometric assessment stages (five set time points) across the treatment period allowed for the examination of clinical change in relation to individual treatment components (Cognitive Skills and Enabling Change) and the full Chromis intervention. The primary independent variable was the time of administration of the psychometrics [(1) baseline (pre- Motivation and Engagement component), (2) pre- and (3) post- Cognitive Skills component and (4) pre- and (5) post- Enabling Change component]. The second independent variable was the level of psychopathy (moderate or high) as measured by the PCL-R. The dependent variables were participants' scores on individual psychometric tools.

Sample

The availability sample consisted of 120 incarcerated adult male offenders who met the criteria for prison-based, high-security personality disorder services and engaged with the Chromis programme between 2004 and 2017. The availability sample constituted almost all of

the population[11] of the Westgate unit whereby clinical and psychometric data was available. The full sample is representative of treatment completers (n = 43), treatment non-completers (n = 53) and current treatment engagers (n = 24). The demographic and offence characteristics of the full sample are summarised in Table 1. Cell size discrepancies within the tables are the result of missing data.

The average age of the full sample on admission to the specialist treatment unit was 36.7 years (SD = 9.08) and, based on the available data, a higher proportion of the sample were white in ethnicity. Most participants had been convicted with a life sentence and had an index offence of physical violence (murder/manslaughter or violence). The average PCL-R total score for the full sample was high (mean = 29; Factor 1 mean score = 10; Factor 2 mean score = 13), which is not surprising given all participants had met the criteria for a personality disorder treatment service. The prevalence of personality disorder in the sample was large, with 93% of the participants receiving at least one Axis II diagnosis. Eight participants were diagnosed with no personality disorders but had met the criteria for the treatment service based on psychopathy level. The most frequently diagnosed personality disorder was antisocial, with most personality disorder diagnoses being within the Cluster B disorders.

[11] The term population is used, as a synonym of Universe that is reflective of a complete set of elements (persons) that possess the same common characteristics defined by the sampling criteria, which for the purpose of the present study was defined by the Westgate PDTS. It is important to accept that the full population may not have been included within study, owing to missing data.

Table 1

Full sample, treatment completer sample by psychopathy group (moderate and high[12]) and treatment non-completer sample: demographic information, offence characteristics, PCL-R mean scores and Axis II diagnoses

	Full sample *n*=120	**Treatment completers *n* = 41***		**Treatment non-completers *n* = 53**
		Moderate PCL-R *n* =20	High PCL-R *n*=21	
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Age	36.7 (9.08)	33.5 (7.1)	37.4 (7.5)	36.1 (9.3)
Pre-convictions	30.9 (32.80)	30.7 (34.5)	30.4 (42)	34.9 (32.7)
Custodial sentences	6.6 (6.4)	5.47 (5.7)	5 (6.5)	8.1 (7)
Sentence type	Number (%)	Number (%)	Number (%)	Number (%)
Life	87 (72)	15 (75)	18 (85)	31 (58)
IPP*	25 (20)	3 (14)	3 (14)	14 (26)
Determinate	7 (5)	2(10)	0 (0)	6 (11)
Index Offence type	Number (%)	Number (%)	Number (%)	Number (%)
Murder/Manslaughter	36 (35.3)	4 (20)	9 (42)	15 (28)
Violent	39 (38.2)	6 (30)	4 (19)	24 (45)
Sexual	26 (25.5)	6 (30)	6 (28)	10 (18.9)
Ethnicity*	Number (%)	Number (%)	Number (%)	Number (%)
White	104 (67)	17 (85)	17 (80)	50 (94)
Black	6 (3)	2 (10)	1 (4.7)	1 (1.9)
Not stated/missing	45 (29)	1 (5)	3 (14.2)	2 (3)
Psychopathy	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
PCL-R total	29.3 (5.0)	25.7 (3.1)	32.1 (2.5)	29.7 (5)
Factor 1	10.9 (3.1)	8.8 (1.8)	12.3 (2.2)	11.3 (3)
Factor 2	13.9 (2.8)	13.8 (2.1)	14.5 (1.9)	14.3 (2)
Axis II disorder	Number (%)	Number (%)	Number (%)	Number (%)
Antisocial	98 (81)	18 (90)	19 (90.4)	39 (73)
Borderline	66 (55)	14 (70)	13 (61.9)	23 (43)
Narcissistic	30 (25)	0 (0)	6 (28.5)	15 (28)
Histrionic	12 (10.0)	2 (10)	2 (9.5)	5 (9)
Paranoid	38 (31)	10 (50)	4 (19)	16 (30)
Schizoid	15 (12)	2 (10)	4 (19)	6 (11)
Schizotypal	6 (5)	2 (10)	0 (0)	3 (5)
Obsessive compulsive	5 (4)	0 (0)	0 (0)	3 (5)
Avoidant	22 (18)	7 (35)	2 (9.5)	4 (7)
Dependent	2 (1)	0 (0)	0 (0)	1 (1)

***** Full sample consists of treatment completers, non-completers and current treatment engagers; Imprisonment for Public Protection (IPP); minority-ethnic participants have been defined as 'black' using the term in its political sense to apply to non-Caucasians who are either Black African, Black Caribbean, Black Other or from the Asian subcontinent; Within the availability sample, 43 prisoners had completed the Chromis programme in its entirety, albeit PCL-R data was only available for 41 prisoners and thus 41 prisoners made up the completers sample for this study.

[12] As a means of further understanding the treatment completer sample, differences in demographic and clinical variables between the psychopathy groups (moderate and high) were tested (using independent sample t-tests and contingency tables with Pearson's chi-square test or Fisher's Exact test, when appropriate), however, as this was not an aim of the study, the findings will be summarised here. Differences between the moderate and high psychopathy groups in PCL-R and Factor (1 and 2) mean scores were significant at $p < 0.01$. With regard to personality disorder diagnoses, no significant group differences were prevalent, other than for narcissistic ($p < 0.05$) and paranoid personality disorders ($p < 0.05$). There were no statistically significant differences in demographic, sentence type or offence characteristics between the psychopathy groups at $p < 0.05$.

Within the availability sample, 43 prisoners had completed the Chromis programme in its entirety, albeit PCL-R data was only available for 41 prisoners (treatment completers' sample mean PCL-R = 29 (SD= 4.28)). In accordance with the analytical strategy, individuals in the treatment completer sample were placed into either a 'moderate' (*n* = 20; PCL-R score of 29 or below) or a 'high' psychopathy group (*n* = 21; PCL-R score of 30 or above), depending on their total PCL-R score, cut-offs advocated by previous research[13] (Coid & Ullrich, 2010; Hare, 2003). The respective PCL-R mean scores, personality disorder diagnoses, demographic and offence specific characteristics for each psychopathy group (presented in Table 1) follow a similar pattern to the full sample.

Within the remaining availability sample, a total of 53 prisoners (44.1%) had either left and not returned to treatment or had been deselected from treatment by the treatment service at various stages[14]. The treatment non-completers' PCL-R mean scores, personality disorder diagnoses, demographic and offence-specific characteristics are presented in Table 1. The attrition rates for each treatment stage are presented in Figure 1. Clinical and assessment data was also available for 24 prisoners who were mid-treatment, this cohort was omitted from the study analysis, leaving an overall studied sample of 96.

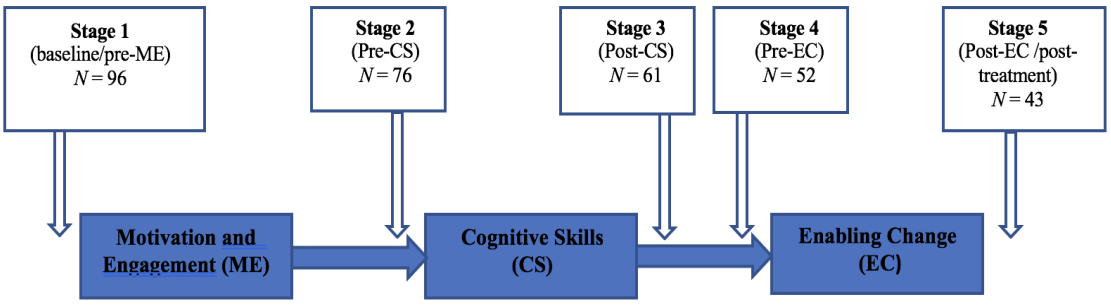

Figure 1: Standardised administration stages of the psychometric battery in relation to the treatment delivery of Chromis[15]

[13] The extracted PCL-R score data showed that whilst the full PCL-R, including Factor 1 and Factor 2 scores had been recorded, the four facet scores of the PCL-R had not been documented in the majority of incidences, meaning that it was not possible to record PCL-R facet scores as planned.
[14] Details pertaining to the sample of non-completers and the reason for deselection were not made available, however, this information was not relevant to the integral aims of the present study.
[15] Stage 1: *n* = 96 reflects the full available sample (*N* = 120) minus those currently engaged in treatment (*N* = 24).

Measures

The *Psychopathy Checklist—Revised (PCL-R)* (Hare, 2003) is a clinical rating scale designed to assess psychopathy in forensic populations. The PCL-R consists of 20 items, each rated 0 to 2 (0 = does not apply, 1 = applies to some extent, 2 = definitely applies). The PCL-R yields a dimensional total score between 0 and 40 indicating the degree to which the individual matches the prototypical psychopath, with previous research advocating a cut-off score of 30 or more on the total scale for a diagnosis of psychopathy (Coid & Ullrich, 2010; Hare, 2003). The PCL-R has been extensively studied and significantly predicts general and violent recidivism (Leistico et al., 2008), and is the most widely used clinical assessment tool for assessing psychopathy. Hare, Clark, Grann & Thornton (2000) found PCL-R scores to be highly reliable when used with trained and experienced raters.

The *International Personality Disorder Examination (IPDE)* (Loranger et al., 1994) is a semi-structured clinical interview developed to assess personality disorders in a manner compatible with the ICD and DSM classification systems[16]. Scoring of the 93 items is undertaken using a three-point rating (0 = absent or within normal range, 1 = present to an accentuated degree, 2 = pathological or meets criterion) and the final algorithmic integration of the items permits personality disorder diagnostic classification. Satisfactory psychometric properties have been previously reported (Loranger et al., 1994; Loranger, Janca & Sartorius, 1997). Indices of inter-rater reliability reported elsewhere have been acceptable (Ullrich & Marneros, 2004).

The *Social Problem-Solving Inventory—Revised (SPSI-R)* (D'Zurilla et al., 2002) is a 52-item measure that requires respondents to self-report and assesses the ability of respondents to resolve problems in everyday life. It comprises five empirically supported subscales: positive problem orientation (PPO): five items, negative problem orientation (NPO): 10 items, rational problem solving (RPS): 20 items, impulsivity/ carelessness style (ICS): 10 items and avoidance

[16] As part of PDTS clinical practice during the research timeframe, DSM criteria were used to assess personality disorder diagnoses.

style (ICS): 10 items). The inventory is scored using a five-point Likert scale (0 = Not at all true of me to 4 = Extremely true of me). With a sample of sexual offenders, the scale has been shown to have very high internal consistency (α = .86), and good test–retest reliability (r (30) = .94) (Wakeling, 2007). In addition, positive treatment-related change was found on all scales of the SPSI-R except for the PPO subscale after three months of problem-solving therapy with personality disordered offenders (McMurran, Egan, Blair & Richardson, 2001).

The *Barratt Impulsiveness Scale (BIS-II)* (Barratt, 1994) provides an assessment of Motor, Cognitive and Non-Planning Impulsiveness. The scale comprises 30 items rated on a four-point Likert scale (1 = 'rarely/never applies to me' to 4 = 'almost always or always applies to me'). The higher the aggregate score for all items, the higher the level of impulsiveness. The psychometric properties of the BIS have been extensively researched and scores on the instrument have been shown to be related to aggressive behaviour (Grisso et al., 2000; Wang & Diamond, 1999). The internal consistency of the scale has been found to be acceptable, with Cronbach's α of .80 as the total score for both forensic and in-patient populations (Carrillo-de-la-Pena, Otero & Romero, 1993; Patton et al., 1995). The scale has also been found to hold good test–retest reliability (Spearman's Rho = 0.83; Stanford et al., 2009).

The *Novaco Anger Scale and Provocation Inventory (NAS-PI)* (Novaco, 1994) consists of 85 items grouped into two sections. The NAS focuses on experiences of anger and contains 60 items with four subscales: cognitive, arousal, behavioural and anger regulation. The PI contains 25 items and focuses on the kind of situation that leads to anger in five content areas: disrespectful treatment, unfairness, frustration, annoying traits of others and irritations, to produce a single total PI score. The item responses range from 1 = Never True to 3 = Always true for NAS items to 1 = Not at all Angry to 4 = Very Angry for PI items. Examinations of the psychometric properties of this scale have demonstrated test–retest correlations ranging from .78 to .91, and internal consistency coefficients for the NAS in excess of .95, and of .88 for the PI with an adult criminal sample (Mills et al, 1998). The NAS-PI has been used extensively with individuals in high-

security forensic psychiatric care in the United Kingdom who have a history of violence (Renwick et al, 1997; Novaco & Renwick, 1998). Others have reported on reliability and validity data for the NAS (Mills, Kroner & Forth, 1998, Novaco,1994), and Cunningham (2011) looked at this specifically within the DSPD population, concluding that the scale had adequate test–retest reliability and internal consistency (i.e. coefficients of 0.80 or higher).

The *Adapted Locus of Control (LoC)* is an 18-item scale that assesses the extent to which a participant believes what happens to him is determined by external factors or whether he has control over his experiences. Huntley, Palmer & Wakeling (2012) reported that the scale was adapted by the Prison Service Interventions and Substance Misuse Group from a scale devised by Levenson (1974). The scale is scored on a five-point Likert scale (0 = strongly disagree to 4 = strongly agree), with a higher score (> 40) indicating someone who attributes his experience to internal factors and with lower scores indicating a tendency to blame external factors. Within a sample of sexual offenders, the adapted measure has been shown to have very high internal consistency ($\alpha = .81$), and the test–retest reliability of the scale was very good ($r = .71$, $p < .001$) (Huntley, Palmer & Wakeling, 2012).

The *Young Schema Questionnaire—Short Form (YSQ–SF)* (Young & Brown, 1999) assesses the severity of the early maladaptive schemas (EMS) that fall within the following five domains: disconnection and rejection, impaired autonomy and performance, impaired limits, other-directedness and over-vigilance, and inhibition. The scale comprises 75 items that are rated on a six-point Likert scale (1 = completely untrue of me to 6 = describes me perfectly). For all subscales and domains, a higher score reflects a more maladaptive and pervasive core belief. The original Young Schema Questionnaire-Long Form (YSQ-LF) possessed adequate internal consistency and test–retest reliability as assessed within clinical samples (Lee, Taylor & Dunn, 1999; Schmidt, Joiner, Young & Telch, 1995). Since its initial development the questionnaire was revised a number of times and a short form has been designed (YSQ-SF) (Young, 1999). The YSQ-SF and YSQ-LF are seen as broadly comparable (Waller, Meyer & Ohanian, 2001) and the

initial 15-factor structure of the YSQ-SF has been confirmed in clinical samples (Hoffart et al., 2005; Welburn, Corstine & Dagg, 2002). Furthermore, studies have demonstrated acceptable to very good internal consistency ($\alpha > .70$) for both the overall YSQ-SF and its subscales (Waller et al, 2001; Welburn et al., 2002).

Procedure

In line with the treatment service's clinical practice, the clinical assessments PCL-R (Hare, 2003) and IPDE (Loranger, 1999) were completed upon the participant's admission to the treatment unit. The clinical assessments were administered by a team of trained clinical staff (including trainee psychologists and therapists) led by a forensic psychologist practitioner whose role was to provide clinical oversight and supervision of the assessment process. The clinical assessments were based on interview and available file information.

A trained and qualified member of the treatment team administered the psychometric scales to participants individually, and support was available for those with literacy difficulties. All measures were administered in a battery in counterbalanced order to account for fatigue and boredom and to minimise bias. The psychometric battery was administered at five set time points during the Chromis treatment process. The first administration was prior to any exposure to treatment and the motivation and engagement component (stage 1: baseline). Stage 2 administration was before the Cognitive Skills component (pre-CS), with stage 3 being six months after the completion of this component (post-CS). Stage 4 administration was before the Enabling Change component (pre-EC), and stage 5 was six months after completion of the post-Chromis treatment component (post-EC). The standardised administration stages of the psychometric battery in relation to the treatment delivery of Chromis is presented in Figure 1.[17]

[17] The administration of the psychometric battery ended in 2017.

Ethical considerations

Ethical approval was granted from both Nottingham Trent University and Her Majesty's Prison and Probation Service (HMPPS). Upon admission to the PDTS and prior to treatment, a qualified member of the treatment team sought the informed consent of the prisoners for use of their anonymised data, including demographic and clinical assessment data used to evaluate the effectiveness of the assessment, treatment and complementary regimes offered as part of the treatment service. All participants within the availability sample provided their informed consent. Additional consent for the purpose of this retrospective secondary data analysis study was therefore not sought—this was approved by both ethics-approving organisations.

The research data was held in line with the Data Protection Act 2018. The database created for this research, from the original databases held at HMP Frankland, Westgate unit, was both confidential and anonymous. No identifiable information was included within the database, ensuring that no information on the research database could be traced to any individual.

Data analysis plan

Data analysis was carried out in four stages: (i) exploration of the PCL-R total and factor score differences and associations with treatment attrition (binary outcome), (ii) data cleaning and initial psychometric validation of the scales and their properties for this sample, (iii) a series of 2x5 repeated-measures Multivariate Analyses of Variance (MANOVAs) to assess clinical change across time points for each scale; and (iv) calculation of the RCI to examine individual change for each scale.

(i) PCL-R total and factor score differences and associations with treatment attrition: Differences in PCL-R total and factor scores between treatment non-completers and completers were examined using independent sample t-tests. In addition, the relationship between PCL-R total and factor scores and treatment completion status (binary outcome) were examined using Pearson r correlations and point-biserial correlations for dichotomous variables.

(ii) Data cleaning and psychometric scale properties: In order to ensure meaningful scale scores, respective psychometric manual procedures regarding missing data were followed, including using median scale values when appropriate or omitting participants' data if it met the missing data cut-off as recommended by each psychometric manual. An examination of the distribution of data for each scale and component subscales was conducted using Shapiro-Wilk test of properties of normality. An analysis for identifying outliers greater than three standard deviations from the group mean was performed for each scale (and subscale) following Tabachnick and Fidell (1989).

Utilising the full sample baseline data, internal scale consistencies were evaluated using item-total correlations. Cronbach's alphas and component subscales and, when appropriate, intra-scale, correlations were computed. Common guidelines for interpreting Cronbach's alpha suggest that an alpha of at least 0.8 is an average benchmark for widely used measures (Lance, Butts & Michels, 2006), whereas Field (2000) suggests that alphas over 0.6 reflect a measure that is internally consistent. To examine the convergent validity of each scale, zero-order correlations were conducted between each psychometric scale (and subscale) score.

(iii) Clinical change at group level: A series of 2x5 repeated-measures MANOVAs were conducted using psychopathy group (moderate and high PCL-R score) as the between-subjects factor and the repeated assessment of each psychometric scale (time points 1 to 5) as the within-subjects factor. Post-hoc analyses were conducted when appropriate, using a Bonferroni adjustment.

(iv) Clinical change at individual level: Pre- and post- treatment group scores provide no information about how an individual fared in treatment. Similarly, statistical significance tests offer little with regard to clinical interest. Thus, to examine individual change, the RCI was calculated for each individual on all of the psychometric measures. The RCI addresses whether participants' change during treatment exceeds the change that would be expected based on

measurement error alone. The RCI controls for the degree of difference in pre- to post- test scores as a result of measurement unreliability. Because there was no control group, the RCI was calculated using the Standard Deviation (SD) of the pre-treatment group in the calculation, as suggested by Jacobson and Traux (1991). The RCI is defined by Jacobson & Traux (1991, p. 14) as:

$$\mathrm{RCI} = \frac{X_2 - X_1}{\sqrt{2(\mathrm{SE})^2}}$$

Jacobson and Traux (1991) suggest that RCIs larger than 1.96 would be unlikely to occur ($p < .05$) without actual change (with a 95% confidence level). It is noteworthy that the RCI has been criticised in the past for being based on individual's obtained pre-test score, which has an inherent measurement error and may therefore not be a 'true' pre-test score (Christensen & Mendoza, 1986). Whilst an adjustment has been recommended to provide a more stringent formula for the RCI, this was not adopted for this study as the original RCI formula was deemed stringent enough. The use of the original RCI formula has been recommended in previous research with similar populations (Chakhssi et al., 2010). In this study, participants with a negative reliable change (RCI < -1.96) were labelled as 'reliably deteriorated', participants within the band of no reliable change ($-1.96 \leq \mathrm{RCI} \leq 1.96$) were labelled as showing 'uncertain change', and participants with a positive reliable change (RCI > 1.96) were labelled as 'reliably improved'. Differences in reliable change categories (deterioration and uncertain change versus improvement) between psychopathy groups were tested using Pearson's chi-square test or Fisher's Exact test, as appropriate.

Because multiple analyses were conducted, consideration was given to reducing the significance level to .01 in order to reduce the chance of Type I errors. It was acknowledged, however, that such an over-correction would have increased the likelihood of Type II errors. Therefore, a significance level of .05 was used for all statistical tests and for the conducted

MANOVAs, the statistical effect size was reported for the within-subject factor statistical analysis. In addition, it is worth noting that due to the small sample size and the increased likelihood that individual differences could significantly impact results, the more idiographic approach of individual analysis (RCI) was used, an approach recommended in previous research (Oddie & Davies, 2009).

Results

(i) PCL-R total and factor score differences and associations with treatment attrition

The demographic attributes, offence characteristics, PCL-R mean scores and Axis II disorder diagnoses for treatment non-completers and completers are presented in Table 1. There were no statistically significant differences between treatment completers and non-completers in terms of PCL-R and factor (1 and 2) mean scores (total*:* $p = .43$, Factor 1: $p = .28$, Factor 2: $p = .81$). Furthermore, PCL-R total ($p = .43$), Factor 1 ($p = .29$) and Factor 2 ($p = .81$) and treatment completion status (binary outcome) were not significantly associated.

(ii) Data cleaning and psychometric scale properties

Data cleaning

For the SPSI-R, three extreme outliers were omitted. Preliminary analysis using Shapiro-Wilk tests identified that the SPSI-R subscales for both psychopathy groups for each psychometric assessment stage were normally distributed, other than those for assessment stage 5 of the SPSI-R NPO subscale, high psychopathy group ($p < .01$). The distribution of data for assessment stage 5 of the SPSI-R NPO subscale as measured by skewness and kurtosis followed the distribution pattern of the other subscales and were within an acceptable range, suggesting that normality assumptions could be supported (Field, 2009).

One extreme outlier was identified in assessment stage 3 of the BIS total scale— this outlier was omitted from the full analysis. BIS total scale scores for psychopathy groups other than the stage 5 high psychopathy group ($p < 0.05$) and each psychometric assessment stage were normally distributed. In addition, the subscales at each assessment stage and for psychopathy groups were normally distributed, other than those for assessment stage 5 on the BIS subscale cognitive index (high psychopathy group $p < 0.05$) and the non-planning index (moderate psychopathy $p < 0.05$). The non-normally distributed scales followed the distribution pattern (skewness and kurtosis) of the other subscales and were within the acceptable range.

There were no extreme outliers identified for the NAS-PI and LoC, and for all conditions (psychopathy group and assessment stage), the data was normally distributed. For the YSQ-SF, three extreme outliers were omitted. With regard to the YSQ-SF data, approximately a third of the scales for each psychopathy group did not meet the properties of normality. As such, a non-parametric Spearman rank-order correlation was conducted for intra- and inter-scale correlations. It was nonetheless considered appropriate to continue to explore the subscales using a MANOVA as it is proclaimed that the F test is robust enough to withstand deviations from normality (Lindman, 1974). In addition, as only 37% of the subscales across both conditions (assessment stage and psychopathy group) were abnormally distributed, this small number should not detract from the overall MANOVA outcome.

Psychometric scale properties

Social Problem-Solving Inventory Revised (SPSI-R): Item-to-total correlations were examined on all 52 SPSI-R items. Six items had correlations less than .20, the remainder being between .20 and .57. The internal consistency for each of the SPSI-R subscales ranged from acceptable (positive problem orientation = .77) to excellent (rational problem solving = .96). The intra-scale correlations were statistically significant with correlations ranging between -.35 and .83; showing diverse range, with no emerging pattern. The relevant descriptive statistics and intra-scale correlations for the SPSI R, BIS, NAS-PI and LoC are shown in Table 2. With regard to

convergent validity, SPSI-R subscales are consistently moderately to highly correlated with measures of impulsivity (BIS) and LoC. The correlations are in the expected direction, with impulsivity correlating significantly positively with the two positive problem-solving styles, PPO and RPS, and significantly negatively with the dysfunctional problem-solving dimensions NPO, ICS and AS. The opposite patterns emerged for LoC, as expected.

The *Barratt Impulsivity Scale (BIS):* Item-to-total correlations on all 30 BIS items indicated that three items had correlations of less than .20, with the remainder being between .24 and .75. The BIS full scale showed excellent internal consistency (=.91), with Cronbach's alphas for each of the subscales ranging from questionable (Non-Planning Impulsiveness = .67) to good (Motor Impulsiveness = .89). The intra-scale correlations are statistically significant with correlations ranging from .72 to .93. Each subscale correlated best with the BIS total. The relationship between the BIS with the SPSI-R, LoC and NAS-PI demonstrated consistent concurrent validity, with moderate to high correlations across scale totals and subscales in the expected direction.

The *Novaco Anger Scale and Provocation Inventory (NAS-PI):* The 85 NAS-PI items had item-to-total correlations of between .24 and .79. The internal consistency alphas for each of the NAS-PI subscales ranged from good (cognitive = .89) to excellent (arousal = .93). The full scale NAS had excellent overall internal consistency (.93), as did the full scale PI (.96). The intra-scale correlations of the four subscales ranged from -.62 to .87, and the correlation between the NAS scale total and PI scale total was .77. The NAS-PI statistically significantly correlated with the SPSI-R, BIS and each component subscale. The NAS-PI and component subscales are consistently moderately to highly correlated with the LoC measure, with associations in the expected direction.

Locus of control (LoC): Item-to-total correlations were examined on all 18 LoC scale items. Two items had correlations of less than .20, the remainder had correlations ranging from

.21 to .65. The internal consistency of the locus of control scale was examined and had a Cronbach's alpha of .82, indicating high internal consistency. Removing item 15 resulted in the alpha increasing from .82 to .84. Item 15 'I understand why my problems vary so much from one occasion to another' fits with the construct of the scale, and due to a marginal increase in the alpha score after removing this item, it was decided that the item would remain, thus ensuring that the analysis was conducted on the full scale. The relationship between the LoC with SPSI-R, BIS and NAS-PI demonstrates consistent concurrent validity, with moderate to high correlations across scale totals and subscales in the expected direction.

Young Schema Questionnaire—Short Form (YSQ-SF): Two of the YSQ-SF items have an item-to-correlation of less than .20. The remaining items ranged between .29 and .77. Internal consistency alphas for each of the YSQ-SF subscales ranged from acceptable (unrelenting standards = .77) to excellent (abandonment = .96). A non-parametric Spearman's rank-order correlation was conducted for intra- (presented in Table 3) and inter-scale correlations (presented in Table 4). The intra-correlations of the subscales ranged from .10 to .73, with each subscale correlating statistically significant, other than emotion deprivation and mistrust/abuse with enmeshment, and self-sacrifice with entitlement. Inter-scale correlations that are similar in construct to the YSQ-SF demonstrate convergent validity. The SPSI-R subscales (other than PPO and RPO) are consistently significantly associated with each of the YSQ-SF subscales, in the desired direction. The NAS-PI (and subscales) were associated with each subscale within the disconnection and rejection domain and the impaired limits domain, and the subscale for emotion inhibition. BIS (and subscales) statistically correlated with the YSQ-SF subscales insufficient self-control and emotional inhibition.

Table 2

Alpha coefficients, scale-subscale correlations and convergent validity between SPSI-R, BIS, NAS-PI and LoC

	PPO	NPO	RPS	ICS	AS	BIS	MI	CI	NPI	NAS	PI	COG	ARO	BEH	AR	LoC
α	*.77*	*.93*	*.96*	*.94*	*.89*	*.91*	*.84*	*.81*	*.67*	*.93*	*.96*	*.89*	*.93*	*.93*	*.86*	*.82*
SPSI-R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PPO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NPO	-.42**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RPS	.78**	-.35**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ICS	-.38**	.83**	-.51**	-	-	-	-	-	-	-	-	-	-	-	-	-
AS	-.46**	.82**	-.38**	.77**	-	-	-	-	-	-	-	-	-	-	-	-
BIS	-.51**	.70**	-.65**	.82**	.64**	-	-	-	-	-	-	-	-	-	-	-
MI	-.37**	.64**	-.49**	.74**	.54**	.90**	-	-	-	-	-	-	-	-	-	-
CI	-.55**	.68**	-.62**	.77**	.64**	.93**	.77**	-	-	-	-	-	-	-	-	-
NPI	-.46**	.54**	-.63**	.66**	.54**	.83**	.58**	.72**	-	-	-	-	-	-	-	-
NAS	-.27**	.51**	-.37**	.55**	.45**	.60**	.61**	.57**	.39**	-	-	-	-	-	-	-
PI	-.30**	.50**	-.29**	.51**	.46**	.51**	.44**	.52**	.40**	.77**	-	-	-	-	-	-
Cog	-.29**	.47**	-.35**	.53**	.42**	.58**	.56**	.55**	.42**	.92**	.77**	-	-	-	-	-
Aro	-.39**	.62**	-.41**	.63**	.53**	.60**	.64**	.61**	.48**	.94**	.80**	.87**	-	-	-	-
Beh	-.27**	.45**	-.42**	.53**	.40**	.59**	.59**	.56**	.40**	.92**	.69**	.81**	.86**	-	-	-
AR	-.48**	-.49**	-.64**	-.58**	-.43**	-.62**	-.51**	-.60**	-.56**	.53**	-.55**	-.62**	-.66**	-.66**	-	-
LoC	.54**	-.59**	.33**	-.55**	-.64**	-.61**	-.51**	-.63**	-.50**	-.48**	-.49**	-.46**	-.54**	-.41**	-.42**	-

Notes: ** p <.01; * p < .05 level. **Social Problem-Solving Inventory Revised (SPSI-R):** Positive Problem Orientation (PPO), Negative Problem Orientation (NPO), Rational Problem Solving (RPS), Impulsivity/Carelessness Style (ICS), Avoidance Style (AS); **Barratt Impulsiveness Scale (BIS):** Motor Impulsiveness (MI), Cognitive Impulsiveness (CI), Non-Planning Impulsiveness (NPI); **Novaco Anger Scale and Provocation Inventory (NAS-PI):** Cognitive (Cog), Arousal (Aro), Behavioural (Beh), Anger Regulation (AR); **Locus of Control (LoC)**

Table 3

YSQ-SF subscale alpha coefficients and subscale correlations

	ED	Aba	Mis	SI	Def	Fa	De	Vu	Enm	Sub	SS	EI	US	Ent	IS
α	*.93*	*.94*	*.92*	*.93*	*.92*	*.88*	*.81*	*.80*	*.89*	*.83*	*.80*	*.89*	*.77*	*.86*	*.88*
Disconnection and rejection															
Emotional deprivation (ED)	-	-	-	.	-	-	-	-	-	-	-	-	-	-	-
Abandonment (Aba)	.33**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mistrust (Mis)	.52**	.57**	-	-	-	-	-	-	-	-	-	-	-	-	-
Social isolation (SI)	.53**	.58**	.66**	-	-	-	-	-	-	-	-	-	-	-	
Defectiveness (Def)	.49**	.58**	.56**	.62**	-	-	-	-	-	-	-	-	-	-	-
Impaired autonomy and performance															
Failure (Fa)	.40**	.55**	.50**	.57*	.58**	-	-	-	-	-	-	-	-	-	-
Dependence (De)	.40**	.61**	.39**	.53**	.58**	.70**	-	-	-	-	-	-	-	-	-
Vulnerability (Vu)	.42**	.64**	.59**	.64**	.52**	.60**	.61**	-	-	-	-	-	-	-	-
Enmeshment (Enm)	.15	.44**	.18	.32**	.34**	.46**	.51**	.48**	-	-	-	-	-	-	-
Other-directedness and inhibition															
Subjugation (Sub)	.45**	.57**	.43**	.56**	.67**	.58**	.69**	.60**	.53**	-	-	-	-	-	-
Self-Sacrifice (SS)	.19**	.36**	.21*	.21*	.28**	.31**	.32**	.38**	.35**	.39**	-	-	-	-	-
Over-vigilance and inhibition															
Emotional inhibition (EI)	.53**	.43**	.64**	.73**	.64**	.57**	.49**	.58**	.28**	.56**	.28**	-	-	-	-
Unrelenting standards (US)	.27**	.40**	.21*	.381**	.26**	.36**	.34**	.38**	.20*	.21*	.25**	.26**	-	-	-
Impaired limits															
Entitlement (Ent)	.40**	.27**	.39**	.55**	.44**	.48**	.39**	.59**	.32**	.48**	.10	.52**	.43**	-	-
Insufficient self-control (IS)	.46**	.46**	.56**	.60**	.62**	.71**	.61**	.58**	.35**	.58**	.30**	.66**	.41**	.68**	-

Note: ** = p <.01; * = p < 0.05 level.

Table 4

Convergent validity correlations between YSQ-SF, SPSI-R, BIS, NAS-PI and LoC

Domain	**Disconnection/Rejection**					**Impaired Autonomy**				**Other-directedness**		**Over-vigilance**		**Impaired limits**	
Subscale	ED	Aba	Mis	SI	Def	Fa	De	Vu	Enm	Sub	SS	EI	US	Ent	IS
SPSI-R															
PPO	-.23*	-.29**	.37**	-.18	-.25**	.37**	.30**	-.31**	-.21*	.25*	.06	-.16	0.03	-.16	-.38**
NPO	.32**	.54**	.38**	.41**	.55**	.64**	.61**	.52**	.37**	.60**	.24**	.39**	.28**	.41**	.67**
RPS	-24*	-.12	-.24**	-.12	-.11	-.31**	-.24**	-.13	-.11	-.11	-.11	0.13	-0.11	-.27	-.40**
ICS	.33**	.40**	.42**	.38**	.45**	.59**	.48**	.39**	.29**	.44**	.19*	.40**	.28**	.46**	.69**
AS	.37**	.52**	.45**	.38**	.63**	.63**	.56**	.51**	.41**	.54**	.24**	.43**	.27**	.35**	.64**
BIS	.31**	.41**	.47**	.47**	.36**	.55**	.49**	.37**	.24**	.37**	.86**	.38**	.21*	.44**	.70**
MI	.26**	37**	.48**	.48**	.35**	.46**	.43**	.36**	.14	.38**	.13	.32**	.24*	.44**	.67**
CI	.26**	24**	.42**	.42**	.30**	.58**	.47**	.33**	.27**	.28**	.07	.33**	.20*	.39**	.64**
NPI	.29**	24**	.33**	.33**	.36**	.39**	.40**	.30**	.28**	.34**	.02	.38**	.03	.31**	.54**
NAS	.37**	.38**	.62**	.46**	.42**	.41**	.35**	.37**	.10	.36**	.19*	.48**	.15	.53**	.58**
PI	.32**	.44**	.60**	.44**	.44**	.35**	.26**	.31**	.09	.29**	.22**	.43**	.16	.41**	.52**
Cog	43**	.39**	.66**	54**	.44**	.41**	.34**	.44**	.07	.36**	.16	.52**	.19*	.56**	.58**
Aro	40**	.44**	.66**	.49**	45**	.48**	.43**	.40**	.15	.37**	.18	.49**	.19*	.49**	.60**
Beh	31**	.22*	.45**	.34**	.31**	.33**	.25**	.21**	.02	.25**	.09	.35**	.09	.51**	.53**
AR	-.28**	-.23**	-.37**	-.36**	-.32**	-.38	-.35**	-.22**	-.04	-.19*	-.05	-.34**	-.08	-.41**	.45**
LoC	-.29**	-.45**	-.46**	-.40**	-.54**	-.59**	-.51**	-.49**	-.42**	-.48**	-.21**	-.40**	-.14	-.39**	-.58**

Notes: ** = p <.01; * = p < .05 level. **Social Problem-Solving Inventory Revised (SPSI-R):** Positive Problem Orientation (PPO), Negative Problem Orientation (NPO), Rational Problem Solving (RPS), Impulsivity/Carelessness Style (ICS), Avoidance Style (AS); **Barratt Impulsiveness Scale (BIS):** Motor Impulsiveness (MI), Cognitive Impulsiveness (CI), Non-Planning Impulsiveness (NPI); **Novaco Anger Scale and Provocation Inventory (NAS-PI):** Cognitive (Cog), Arousal (Aro), Behavioural (Beh), Anger Regulation (AR); **Locus of Control (LoC)**

(iii and iv) Change during treatment at group and individual level (treatment completers only)

The results of the repeated-measures MANOVAs for each psychometric scale and subscale found no statistically significant main effect on the psychopathy group nor any interaction between treatment and psychopathy group ($p < .05$). As psychopathy group was not found to moderate the effect of the treatment across the psychometric scores, the more prominent results will be reported; the effect of treatment for the full treatment completers sample. For the MANOVAs that did not meet sphericity assumptions, the degrees of freedom were corrected using the Greenhouse-Geisser correction.

The results of each repeated-measures MANOVA (mean change between the assessment stages[18] and the results of individual change using the RCI for the full treatment completer sample) conducted are presented in Table 5. The means and standard deviations at the five assessment time points and the RCI categories for each psychometric scale are presented for the moderate and high psychopathy groups within the appendix (6 and 7).

Social Problem-Solving Inventory—Revised (SPSI–R): There was a statistically significant main effect of treatment for each of the SPSI-R subscales: positive problem orientation (PPO: $F(2.736, 82.078) = 12.829$, $p < .01$), negative problem orientation (NPO: $F(2.533, 68.380) = 13.808$, $p < .01$), rational problem solving (RPS: $F(2.354, 70.627) = 19.560$, $p < .01$), impulsivity and carelessness style (ICS: $F(2.048, 61.439) = 17.315$, $p < .01$) and avoidance style (AS: $F(2.329, 69.860) = 11.325$, $p < .01$). The SPSI-R subscale scores pre- (stage 1) to post- treatment (stage 5) changed in the desired direction. Post-hoc analysis using Bonferroni pairwise comparisons indicated that for the SPSI-R subscales PPO, NPO, RPS and ICS, there are statistically significant differences in the desired direction between assessment stages 2 and 3, and between pre- (stage 1) and post-treatment (stage 5).

[18] (1) baseline (pre-Motivation Engagement component), (2) pre and (3) post Cognitive Skills component and (4) pre and (5) post Enabling Change component).

Table 5 presents the results for individual change using the RCI, including the number and percentage of the sample who reliably deteriorated, showed uncertain change or reliably improved for the SPSI-R and component subscales. A higher proportion of the sample fell within the reliable improvement category for the RPS and AS subscales, with the uncertain change category holding the highest prevalence for the PPO and NPO subscales. The reliable deterioration category consistently held the lowest frequency across the subscales.

Differences in reliable change categories (deterioration and uncertain change versus improvement) in moderate and high PCL-R groups were tested using the chi-square test for association (or Fisher's Exact test, as appropriate) in the 2x2 contingency table. The chi-square test was not statistically significant for each of the subscales; PPO (p = .07), NPO (p = .63), RPS (p = .35), ICS (p = .75) and AS (p = .16). Similarly, for the remaining psychometric scales and component subscales, there was a consistent pattern of non-statistically-significant differences between the reliable change categories and psychopathy groups (Chi-square outcomes are presented in appendix 7).

Barratt Impulsiveness Scale (BIS): The results of the MANOVA (presented in Table 5) indicate statistically significant treatment effects for the total BIS scores ($F(2.899, 81.177) = 24.474$, p <.01), and for each of the subscales; MI ($F(2.741, 76.749) = 23.347$, p <.01), CI ($F(2.934, 82.169) = 16.760$, p <.01), NPI ($F(4,112) = 17.183$, p <.01). The scale and subscale scores changed in the desired direction pre- to post- treatment (decrease). For the total BIS, MI and CI there are statistically significant differences between assessment stages 2 and 3, and between pre- (stage 1) and post-treatment (stage 5). Similarly, there was a significant difference pre- (stage 1) and post- treatment (stage 5) for the NPI, and between assessment stages 4 and 5.

As presented in Table 5, none of the participants fell within the reliable deterioration category for the BIS total or subscales. A higher proportion of participants fell within the reliable

improvement category for the BIS total and NPI subscale, with the uncertain change category holding the highest prevalence for the MI and CI subscales.

Table 5

Mean change between assessment stages and percentage of reliable change for study outcome measures

		Mean change			Treatment effect sig.	*ηp 2*	Reliable deterioration		Uncertain change		Reliable improvement	
	n	S2–S3	S4–S5	S1–S5			*n*	%	*n*	%	*n*	%
SPSI-R												
PPO	32	3.5**	1.5	4.2**	.00	.29	1	2.9	21	65.6	10	31.2
NPO	32	- 5.5**	-0.4	-7.6**	.00	.26	1	3.1	17	53.1	14	43.7
RPS	32	16.4**	6.8	22.6**	.00	.39	3	9.3	6	18.7	23	71.8
ICS	32	- 7.9**	- 0.3	-10**	.00	.36	2	6.2	15	46.8	15	46.8
AS	32	- 3.3	- 0.2	- 5.6**	.00	.27	4	12.5	9	28.1	19	59.3
BIS	30	- 9**	- 4.7	- 19.4**	.00	.46	0	0	8	25.8	23	74.2
MI	30	- 4**	- 0.5	- 7**	.00	.45	0	0	16	51.6	15	48.4
CI	30	- 2.5*	- 1.1	- 5.7**	.00	.37	0	0	19	61.3	12	38.7
NPI	30	- 2.4	- 3.1*	- 6.8**	.00	.38	0	0	11	35.5	20	64.5
NAS	34	-7.7*	-6.1	16.3**	.00	.27	2	5.8	17	50.0	15	44.2
PI	34	-7.1**	-2	-12.9**	.00	.21	3	8.8	15	44.1	16	47.1
Cog	34	-3.23*	-2.53	-6.8**	.00	.28	1	2.9	18	52.9	15	44.1
Aro	34	-3.41*	-2.67	-7.4**	.00	.28	0	0	20	58.8	14	41.1
Beh	34	-3.06	-1.5	-7**	.00	.29	0	0	19	55.8	15	44.2
AR	34	2.2	-.02	4.2**	.00	.22	0	0	24	70.6	10	29.4
LoC	36	9.7**	0.7	8.5**	.00	.41	1	2.8	20	55.5	15	41.7
YSQ-SF												
ED	34	.5	.5	1.5	.56	.02	4	11.8	22	64.7	8	23.5
Aba	34	-.8	-2.6	-2.5*	.04	.08	5	14.7	19	55.9	10	29.4
Mis	34	-2.4	-1.2	-4.9**	.00	.18	0	0	21	61.8	13	38.2
SI	34	-2.7	-2.3*	-4.4**	.00	.17	0	0	20	58.8	14	41.2
Def	34	-.7	-1.8	-3.6**	.02	.08	1	2.9	25	73.5	8	23.5
Fa	34	-1.3	-1	-2.7*	.04	.08	1	2.9	25	73.5	8	23.5
De	34	-2.3	-3**	-3.7**	.00	.16	0	0	27	79.4	7	20.6
Vu	34	-1.1	-1.3	-.9	.24	.04	2	5.9	29	85.3	3	8.8
Enm	34	-.6	.2	.3	.57	.01	5	14.7	26	76.5	3	8.8
Sub	34	-.9	-1.5	-2	.06	.06	0	0	28	82.4	6	17.6
SS	34	1.4	1	2.2	.03	.08	6	17.6	27	79.4	1	2.9
EI	34	-2.2	-1.3	-3*	.02	.38	0	0	26	76.5	8	23.5
US	34	1.4	.3	.8	.47	.02	2	5.9	30	88.2	2	5.9
Ent	34	-1.1	-.6	-1	.33	.03	0	0	30	88.2	4	11.8
IS	34	-2.9	-1.3	-3.6**	.00	.13	0	0	27	79.4	7	20.6

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

Novaco Anger Scale and Provocation Inventory (NAS-PI): With regard to the conducted MANOVA, there are statistically significant differences in the NAS total scores ($F(2.772, 88.714) = 12.066$, $p < .01$) and PI total scores ($F(2.924, 87.711) = 8.257$, $p < .01$) pre- to post- treatment, with scores changing in the desired direction (decrease). There are statistically significant differences pre- to post- treatment (decrease), for the following NAS-PI subscales: cognitive ($F(4, 128) = 12.641$, $p < .01$), behavioural ($F(2.901, 92.823) = 13.539$, $p < .01$) and anger ($F(2.372, 75.912) = 9.494$, $p < .01$). Similarly, a significant difference was found on the arousal subscale ($F(2.746, 871) = 12.644$, $p < .01$), with scores increasing pre to post-treatment (desired direction). For the NAS total, PI total and each subscale there were statistically significant differences pre- (stage 1) and post- (stage 5) treatment ($p < .01$). Between assessment stage 2 and 3, there were significant differences within the Cog ($p < .05$) and Aro ($p < .05$) subscales and within the NAS total ($p < .05$) and PI total ($p < .01$) for the full smaple. There were no significant differences between assessment stages 4 and 5 for the total and subscales. There was no significant main effect of psychopathy group or interaction between treatment and psychopathy group for any of these analyses.

With regard to the RCI categories for the NAS-PI, other than for the AR subscale whereby a higher proportion of the sample fell within the uncertain change category, for the NAS and PI total and remaining component subscales the sample fell comparably between the uncertain change and reliable change categories.

Locus of Control (LoC): The LoC total score improved during treatment for both moderate and high psychopathy groups (main effect of treatment $F(2.837, 96.442) = 23.787$, $p < .01$) with a significant increase in scale scores pre- (stage 1) to post- treatment (stage 5) treatment ($p < .01$), and between stages 2 and 3 ($p < .01$). As shown in Table 5, whilst a higher proportion of the sample fell within the uncertain change category for the LoC scale total, the difference was marginal with a slightly smaller proportion of the sample falling within the reliable change category for this scale.

Young Schema Questionnaire—Short Form (YSQ-SF): There was a statistically significant main effect of treatment for eight of the subscales, including abandonment: $F(2.9, 93.7) = 2.8$, $p < .05$, mistrust: $F(2.9, 95.4) = 7.1$, $p < .01$, social isolation: $F(2.5, 80.3) = 6.7$, $p < .01$, defectiveness: $F(3.3, 107.8) = 3.1$, $p < .05$, failure: $F(2.6, 85.9) = 2.7$, $p < .05$; dependence: $F(3.2, 104.2) = 6.5$, $p < .01$, entitlement $F(2.5, 80.3) = 6.7$, $p < .01$ and insufficient self-control $F(3.3, 107.8) = 3.1$, $p < .05$. For these scales, a statistically significant difference was observed between assessment stage 1 and 5, with scale scores decreasing as expected. In addition, for subscales social isolation ($p < .01$) and dependence ($p < .05$), statistically significant differences between stages 4 and 5 were observed.

The RCI analysis for the YSQ-SF illustrates that the unreliable change category holds the lowest prevalence across the subscales. Whilst a higher proportion of the treatment completers consistently fall within the uncertain change category, there was a variable proportion (between 8.8 and 41.2% across subscales) within the reliable change category.

Discussion

Treatment evaluation studies for psychopathic offenders have largely relied on dynamic risk assessment total change and recidivism as indicators of programme effectiveness. This is important, but underestimates the clinical change process and, therefore, restricts clinical understanding of the change in underlying psychological processes as a result of treatment for this unique high-risk group of offenders. This study sought to evaluate the effectiveness of the Chromis programme, an intervention designed to address the risk of violence for psychopathic offenders. A crucial preceding aim was to evaluate the psychometric properties of the scales used for this study for psychopathic offenders. Moderate support exists for their reliability and construct validity, justifying the clinical application of these psychometric scales to psychopathic offenders. The study evaluated empirically supported treatment need areas that have been

associated with aggression for psychopathic offenders. The findings provide evidence of positive improvements within treatment need areas that have received limited prior evaluation in the context of psychopathic offenders. The study provides valuable evidence to demonstrate the clinical effectiveness of the Chromis programme and perhaps of the wider therapeutic environment of the PDTS.[19] The individual-level analysis explored individual change, providing further support for the notion that individual variability within psychopaths is masked in group-level analyses. The patterns of individual change within the sample of psychopathic offenders were mostly consistent across the outcomes, with a proportion demonstrating reliable change. The findings collectively demonstrate that psychopathic offenders are treatable, and strengthen the evidence base for reducing the uncertainty within the field of psychology on this point.

PCL-R total and factor score differences and associations with treatment attrition

The overall attrition rate of 41% for the smaple of this study is high, albeit comparable to a median non-completion rate of 46% observed within the systematic review in this thesis that appraised existing empirical studies to explicitly explore the relationship between psychopathy and treatment non-completion (Johnson et al., 2019). Nonetheless, the rate of non-completion can be considered substantial and not only reflects the unique challenges of working therapeutically with this high-risk group of offenders but suggests the potential for wider adverse consequences on service cost-efficiency, therapist morale and in-group treatment, and other clients (McMurran et al., 2010).

The observed non-significant difference in PCL-R total and factor scores between treatment non-completers and completers is in contrast to previous findings (Dickie, 2003; Hildebrand & de Ruiter, 2012; Jeandarme et al., 2017; Langevin, 2006; Olver, 2003; Olver & Wong, 2009; 2011) whereby PCL-R scores were found to be significantly higher within each of

[19] It is important to remember that individuals did not just take part in Chromis while on Westgate, and so findings may, in part, reflect the impact of the Westgate regime. Given that Westgate works using the same core principles and model of change as Chromis, it can be hypothesised that the study's results provide positive evidence of the impact of working in this way with offenders with high levels of psychopathic traits.

the studies' treatment non-completer cohorts. Furthermore, the non-significant association between PCL-R total and factor scores with treatment completion status is also dissimilar to previous findings that have demonstrated strong relationships between psychopathy and attrition (e.g., Jeandarme et al., 2017; Olver, 2003; Olver & Wong, 2011; Sewall & Olver, 2018).

The present study's findings are unsurprising taking into account previous findings where PCL-R total score was not found to be predictive of treatment non-completion within the same sample used in this study (Bennett, 2015). Whilst the present study extends these findings by exploring the relevance of PCL-R factors (not explored within Bennet's 2015 study), it is pertinent that despite a modest sample size of 94 (41 treatment completers and 53 treatment non-completers), the limited variance within the PCL-R total scores (treatment completers' mean PCL-R = 29 (SD = 4.2) and non-completers' mean PCL-R = 29.7 (SD=5)) may have influenced the finding of non-significance. More specifically, the sample was too uniform on the PCL-R measure to allow for a difference to be detected between treatment non-completers and completers. Therefore, a conclusion based on the study's findings with regard to the association between psychopathy and treatment non-completion cannot be reliably defined.

Psychometric evaluation

The results provide moderate support for the theoretically derived measures: SPSI-R, BIS, NAS-PI, adopted LoC and YSQ-SF scales with a population of psychopathic offenders. The scales and component subscales showed acceptable reliability in terms of their alpha coefficients and intra-scale correlations. The analysis demonstrated that each measure total had good or excellent internal consistency, with a similar pattern of results observed for each of the component subscales (other than the BIS subscale NPI where questionable internal consistency was observed). These reliabilities are comparable to those generated with varying forensic samples for the SPSI-R (Wakeling, 2007), BIS (Carrillo-de-la-Pena, Otero & Romero, 1993; Patton et al., 1995), NAS-PI (Cunningham (2011)), adapted LoC (Huntley, Palmer & Wakeling, 2012) and YSQ-SF (Waller et al., 2001; Welburn et al., 2002). The intra-scale correlation analysis of each

psychometric scale demonstrated a pattern of statistically significant relationships, with moderate and high relationships observed across the measures, with the exception of the YSQ-SF where a pattern of weak correlations was observed within the subscales self-sacrifice and unrelenting standards.

The data supported the convergent validity of each of the outcome measures showing expected associations between the measures of social problem solving, anger, locus of control and impulsivity. These measures were also found to be associated with maladaptive schemas that are similar in construct. These findings extend upon previous research that has found similar relationships between these constructs with varying forensic populations (e.g. D'Zurilla & Nezu, 1990; Fives et al., 2011; Huntley et al., 2012; Wakeling, 2007).

The strongest associations were between impulsivity and experiences of anger, indicating that increased impulse control was significantly associated with improved management of anger, which supports the theoretical perspective that behavioural approach sensitivity is positively related to personality traits of anger (Barratt, 1991; Harmon-Jones & Siglman, 2001). A significant positive correlation was found between impulsivity and locus of control, which theoretically, are similar in construct (Fisher, Beech & Browne, 1998; Mazur, Wolchik & Sandler, 1992). More specifically, impulsive behaviour is determined by immediate extrinsic motivators. Thus, individuals who have poor impulse control are likely to perceive their behaviour as being determined by external environmental forces, which is congruent with an external locus of control (Fisher et al., 1998; Mazur et al., 1992).

It was also found that locus of control and social problem solving had high convergent validity demonstrating that a more internal locus of control is linked to more effective problem solving. These results provide support for the suggestion that there is overlap between these cognitive constructs (D'Zurilla & Nezu, 1990; Huntley et al., 2012; Judge et al., 2002), although it is not known theoretically why and how these constructs are linked or whether a 'higher order'

construct may underpin the associations (Judge et al., 2002). Further research would benefit from conceptualising and further exploring the links between these constructs within psychopathic offenders.

The findings with regard to the YSQ-SF were consistent with social-cognitive theories of aggression and the theory of Early Maladaptive Schemas (EMS) asserted by Young et al., (2003), in that the EMS domains disconnection and rejection and impaired limits were related to various indicators of anger within the NAS-PI. Disconnection and rejection is often characterised by fear of abuse and abandonment, which can result in feelings of anger as a maladaptive coping strategy (Young et al., 2003). Furthermore, the impaired limits domain is in part characterised by impulsivity, an empirically supported factor related to anger (Stuart & Holtzworth-Munroe, 2005). These findings extend upon previous research that observed similar results with varying offender samples (Kachadourian et al., 2013; Shorey, Elmquist, Anderson & Stuart, 2015; Tremblay & Dozois, 2009). Furthermore, problem solving was also associated with the schemas (other than positive problem orientation and rational problem orientation), demonstrating that a higher presence of maladaptive schemas is linked to the adoption of dysfunctional coping (Bernstein, Arntz & de Vos, 2007; Young, Klosko & Weishaar, 2003). The finding that the schemas 'insufficient self-control' and 'emotion inhibition' were significantly related to impulsivity is cogent given the similarities in construct (Chakhssi et al., 2012).

However, convergent validity was not consistently demonstrated with the YSQ-SF. The subscale self-sacrifice (measuring a desire to meet other's needs) was unrelated to the BIS and NAS-PI subscales, unrelenting standards (measuring a need to meet high standards of behaviour) with NAS-PI totals and two subscales (behaviour and anger regulation), and LoC, enmeshment (excessive emotional involvement and closeness with a significant other) and NAS-PI total and subscales. Whilst this may suggest problems with the YSQ-SF's convergent validity, on closer inspection, it appears that the scales are measuring characteristics that may not be directly related to the assessed schemas and thus a non-significant association would be expected. This is not

consistent across all subscales, for example, an association between unrelenting standards (measuring a need to meet high standards of behaviour) and locus of control would be expected. More specifically, a need to meet high standards are reflective of behaviour that is determined by taking responsibility and acceptance, which are congruent with an internal locus of control. Further exploration of the convergent validity of the YSQ-SF scale is desirable, with a possible a benefit of exploring the association between the scale and PCL-R traits.

Overall, taken together there is moderate support for the reliability and construct validity for the psychometric scales. Whilst the evidence is less consistent for the YSQ-SF and there is a need for further examination of the psychiatric properties of this scale, there seems to be encouraging evidence to support the clinical application of the evaluated assessment measures to psychopathic offenders to provide a meaningful assessment of treatment need.

Treatment change at group level

The study findings revealed that treatment was generally effective at mitigating anger and the related treatment need areas for psychopathic offenders. The finding that psychopathy level did not moderate the effect of treatment across psychometric scores may contrast with some previous findings (Hughes et al., 1997, Ogloff et al., 1990; Olver et al., 2013) but is consistent with studies that have observed that psychopathy trait level has a limited impact on treatment gain (Chakhssi et al., 2010; Hildebrand & de Ruiter, 2012; Mullan et al., 2017).

In interpreting these findings, it is crucial to concede that the observed significant difference in PCL-R scores between the high and moderate PCL-R groups may not be an accurate outcome when taking into account standard errors of measurement for the PCL-R, namely, + or – 2 (Hare, 2003). Thus, given the limited variation in PCL-R scores across the treatment completer sample, it is probable that when standard error of measurement is considered, a proportion of the sample would overlap with the other PCL-R group, thus rendering the PCL-R grouping used within this study as fallacious. Therefore, whilst it may be a plausible conclusion

that treatment effect is not moderated by psychopathy score level (providing support to previous research that has reached similar conclusions) it is prudent to accept in the interpretation of the present study's findings that the variation in PCL-R scores between the moderate and high psychopathy groups may have been insufficient to meaningfully evaluate a group effect.

The repeated-measures analysis suggests that psychopaths are responsive to treatment with a pattern of significant change across the measures in the expected direction. It was found that treatment impacted positively on social problem solving, with a positive impact on the varied modalities, including problem-solving styles and positive/negative orientations. These findings extend upon limited existing empirical findings, whereby treatment (Reasoning and Rehabilitation programme) has been found to have a positive effect on social problem solving in psychopathic and mentally disordered offenders (Clarke et al., 2010; Cullen, et al., 2011; Young et al., 2013). A consistent finding across these studies is that treatment did not lead to a significant change in all problem solving modalities, specifically negative and maladaptive orientations. Thus, the present study's findings suggest that treatment can have an impact upon the varied modalities of problem solving for psychopathic offenders, with Chromis treatment having a positive impact on both positive and negative problem solving orientations. Based on a theoretical perspective, it is suggested that the Chromis programme helps develop a cognitive and emotional approach to problem solving as a means of addressing coping deficits and enhancing self-efficacy (McMurran, 2008). Furthermore, it is pertinent to acknowledge empirical findings that suggest a reduction in maladaptive coping strategies in offenders can reduce psychological and behavioural difficulties, and support a reduction in offending because of improved self-control (D'Zurilla, 1986, 1990; D'Zurilla & Maydeu-Olivares, 1995; Gottfredson & Hirschi, 1990; Heppner & Hillerbrand, 1991).

The present study found that the arousal and behavioural domains of anger, alongside motor, cognitive and behavioural impulse control significantly improved because of treatment. Thus, the positive changes in impulse control, coercion and anger regulation could be seen as

positive indicators of Chromis' potential for reducing violence (Howells, 2004). These findings are consistent with a sample of personality disordered offenders, including a small sample of psychopathic offenders (Doyle et al., 2016) and extends upon an earlier evaluation of the Chromis programme (Tew et al., 2012), whereby five offenders demonstrated improvements in self-reported anger (as measured by the NAS-PI). Thus, the present study's findings are prominent and demonstrate that the core treatment need areas that are strongly related with the antisocial features of psychopathy (Blair, 2010; Hare, 1991) are amenable to change. Whilst the study did not evaluate psychopathy trait change, and thus a behavioural outcome cannot be concluded, the findings are promising. Furthermore, these are important findings given that these measures (Gordon & Egan, 2009) have been shown to predict recidivism (Monahan et al., 2001; Novaco, 2011).

The adapted LoC measure was sensitive to treatment change, with significant improvement observed. To the best of our knowledge, no earlier study has examined the effect of treatment in addressing deficits in locus of control within psychopathic offenders, a somewhat surprising observation, taking into account empirical findings that suggest locus of control as an important factor affecting treatment outcome for offenders, with greater levels of external locus of control impeding upon taking responsibility and treatment engagement (Dekel, Bebenishty & Amram, 2004; Fisher et al., 1998; Page & Scalora, 2004). In view of blame externalisation being a relatable feature of psychopathy, it is encouraging that there was a significant shift in treatment within the sample to a more internal locus of control. This provides evidence to suggest that psychopathic offenders are able to modify their passive thinking and displacement of responsibility to feel more empowered to take responsibility for events and outcomes. These findings also provide support for the use of the LoC measure in clinical work to assess the changes in locus of control orientation following treatment.

With regard to clinical change in maladaptive schemas, it was found that eight out of 15 YSQ-SF maladaptive schemas improved significantly across treatment. In contrast to the schemas

social isolation and dependence, for which statistically significant differences pre- to post-Enabling Change were observed, the remaining six schemas demonstrated significant improvement over the whole treatment programme, rather than specific components of Chromis (no statistically significant differences pre- to post- Cognitive Skills or Enabling Change). This may suggest that the treatment modality in itself (the Chromis programme in its entirety) contributed to the clinical improvements in maladaptive schemas. The Chromis programme focuses on the deepest levels of cognition as a means of addressing treatment need (Young et al., 2003) and whilst a treatment aim of the Enabling Change component is to address maladaptive schemas, it is pertinent that neither Chromis nor its subsequent components provide an integrative model of treatment that has been empirically supported to address maladaptive schemas directly (Young et al., 2003). In other words, the Chromis programme does not include a treatment model such as schema-focused therapy that has been found to be effective with complex offenders (Chakhssi et al, 2014; Young et al., 2003).

Chromis may have had a positive effect in terms of addressing some of the evaluated schemas, however, wider factors operating within the group setting or wider treatment services may have had an additive effect to treatment at a group-process level (Simpson et al., 2010). For instance, the unique social component and treatment ethos facilitated by the treatment service may have directly challenged or provided a process of normalising or de-shaming schemas, thus supporting a process of change outside of the treatment context (Farrell, Shaw & Webber, 2009; Simpson et al., 2010). This is a plausible hypothesis, nevertheless it provides restricted insight into the variation of clinical change across the evaluated maladaptive schemas. Whilst definite conclusions cannot be drawn, the study's results provide evidence to suggest that psychopathic offenders are able to make changes to some maladaptive schemas that were previously thought to be impervious to change (Ball, 2007; Young et al., 2003). The study therefore extends previous findings that such changes were not observed (Doyle et al., 2016).

Whilst statistically significant improvement as an effect of overall treatment was observed in the evaluated treatment need areas, given the pattern of results, it is apparent that significant change within the treatment need areas of anger, impulse control, problem solving, and locus of control can be attributed to the Cognitive Skills component. Taking into consideration that an integral aim of the Cognitive Skills component is to address the aforementioned treatment need areas, this is an encouraging finding relating to the component's effectiveness. Furthermore, it provides support to current theoretical understanding that psychopathic offenders can benefit from appropriately targeted and designed interventions (Olver & Wong, 2009; Reid et al., 2013). Indeed, the Cognitive Skills component and Chromis utilise a cognitive behavioural approach treatment designed to address criminogenic needs (treatment needs) while providing treatment that is individualised and structured and responsive to the personality traits of offenders (Andrews & Bonta, 2003; 2010; Andrews et al., 2011).

The pattern of results relating to the Enabling Change component, more specifically a pattern of non-significant change across the aforementioned outcomes, could suggest that this component does not focus sufficiently on addressing the evaluated treatment need areas for psychopathic offenders. Whilst a plausible hypothesis given the present study's findings, it is prudent to acknowledge that the results are surprising considering the treatment modality of the Enabling Change component and the empirical evidence in support of a formulation-based cognitive behavioural approach to treatment when working with violent and forensic populations (McGuire, 1995; Wong & Gordon, 2006). When interpreting these findings, it is crucial to acknowledge that the Enabling Change component of treatment could have helped maintain treatment gain or indeed alternative treatment gain that has otherwise not been evaluated within this study. An alternative hypothesis could be that following the completion of the Cognitive Skills component, no further gain for the specific treatment need areas is possible for this unique offender population, that is to say that the Cognitive Skills component provides a sufficient intensity of treatment. Whilst a tentative conclusion worthy of further exploration, it is necessary

to acknowledge Olver and Wong's (2013) view that unsuccessful treatment programmes for psychopathic offenders are those that 'over-treat', that is, those that provide a higher intensity or dosage of treatment than those that have demonstrated more positive outcomes. This is an argument deeply rooted in the risk, need and responsivity principles of effective treatment models (RNR) (Andrews & Bonta, 2003; 2010; Andrews et al., 2011).

Treatment change at the individual level

Although group-based change analyses are relevant and provide evidence of the overall efficacy of a programme achieving its objectives, individual-level results highlight how analyses of reliable and clinically significant change may offer useful information regarding individual offenders' progress in treatment. In line with the group analysis, there were no statistically significant differences between psychopathy groups (moderate and high psychopathy) in the reliable change categories (deterioration and uncertain change versus improvement). In contrast to clinical lore, treatment in this study did not make psychopaths worse, a finding that is in line with previous outcomes (Chakhssi et al., 2010). A substantial percentage of the sample demonstrated statistically reliable reductions in their experienced anger and related treatment need areas: social problem solving, impulsivity and locus of control. More specifically, approximately two-thirds of psychopaths showed reliable change in their impulsive behaviour and rational problem solving, with a further pattern of results demonstrating over one third of the sample indicating reliable change across varying scales. In line with the group analysis for the YSQ-SF, a more varied pattern of results was observed, and whilst the uncertain change category was consistently the most prevalent across the subscales, over one third of psychopaths demonstrated reliable change in the evaluated schemas of mistrust and social isolation.

For a small group within the sample, across the psychometric scales the outcomes deteriorated. This may suggest that psychological treatments for a small sample of psychopathic offenders, may cause harm. Whilst further exploration into this specific sample is warranted,

based on previous findings it is conceivable that the sample included heighted interpersonal and affective facet scores, which have been related to reduced engagement and treatment gains (Hobson et al., 2000). The present study found no significant association between reliable change categories (deterioration and uncertain change versus improvement) and PCL-R groups and thus creates a level of uncertainty regarding the influence of interpersonal and affective traits in relation to clinical change. Further exploration with regard to the relevance of facet scores would be advantageous. It is also plausible that for those who deteriorated, under- or over- reported on the psychometric scales at baseline, and for cases where rapport with clinicians developed or insight increased, participants' post-psychometric scores gave a more accurate representation of their problems, which resulted in an increase (or decrease) in scores. To differentiate the various reasons for score deterioration, further evaluation is needed to verify findings such as behavioural evaluation of dynamic risk and treatment need.

Overall, the findings demonstrate that within a group of psychopaths, treatment responsiveness varies and underlines the notion that individual variability within psychopaths is underestimated in group-level analyses. Further evaluation studies using this method, alongside an exploration of the personality pathology of those able to make reliable change versus those who deteriorated or remain unchanged is needed to strengthen clinical insight.

Methodological limitations and clinical implications

The findings of the current study must be considered in light of potential limitations. Firstly, the small sample size, which was restricted by the available data set, raises a level of concern regarding the robustness of the study's findings. However other than for the YSQ-SF scale where a pattern of low to high effect sizes was observed, the remaining scales showed good effect sizes within the main analysis of this study (repeated-measures MANOVA). Furthermore, the completion of the individual analysis, which confirmed and enhanced the findings of the group analysis, to some extent reduces concerns regarding the reliability of findings, however it is important to acknowledge that the small sample size limited statistical strength and therefore

potentially obscured significant differences. It is therefore crucial that the presented findings are interpreted with caution.

It is also critical to acknowledge the underlying challenges of conducting treatment efficacy studies with this unique offender population, most notably the restriction on using rigorous methodology. The gold standard for the evaluation of offending behaviour programmes is considered to be randomised control trials (RCT) or quasi-experimental designs (Harper & Chitty, 2005) with long-term evaluations of recidivism. Owing to ethical and operational constraints, the present investigation is not a controlled study of treatment efficacy, and this is an inherent methodological limitation of forensic outcome studies. This methodological limitation indicates that the observed clinical change within the study's outcomes could be due to natural changes in the participants over time or to test practice effects, rather than to effect of treatment (Nunes, Babchishin & Cortoni, 2011). To some extent the incorporation of individual-level analysis ameliorated this concern as the RCI allows for control over the possibility that observed changes are due to measurement error. Nevertheless, extraneous factors influencing change cannot be fully discounted. It is also pertinent to acknowledge that the Chromis programme is implemented within a wider treatment unit, therefore the observed positive treatment change may be considered reflective of the impact of the Westgate regime as a whole. Given that Westgate works to the same core principles and model of change as Chromis, this is positive evidence of the impact of work with offenders with high levels of psychopathic traits in this way.

Another limitation of the current study is that the measurement of treatment outcomes was solely based on responses to self-reported measures. This assessment approach is subjective and may be biased by the effects of social desirability (Ones, Viswesvaran & Reiss, 1996), which given the nature of traits associated with psychopathy, could be heightened. In addition, factors influencing psychometric scores, including motivation, concentration or mental state, mean that there are difficulties in assessing change through self-reported measures (Gudjonsson & Haward, 1998). Also, it should be acknowledged that a positive change in psychometric score post-

treatment may be reflective of increased insight, rather than a fundamental change in the dimension observed. Whilst the study findings in part emulate those of Tew et al., (2012), for more reliable accounts of treatment change, future research should harness more robust evaluation methods and corroborate treatment effects observed through self-reporting with more objective and subjective measures of change, including behavioural analysis. Furthermore, the range of measures used within this study is limited to an evaluation of cognitive domains with no assessment of change with regard to the full spectrum of personality psychopathological issues. To this end, we do not know to what extent inferences based on clinical change within cognitive domains correspond to changes in underlying personality constructs such as trait impulsivity.

Finally, the present study provides short-term evaluation of change in psychological outcomes, therefore maintenance of treatment gain in the longer term remains unknown. This concern is heightened within the population of interest as skill retention diminishes more for high-scoring psychopathic offenders (Blud et al., 2003). Research with longer evaluation periods should be conducted to observe any possible attenuation of programme effect across time. Other outcomes such as recidivism should also be measured to provide evidence of long-term treatment effectiveness (behavioural change), and to explore the mediating effects of psychological risk factors on recidivism as a result of treatment. With this, it is important to highlight that due to the limited number of men who have progressed from the Westgate PDTS unit into the community, it is not possible to examine reoffending as a behavioural outcome at this juncture.

Although these limitations do apply, and further research is needed, it is encouraging that this study has found positive improvements in treatment areas because of the Chromis programme. This provides exploratory evidence to suggest that the Chromis programme is a valuable treatment component within the PDTS treatment framework. Nevertheless, it may prove beneficial for programme developers to review the treatment modalities and treatment targets in light of the study's findings or reconsider the intensity and length of treatment provided.

The findings of the study provide important evidence in relation to the treatment responsiveness of psychopathic offenders. The group-level evaluation provided evidence of positive improvements across the studied outcomes, thus providing insight into psychopathic offenders' abilities to make clinical change across treatment need factors related to aggression. The individual-level analysis provided valuable information about the variability of change, whilst providing meaningful clinical evidence in support of treatment effectiveness. Taken together, the study findings and as well as those of some previous studies (Chakhssi et al., 2010; Olver et al., 2013; Looman et al., 2005; Olver & Wong, 2009; Skeem et al., 2002), suggest that psychopathic offenders are treatable, and strengthen the evidence base to diminish the harboured uncertainty within this field. These important advances in our understanding are positive and used constructively, could enhance clinical practice. Whilst psychopaths do show higher rates of recidivism than other forensic populations (Olver & Wong, 2006; Salekin, 2008; Serin & Amos, 1995), this does not imply that they are untreatable. Rather, it accentuates the importance of understanding the heterogenous population and the psychological processes for addressing the treatment needs of this unique population of offenders. Such research is critical in evaluating treatment programmes and the variables that contribute to processes underpinning offender change. In addition, further efforts in understanding psychopathic offenders in terms of their functional differences are crucial to aid clinical decision making and treatment efforts. There is a clinical importance to being able to identify those able to benefit from forensic treatment, and those who deteriorate or remain unchanged.

Chapter Four: Discussion and Conclusion

The first chapter of this thesis established context by providing a review of the relevant literature relating to the characterisation, assessment and treatment of psychopathic offenders. Evidence supporting the psychometric properties of the PCL-R (Hare, 1991; 2003) was set out (e.g. Harris et al., 2013; Ismail & Looman, 2016; Kiehl & Hoffman, 2011), alongside evidence that casts some doubt on the clinical accuracy of the tool (e.g. Jeandarme et al., 2017; Murrie et al., 2012). In addition to considering the value of PCL-R assessment within clinical practice, the review appropriately acknowledged ongoing debates regarding the structure and nature of the PCL's conceptualisation of psychopathy. The most significant of these concerned the variability between individuals with high levels of psychopathic traits as measured by the PCL-R, which emphasised the heterogeneity of this unique offender population (Brinkley et al., 2004).

In considering the empirical and clinical understanding of treatments for psychopathic offenders, evidence highlighting the unique challenges of working therapeutically with psychopathic offenders and the wider impact this poses was examined together with empirical evidence that postulated that psychopathy is related to treatment attrition. The review of the literature on the effectiveness of treatment for psychopathic offenders included a critical analysis of empirical studies. The analysis showed that whilst more recent studies have employed variable methods to evaluate treatment effectiveness and have provided more positive outcomes, the robustness of these studies remains limited by methodological weaknesses that diminish the strength of findings. The analysis showed that existing literature on the treatment of psychopathy provides an inadequate basis for drawing firm conclusions, a result that emphasises the importance of further empirical study for advancing clinical understanding.

After the review of the available empirical evidence, the following overarching research questions were posed as the basis for this thesis:

- ***To what extent is the construct of psychopathy associated with treatment non-completion, and how does this relate to risk?***

- ***To what extent is the Chromis programme effective in producing significant and reliable changes in treatment need areas related to violence for individual psychopathic offenders?***

This chapter summarises the research described in the thesis and the most salient findings relating to the overarching research questions. It also explores the results of the systematic review on treatment non-completion among psychopathic offenders (Chapter 2) and the empirical study on the effectiveness of the Chromis programme (Chapter 3), with emphasis on advances in clinical understanding and on practice implications. Whilst the limitations relating to each study have been highlighted in the respective chapters, this section will note the limitations that should be kept in mind when considering each overarching research question.

Treatment attrition – Summary of findings, implications and limitations

The systematic review addressed the first research question:

- ***To what extent is the construct of psychopathy associated with treatment non-completion, and how does this relate to risk?***

The limited existing empirical evidence suggested an association between psychopathy and treatment attrition (DeSorcy et al., 2016; Hobson et al., 2000; Ogloff et al., 1990; Olver et al., 2011); however, to date, no review had been conducted specifically to explore this postulated association. Thus, as an important clinical objective, the systematic review (Chapter 2) synthesised the existing literature on psychotherapeutic treatment attrition among psychopathic offenders to enhance the clinical understanding of the association between psychopathy, treatment completion and outcome.

The review makes a unique contribution to the clinical understanding of treatment attrition among psychopathic offenders, and identifies and discusses a number of important clinical considerations for the treatment of psychopathic offenders as well as areas for future research. Furthermore, the review highlighted inconsistencies in findings across the included studies and important gaps in clinical understanding with regard to treatment for this unique group of offenders. It was argued that given the heterogeneity of psychopathic offenders, the variety of treatments offered, differences between the services that offer treatment and the methodological weaknesses of existing studies, the level of inconsistent findings observed was to some extent expected. Nevertheless, the findings reflected important gaps in clinical knowledge, emphasising the need for further robust empirical exploration.

It is prudent to accept that due to the paucity of studies and the largely inconclusive findings across the included studies, the development of definite conclusions was not possible. On the basis of available evidence, it was argued that treatment attrition rates for psychopathic offenders are not fundamentally higher than those of other offenders and client groups. Whilst it is pertinent to acknowledge that psychopathic offenders are a challenging group to engage in treatment, clinicians should not be unduly pessimistic about the treatment adherence of offenders with heightened levels of psychopathic traits. It is imperative, however, that treatment for psychopathic offenders is purposefully designed and delivered in a manner that responds to the specific and unique needs of this group of offenders (Andrews & Bonta, 2003; 2010).

The review identified evidence supporting an association between psychopathy (PCL-R total score) and treatment non-completion, which in turn does oppose the aforementioned tentative conclusion that attrition rates amongst psychopathic offenders are not fundamentally higher than those of other offenders. In further consideration of these findings, it is important to acknowledge that the PCL-R total score provides a global representation of the construct of psychopathy, and thus provides limited insight into the relationship between psychopathy and treatment non-completion. Conversely, existing studies that explored more profoundly the construct of

psychopathy, in particular the PCL-R facets, with attrition, inconclusive findings were observed, raising a level of doubt over the true association between psychopathy and treatment non-completion. Thus, whilst an association between psychopathy (PCL-R total) and attrition can be concluded as based on existing evidence, this should be considered to be a fallacious outcome. This emphasises the importance of clinicians to not perceive a high PCL-R total score as a likely contributor to treatment non-completion but to work responsively with psychopathic traits within treatment to enhance engagement and completion (Andrews & Bonta, 2003; 2010). It is also important for clinicians to take into account the heterogenous nature of psychopathic offenders and the significance of this to treatment outcome. It was concluded that more individualised analysis should be conducted of the relevance of PCL-R traits in relation to treatment engagement and attrition to further enhance clinical understanding and to enhance treatment approaches.

Previous literature has reported the potential for treatment non-completion to be related to an increased risk of reoffending (McMurran & Theodosi, 2007). The current review sought to determine whether this applied to psychopathic offenders, given that psychopathic offenders are reportedly five times more likely than non-psychopathic offenders to recidivate violently (Olver & Wong, 2006; Salekin, 2008; Serin & Amos, 1995), and given that this already elevated risk is likely to increase with treatment non-completion. Two of the included studies partially supported the relationship between treatment non-completion and greater risk on release for violent recidivism in comparison to psychopathic offenders who completed treatment (Daffern et al., 2013; Olver & Wong, 2009). However, this finding was not replicated by Sewall and Olver (2017) and did not prove to apply to sexual recidivism (Olver & Wong, 2009; Sewall & Olver, 2017). The scarcity of evidence on this point meant that definite conclusions regarding the relationship between treatment non-completion and risk could not be drawn. Nevertheless, the clinical limitations of treatment completion status as an indicator of recidivism were discussed. Evidence in support of using psychopathy, risk and treatment change to assess the risk of recidivism was discussed and deemed preferable to using treatment completion status in isolation to form clinical judgements on risk issues.

The critical appraisal of the included studies highlighted shared methodological weaknesses that affect the quality of the studies' outcomes and the interpretations of those outcomes. An important issue was the definition of non-completion, which varied across the included studies. In addition, treatment non-completion outcome was persistently recorded in a singular manner (i.e. client initiated versus programme initiated), and a variety of reasons for non-completion was left unexplored. This hinders clinical understanding into wider factors related to treatment non-completion for individuals with heightened levels of psychopathic traits and may have contributed to the negative perception that treatment non-completion for psychopathic offenders is related to their turbulent engagement and presented problematic behaviour (Hemphill & Hart, 2002; Ogloff et al., 1990), a flawed inference that negates the appreciation of wider motives. It is important to aid clinical practice by considering and differentiating between possible reasons for treatment non-completion including those that are negative (engagement difficulties, dislike of treatment, difficulties understanding content or a lack of motivation to change), positive (engaging in alternative treatment or entering education), practical (difficulties in accessing or attending treatment), related to other life events (relationship breakdown or bereavement) or related to programme-directed exclusion (poor attendance at sessions, rule breaking or disruptive behaviour). Clearly, a greater appreciation of the specific motivations and reasons for treatment non-completion with consistency across studies is needed to gain more in-depth insight to support clinical practice. This in turn would enhance treatment provision and support treatment engagement and completion.

The systematic review was initially intended to explore the influence of a wider range of factors on treatment non-completion among psychopathic offenders, such as service-related barriers to treatment completion, client motivation and perceptions (including attitudes and beliefs), demographic and offence characteristics and co-morbidities. However, due to the paucity of empirical studies exploring these factors (and specifically, treatment non-completion for psychopathic offenders), the aim of the current systematic review had to be refined. This reflects

the narrow and limited level of research into psychopathic offender attrition, a notable observation given empirical studies that have explored a wider range of factors and their influence on attrition within other offender and client groups (e.g. McMurran & Theodosi, 2007; Olver et al., 2011). Whilst the sole focus upon relatively stable characteristics such as psychopathic traits in relation to treatment non-completion is a valuable strategy that could yield important clinical insight, it could contribute to a problematic approach within practice – professionals may seek inherent deficits in offenders to explain treatment non-completion rather than appreciating a wider range of factors including service and treatment delivery, demographic factors and motivation. It is important that professionals avoid creating an attrition profile for offenders, as this could shape inappropriate professional expectations and, equally importantly, offenders' chances of being accepted into treatment (Bekyo & Wong, 2005; Olver et al., 2011). Thus, there is a need for a more comprehensive approach to determining what has an effect on the treatment completion and non-completion status of psychopathic offenders, with specific focus on individual factors, treatment and service variables.

A somewhat neglected area of research to date that could yield meaningful insight is an exploration of psychopathic offenders' experiences of treatment engagement and non-completion. Such investigations may permit a more in-depth evaluation of a wider range of factors (e.g. factors relating to service and treatment delivery and therapists) that are likely to have a greater influence on treatment retention within this unique offender group. It is anticipated that such derived evidence could support the development of more effective approaches and strategies to retain psychopathic offenders in treatment, an area of practice that currently holds limited empirical support.

The effectiveness of Chromis treatment – Summary of findings, implications and limitations

The fundamental purpose of effective treatment is to reduce risk and support future risk management to decrease the likelihood of recidivism. Despite longstanding pessimism, more recent evidence has established that the effectiveness of treatment can be demonstrated for this unique high-risk offender population when appropriately designed treatment programmes are implemented. Nevertheless, inherent methodological limitations remain a contentious factor in the interpretation of such derived empirical findings. In this context, it is critical to reemphasise challenges with conducting treatment efficacy studies with this unique offender population, most notably the restriction on using rigorous methodology. Thus, in the absence of a more robust methodological approach it is postulated that other methods should be employed to enhance the understanding of treatment effectiveness (Friendship, Falshaw & Beech, 2003; Hollin, 2008) particularly for those with high levels of psychopathic traits.

The second research question involved exploring treatment responsivity in psychopathy, specifically, to what extent the Chromis programme is effective in producing significant and reliable changes in treatment need areas related to violence for individual psychopathic offenders. The overarching aim of the study (Chapter 3) was to evaluate the effectiveness of the Chromis programme, a purposefully designed intervention aimed at reducing violence in high-risk offenders whose level or combination of psychopathic traits disrupts their ability to engage in standard prison-based treatment. More specifically, Chromis is delivered following contemporary treatment methods based on the best available evidence of what works with offenders more generally and with psychopathic offenders – this includes focusing treatment on addressing risk whilst delivering treatment that is responsive to the unique personality traits, emphasising motivating change, utilising a cognitive-behavioural approach and providing treatment that is individualised yet structured (Olver & Wong, 2009; Reidy et al., 2013).

In line with the main issues identified in the wider literature, the current review also examined whether psychopathy and treatment non-completion are associated. The observed overall attrition rate of 41% for the sample used in this study was comparable to a median non-completion rate of 46% that was found within the systematic review in this thesis. Nevertheless, in contrast, the study observed no significant difference or association between psychopathy and treatment non-completion. To some extent these findings were unsurprising taking into account previous findings where PCL-R total score was not found to be predictive of treatment non-completion within the same sample as was used this study (Bennett, 2015). It is important to note that the study within this thesis extends these findings by exploring the relevance of the PCL-R factors, a topic that was not explored by the Bennett (2015) study. In the study within this thesis, a firm conclusion could not be reached due to the limited variance within the PCL-R total scores of the treatment non-completer and completer cohorts, so the study's finding cannot be reliably used to demonstrate a different outcome from those presented in the systematic review.

In order to pursue the overarching aim of the study, a secondary clinical data set was utilised to investigate the clinical effectiveness of the Chromis programme as a whole and its individual stages by examining change in a range of treatment need areas (problem-solving, anger, impulsivity, locus of control and maladaptive schemas) related to aggression and violence for this distinct group of offenders. Results were presented using two approaches, namely (i) group-level analysis to facilitate a comparison with previous literature using this standard methodology, and (ii) individual change analysis to investigate differential outcomes within the group of psychopaths as means of enhancing the strength of the study's outcome by taking the notion of sample heterogeneity into account.

In line with the clinical understanding that psychopathic offenders are not a homogenous group (Brinkley et al., 2004) and the disparity in empirical evidence regarding psychopathy score levels and treatment change (e.g. Chakhssi et al., 2010; Hildebrand & de Ruiter, 2012; Olver et al., 2013), the group-level evaluation incorporated an examination of treatment change in two

psychopathy groups (moderate and high PLC-R score). The study observed that psychopathy level did not moderate the effect of treatment, with comparable treatment gains observed across both moderate and high PCL-R groups. Whilst providing valuable insight into the process of treatment change, taking into account identified shortcomings relating to the applied PCL-R grouping and restricted variation in PCL-R scores across the sample, the findings cannot be reliably interoperated and thus concluded. Nonetheless, the studies' outcomes demonstrated that psychopaths are responsive to treatment with a pattern of significant change across the measures in the expected direction. Critical analysis of the targeted treatment needs within each specific stage of treatment established that treatment need change in the core areas of anger, impulse control, problem solving and locus of control could be attributed to the Cognitive Skills component. These are encouraging findings given that this component of Chromis is designed to address these treatment need areas.

With regard to clinical change in maladaptive schemas, the pattern of results demonstrated significant improvement for eight of the 15 schemas over the whole treatment programme, rather than specific components of Chromis. A statistically significant change pre- to post- Enabling Change component was observed for two schemas (social isolation and dependence). Taking into account that the Enabling Change component is designed to address unhelpful thinking patterns and core beliefs associated with schemas, the study's findings in relation to the effectiveness of this component is concerning. Nevertheless, Chromis and its components do not provide an integrative model of treatment that has been empirically supported as addressing maladaptive schemas directly (Young et al., 2003). In other words, the Chromis programme does not include a treatment model such as Schema Focused Therapy that has been found to be effective with complex offenders (Chakhssi et al., 2014; Young, 1999; Young et al., 2003). Thus, whilst Chromis may have had a positive effect in addressing some of the evaluated schemas, substantial change should not be expected and thus it appears prudent to acknowledge that the observed changes may equally have been a result of a wider range of factors provided by the PDTS.

The pattern of no significant change in treatment need areas across the evaluated outcomes pre- to post- Enabling Change was unforeseen. Whilst it may suggest that this component of treatment is not effective in reducing risk related treatment need areas, it is important to consider alternative hypotheses for this finding, notably the potential of 'over-treatment', maintenance of treatment gain or addressing treatment need areas that have otherwise not been evaluated (Andrews et al, 2011). Thus, it would appear that further exploration is warranted to develop a deeper understanding of the overall effectiveness of the Enabling Change component of Chromis.

The accompanying individual-level analysis provided valuable information about the variability of treatment change across a group of psychopaths, whilst providing further meaningful and unique clinical evidence in support of treatment effectiveness. The patterns of individual change were mostly consistent across the outcomes, with a prominent proportion demonstrating reliable change. Nevertheless, it also pertinent that an equal and at times a higher proportion of the sample demonstrated uncertain change across the outcome measures, and for a small group, the outcomes deteriorated across the psychometric scales. This may suggest that psychological treatments may, for a proportion of psychopathic offenders pose limited effect in addressing risk related treatment need areas and for some cause harm. Whilst no firm interpretations of these findings could be made, the findings emphasise the clinical importance of individual-level analysis in evaluating treatment for this unique group of offenders. It is worth exploring the hypothesis that (considering that the heterogeneous nature of those with high levels of psychopathic traits is now clinically understood) variations in personality traits, alongside other extraneous variables (e.g. level of motivation, sentence type and co-morbid disorders) may contribute to differential treatment outcomes (Donahue, McClure & Moon, 2013). It is critical to acknowledge that there is a need for research to be more sensitive to individual variability among psychopathic offenders in order to truly evaluate the effectiveness of treatment for this unique group of offenders.

Overall, it is pertinent that the evaluated outcomes of this study have received limited prior evaluation and thus this study offers unique evidence of psychopathic offenders' capabilities for change across the measured outcomes. Furthermore, the study's findings provide a level of support for the current theoretical understanding that appropriately targeted and designed treatment can facilitate positive change for some psychopathic offenders, with the study observing a proportion of sample demonstrating uncertain change and deterioration across the measured outcomes within the sample. Furthermore, it is imperative to reiterate that whilst the study provides support for the effectiveness of Chromis, treatment change across most of the outcome measures was attributed to the Cognitive Skills component, raising a level of doubt over the clinical effectiveness of Enabling Change component. On balance, the study's findings provide important evidence to support the continued commissioning of Chromis for this population and continued investment in working with individuals with high levels of psychopathic traits using the approach taken by the programme.

Taken together, the study findings as well as those of some previous studies (e.g., Chakhssi et al., 2010; Olver et al., 2013; Olver & Wong, 2009), suggest that a proportion of psychopathic offenders are treatable, and strengthen the evidence base to diminish the remaining uncertainty within this field. These important advances in our understanding are positive, and used constructively, could enhance clinical practice. Nevertheless, it must be acknowledged that the present study's findings do not have external validity, outside of the specific service in which it took place, and therefore the findings cannot be generalised to other services. Furthermore, whilst interpreting the results, it needs to be remembered that the Chromis programme is delivered in a wider treatment unit, therefore the observed positive treatment change may be considered reflective of the impact of the Westgate PDTS regime as a whole, rather of the Chromis programme in particular. Nonetheless, given that Westgate works to the same core principles and model of change as Chromis, the study provides positive evidence of the impact of this sort of work with offenders with high levels of psychopathic traits.

The present study has made the best use of currently available data to enhance evidence in the evaluation of the Chromis programme, and thus has contributed to the literature about treatment for psychopathic offenders. This study has made some efforts to advance the robust empirical research and knowledge in this area. There are widely documented criticisms of treatment effectiveness studies with this unique group of offenders, such as methodological limitations including the lack of an adequate control group, treatment that is not appropriately designed to address risk, inept assessment or unclear conceptualisations of psychopathy (e.g. D'Silva et al., 2004; Harris and Rice, 2006; Reidy et al., 2013). The empirical study in this thesis made use of the PCL-R definition and structure of psychopathy, and the treatment targets and treatment model of Chromis are clear and evidence-based. These aspects are clear improvements on some previous work investigating the effectiveness of different treatments with this population. However, there are still some limitations to acknowledge – specifically, it was not possible to include a control group. Identifying control groups appears to be a difficulty for many researchers, often owing to ethical, operational and time constraints, however, some have conducted small-scale studies with control groups (e.g. Wong & Gordon, 2006; Wong et al., 2012). Whilst to some extent the incorporation of individual-level analysis within this study ameliorates concerns regarding treatment change, without a comparative control group the study cannot confidently conclude that the positive outcomes observed were a result of treatment alone. Thus, as means of progressing empirical outcomes, future programmes and work should aim to identify and collect data with a suitable control group to provide a more detailed and robust understanding of the findings. In light of more recent developments within the United Kingdom relating to the Offender Personality Disorder pathway, there may be value in exploring the feasibility of the identification and use of appropriate control groups from prisoners within this framework.

It is also important to consider the limitations of conducting a treatment evaluation study based on treatment need change in isolation. The current approach provides meaningful insight

into the process of treatment change and there is existing literature that advocates risk-related treatment need change as being linked to a reduction in reoffending risk (Bonta et al., 1998; Howells, 2004; Monahan & Appelbaum, 2000; Wilson et al., 2013) and that this is still the case for individuals with high levels of psychopathic traits (Olver et al., 2013). Thus, whilst the observed treatment need changes observed within this study are positive indicators of Chromis' impact in reducing violence for psychopathic offenders, it could be argued that further formal evaluation of Chromis' impact on recidivism is needed to draw a firm conclusion. In this vein, it important to reiterate evidence presented in Chapter 1 that expressed re-offending as a coarse indicator of the success of treatment (Hanson, 1997). Thus, a more effective direction for treatment effectiveness studies could be a long-term evaluation of treatment need change, recidivism and an exploration of associations between these two outcomes.

The current study was limited to the measurement of treatment outcomes based solely on responses to self-reporting measures. This assessment approach is subjective and may be biased by the effects of social desirability (Ones et al., 1996), which, given the nature of traits associated with psychopathy, could be heightened. Furthermore, the range of measures used within this study is limited to an evaluation of cognitive domains with no assessment of change with regard to the full spectrum of personality psychopathological issues. An important clinical question that remains unexplored within the wider literature base is, more specifically, whether treatment has an effect on psychopathic traits themselves. Thus, whilst cognitive and behaviour change as a result of treatment is now empirically supported for psychopathic offenders, it remains unclear to what level the core interpersonal and affective features of the disorder remain intact and how this may impact upon future risk. This is a potentially fertile area for future research that will enhance the clinical understanding of the treatment change process for psychopathic offenders.

Despite the aforementioned limitations, the outcomes of this empirical study have provided encouraging evidence of psychopathic offenders' capabilities for treatment need

change. Alongside previous evaluations (Tew et al., 2012; Tew et al., 2015), there is now increasing evidence in support of the treatment and management principles of Chromis. It is important to recognise the need for the ongoing support and management of psychopathic offenders following the completion of treatment, or indeed during the process of progression from a distinct treatment unit such as the Westgate PDTS to a new prison environment. It would seem plausible to suggest that the treatment approach of Chromis is incorporated with the wider personality disorder pathway to support progression and continued risk management. This could provide increased scope for a more coordinated approach to an individual's sentence management and treatment planning, allowing more of their sentence to be specifically tailored to their needs (Olver and Wong, 2009; Reidy et al., 2013).

Conclusion

Collectively, the body of work contained within this thesis has added to the evidence base relating to the treatment of psychopathic offenders. The conducted systematic review presented an opposing yet tentative conclusion that treatment attrition rates for psychopathic offenders are not unduly higher than for other offender groups, though it is pertinent to note that the rate of non-completion is substantial, and undoubtedly has adverse consequences. Capricious evidence in support of psychopathy as a contributing factor to treatment non-completion was presented, with relationships between the PCL-R and drop-out being offered with apparent clinical utility. This evidences the unique nature of psychopathy in relation to treatment and emphasises the importance of identifying the problematic traits of the disorder as responsivity factors that require considered treatment approaches to maintain engagement (Andrews & Bonta, 2003; 2010). Thus, the clinical importance of treatment being designed and delivered in a manner that is responsive to psychopathic unique needs was accentuated. Empirical studies that explored the relationship between psychopathy and treatment non-completion on the one hand, and recidivism on the other, produced evidence that was inconclusive, and due to the paucity of evidence, firm conclusions

could not be drawn. The use of treatment completion status as an indicator of recidivism in isolation was discussed, with the clinical importance of assessing risk change being viewed as a more reliable assessment for aiding clinical judgement on the predication of recidivism. Overall, the conducted systematic review has provided a unique contribution to the clinical understanding of treatment attrition for psychopathic offenders. The synthesis of available evidence has identified ambiguities in understanding and identified important clinical considerations for the treatment of psychopathic offenders. There remains a clinical need for a more in-depth exploration of wider factors to treatment non-completion for this unique, high-risk, high treatment need group of offenders – without this understanding it plausible to suggest that treatment approaches will remain hindered.

The empirical study in this thesis provided valuable evidence to demonstrate the clinical effectiveness of the Chromis programme and perhaps the wider therapeutic environment of the PDTS. Both group- and individual-level analysis showed positive outcomes across the evaluated treatment need areas. The study findings add valuable evidence to the wider research base relating to the treatability of psychopathic offenders and despite clinical lore, the findings demonstrate that certain treatment aspects can facilitate a positive outcome for psychopathic offenders.

In consideration of the empirical findings, it is important to acknowledge that it has taken considerable time to counter the view that treatment makes all offenders with high levels of psychopathic traits worse (Rice et al., 1992). Due to more recent empirical findings, there is now an established argument that the nihilism concerning the treatment of psychopathic offenders is unhelpful and unfounded. Fortunately, there appears to be a more consistent and constructive attitude prevailing in clinical practice that these individuals can be effectively engaged in treatment and are capable of change. Whilst an encouraging step forward, it is imperative that clinicians and policymakers remain aware of the limitations of the current literature and continue to be critically curious about treatment effectiveness for those with high levels of psychopathic

traits. It is important that practice does not follow inappropriate routes, as may have been the case previously, and thus empirical findings need to be carefully applied to aid the development of treatment approaches for this unique offender population. Indeed, treatment providers should make use of current empirical evidence and devote attention to the development of interventions that take into account the unique motivational strengths and deficits of psychopathic offenders. The case is made for the value of considering the nature of an individual's psychopathic traits in order to work meaningfully with those who have high levels of these traits to address their risk of re-offending. Similarly, researchers should devote attention to conducting methodologically adequate evaluation studies as a means of enhancing clinical understanding, with a greater level of transparency with regard to the evaluated treatment and the outcomes. Due to the heterogeneous nature of those with high levels of psychopathic traits, the value of conducting individualised analysis to ascertain patterns of change among a group of psychopathic offenders is strongly advocated to enhance the applicability of research findings to practice.

Chapter Five: Individual Learning Plan and Reflective Report

Competence Development Record

Activity	Date(s)	RDF competence developed
Publications during academic programme:		
• Bennet, A., & **Johnson, D.** (2017) Co-morbidity of personality disorder and clinical syndrome in high-risk incarcerated offenders. *Journal of Forensic Practice.* 19(3), 207-216	Published July 2017	A1, A2, A3, D1, D2
• Falcus, C., & **Johnson, D.** (2018) The violent accounts of men diagnosed with co -morbid anti - social and borderline personality disorders. *International Journal of Offender Therapy and Comparative Criminology*, 62 (9), 2817-2830	Published January 2018	A1, A2, A3, D1, D2
• Mullan, C., **Johnson, D.,** & Tomlinson, J. (2018) An exploration of personality disordered offenders' experiences of completing a social skills treatment component. *Journal of Criminological Research Policy and Practice*. 4 (3), 174 - 185	Published September 2018	A1, A2, A3, D1, D2
Research publications in progress (publications written and awaiting full edit prior to submission):		
• Bennet, A., & **Johnson, D.** (In progress). Co-morbidity between Clinical Disorders and Psychopathy within High-Risk Personality Disordered Prisoners.	Planned submission 2019	A1, A2, A3, D1, D2

• Heron, H., **Johnson, D.,** & Bennet, A. (In progress). Co-occurrence of Psychopathy and Mental Health diagnoses within a high-risk group of offenders	Planned submission 2019	A1, A2, A3, D1, D2
• Howie, T., **Johnson, D.,** & Taylor, A. (In progress). Substance Related Offending Behaviour Programme (SROBP): exploring male prisoner's experiences of treatment and application of learning.	Planned submission 2019	A1, A2, A3, D1, D2
• Howie, T., **Johnson, D.,** & Taylor, A. (In progress). Violence Prevention Climate: relationship with the exposure to violence and aggression and impact on prison staff well-being.	Planned submission 2019	A1, A2, A3, D1, D2
• Tock, G., **Johnson. D**., & Gibson, K. (In progress). Prisoners' experiences of transition from a progression PIPE to a mainstream high secure prison environment.	Planned submission 2019	A1, A2, A3, D1, D2
• Tock, G., **Johnson. D**., & Gibson, K. (In progress). The impact of engagement with a high security Personality Disorder Treatment Service on risk of violence.	Planned submission 2019	A1, A2, A3, D1, D2
• Cartwright, K., & **Johnson, D**. (In progress) Perpetrators experiences of a community domestic violence perpetrator programme.	Planned submission 2019	A1, A2, A3, D1, D2
• Mullan, C., **Johnson, D.,** & Tomlinson, J. (In progress) Evaluation of a social skills treatment	Planned submission 2019	A1, A2, A3, D1, D2

component within a high-secure personality disorder treatment service.		
Conference presentations:		
• Research presentation on co-morbidity within personality disordered offenders and treatment evaluation at the British and Irish Group for the Study of Personality Disorder (BIGSPD).	March 2017	D2, D3
• Research presentation on the effectiveness of Chromis programme for psychopathic offenders (thesis study (chapter 3)) at the BPD Division of Forensic Psychology conference.	June 2018	D2, D3
• Presentation of current research activity and findings in relation to clinical practice. Newcastle University.	July 2018	D2, D3
Research skill and knowledge development:		
• Self-directed learning (self-directed reading, research reflections and supervision).	2017/2018	A1, A2, B2, C1, C2, C3, D1
• Systematic review workshop	March 2017	A1, A2
• Teesside University research mentor meetings	2017/2018	B2, B3, C1, C2, C3, D1, D2, D3
• HMP Frankland's research meetings	2017/2018	A1, D1, D2, D3
• NOMS research meeting	April 2017	A1, D1, D2, D3
• Meeting with Enterprise and Business Engagement lead for the School of Social Sciences, Humanities and Law at Teesside University.	May 2018	D1, D3
• Psychology department research meetings – Newcastle University	June 2018 onwards	A1, D1, D2, D3

• Research funding and bid process workshop	July 2018	C1, C3
• Professional Doctorate research supervision	2016 – 2018	A1, A2, A3, B2, C1, C2, C3, D1
Teaching and Supervision		
• **Module Leader:** Undergraduate level 5 (Theoretical Approaches to Forensic Psychology), level 7 (Assessment and Treatment in Forensic Practice), level 8 (Advanced Independent work).	2016/2018	D1, D2, D3
• **Programme Leader:** BSc (Hons) Forensic Psychology, MSc Forensic Psychology and Professional Doctorate in Psychology.	2016/2018	D1, D2, D3
• Academic mentor to junior academic staff	2016/2018	D1, D2, D3
• **Research supervisor:** UG, PG dissertations and thesis, and Trainee Psychologists.	2016/2018	D1, D2, D3

Individualised Learning Plan (summary of progress[20])

Vitae Domain	Final Phase required	Need identified	Action to address need	Summary of progress	Final phase rating
A1 (Knowledge base)	2+	Systematically advance knowledge, which is at the forefront of professional forensic psychology practice.	Strengthen theoretical and empirical understanding on literature relating to treatment for psychopathic offenders. Utilise knowledge to aid the development and completion of thesis research.	At the commencement of the research process, I had a level of understanding of literature which was solely related to research studies that I had conducted but also due to my practice (assessment and treatment of personality disordered offenders). Nevertheless, as my reading progressed, I became aware of broader empirical studies but also of methodological weakness of past and current research. I utilised this understanding to aid the development of the proposed research studies. The approach employed has allowed me to strengthen my awareness of appropriate sources of research.	3

[20] The summary of progress provides an overview of my competence development as a research practitioner (mapped to the Researcher Development Framework), the next subsection (Reflective Report) provides a more detailed account of experiences, competence development and reflections.

				It is pertinent to acknowledge that the main research study is not without limitations, albeit attempts were made to strengthen the methodological approach to strive for robust findings. This has allowed me to develop a broader appreciation of a range of standards and methods, whilst encouraging me to justify chosen approaches within research. I encountered a number of difficulties, notably accessing and collating the research data. Through a systematic approach and with persistence the study was completed within a timely manner. Overall, it is my view that the study's findings contribute to the wider field, pose practice implications and strengthen current knowledge in hope of enriching the research area. I have developed a thorough understanding of the related topic of psychopathy and this has supported my research and clinical practice. Despite some self-resistance at the	

				commencement of the programme, I have developed a broader range of research skills and knowledge, and through in-depth reading have developed a sound justification for my research approach. This developed research skills and knowledge has supported my supervision of others, as I have been able to provide clearer guidance on appropriate selection of research design.	
A2 (Cognitive abilities)	2+	Display critical investigation and evaluation of a topic from an advanced body of literature relevant to forensic psychology practice.	Develop skills to critically evaluate research. Develop research skills in conducting systematic reviews.	Whilst the completion of the systematic review was a challenging process, with a number of changes to the focus and aims of the review, it provided a strong learning experience, whereby I strengthened my skills in effectively critiquing and synthesising literature. I now value the importance of systematic reviews in synthesising current evidence. I have also learned the importance of proficient critical thinking to support the	3

				development of independent arguments. Whilst I would not consider myself to be proficient in critical thinking, and indeed this remains as an on-going area for development, I have developed these skills to a point whereby I consider my approach to be robust and able to support the development of sound and realistic judgements based on evidence available. I have developed my ability to monitor and evaluate my research progress, whilst also striving to formulate and apply effective solutions to a range of research problems. Whilst at times I have felt defeated during my research progress, I have reflected upon my experiences and considered options available to ensure that the research project remains relevant and meaningful. I am encouraged by my developed skills, and this experience has reiterated the importance of research planning and considering factors that could impede upon successful completion of research projects.	

A3 (Creativity)	2+	Display an independent and original contribution to forensic psychology knowledge to inform professional practice.	Develop research knowledge and skills to support the development of a robust and defensible study. Ensure arguments are well thought-out, rigorous and evidence based.	At the commencement of thesis write-up, a priority was to ensure arguments were supported and proficiently explained. I have now developed my skills in writing for publication and whilst a positive, it initially posed difficulties for the thesis write-up. I struggled to write in-depth as I was concerned that my approach was not adding sufficient evidence to the presented arguments. Reviewing other theses added to my apprehensions of writing in detail, and in-turn I questioned my capabilities. This was discussed during supervision and we acknowledged the word count of my submission, and subsequent word counts for included chapters. This made me realise that I did not have available words to write in-depth, and thus my ability to write succinctly became a strength of the thesis write-up. I strived to ensure presented arguments were well thought out, meaningful and evidence based.	3

				Throughout the research process, I have strived to consider unexplored or areas that lacked consistent findings to ensure my research outcomes were meaningful to the field and practice. Throughout I have developed an ability to see beyond immediate issues and questions to provide depth to my research. Whilst a strength it has also raised difficulties, notably developing a large research project and to some extent unachievable within the restricted word count of the Thesis. Thus, it was important for me to identify main aspects of the study that remained true to original research questions but would also provide the strongest outcomes to produce robust arguments.	

B1 (personal qualities)	2+	Personal reflection on developments and lesions	To make time to reflect on research experiences, identify	Whilst reflecting on my clinical practice is an important skill that I have developed over many years, within the earlier	4

		learned through the completion of research.	strengths and weaknesses in research skill and knowledge and seek ways to improve on performance.	stages of this programme I realised that my reflective approach to research was less developed or at least I was less attentive to my research journey and development. I acknowledged that this was driven by a need for me to conduct research that was within my skill set and I held limited ambition to develop. I have wondered whether this has been related to a lack of confidence or a longstanding belief that I will never be a true academic. Whilst academic working has now taken a greater priority for me, I am consistently mindful of the challenges related to successfully achieving both elements of my profession (research and clinical practice). I will need to find a workable balance, although I appreciate that this may be a challenging endeavour. My initial research plans for my Thesis were within my current skill set with no scope for development. Focusing	

				attention on the ILP, reflecting on my research practice and considering wider aspects of research as identified within the Researcher Development Framework, has developed my enthusiasm to strengthen my research skills. Through supervision my research studies have developed and thus through independent learning, my research skills have strengthened. I now have a greater passion for research and remain keen to inspire others, including those who I supervise and researchers. Moving forward with my research career I recognise the importance building a range of support structures. Whilst striving for excellence in research, I now recognise the importance of reflecting upon my research experiences to ensure I am identifying strengths and weakness to aid my progression.	
B2 (Self-management)	2+	Take strategic view of project; prioritise, plan	Develop a research plan to maintain commitment for the	Reflecting on my research practice and engaging in discussions with my research supervisors allowed me to	3

		and demonstrate forward thinking to meet deadlines.	proposed research project, to ensure I am managing my time effectively, to adhere to deadlines and demonstrate a purposeful and determined approach on developing excellence in research. Review research plan with supervisory team.	recognise that my approach to research was initially haphazard. Thus, I identified a need for me to develop a more systematic approach to research and ensure I was allocating sufficient time. Developing a research project plan for my thesis that included important deadlines, allowed me to monitor my progression, prioritise tasks and to ensure I was committing sufficient time to the progression of my research. Whilst I made every effort to adhere to the plan, at times this was not possible, and deadlines were not met. Nevertheless, I continually monitored my progression, and this maintained my motivation and commitment. I now recognise that I do have some established time management skills, however I need to ensure that my achievements are realistic and achievable, whilst maintaining a sound work-life balance.	

B3 (Professional and career development)	1+	Active member of the wider professional forensic psychology community and develop links with both professional and academic communities.	Engage with a research mentoring scheme and develop research network to assist in establishing research trajectory. Build collaborative relationships with a range of professionals with a focus of conducting research.	My career progression has always been a salient focus in both elements of my profession (academic and clinical), and during the length of this programme I have considered applying for promotions and eventually applied and was successful in gaining a lecturing post a Newcastle University. In regards to networking, I have become to realise the importance of developing networks and to some extent I have to date engaged with both research and practice related networks with some benefit. Nevertheless, I have not utilised them to full effect and I appreciate a need for me to establish further networks to enhance my research opportunities. I have set a further objective to engage and contribute more actively to developed networks and form further external relationships.	3

C1 (Professional conduct)	1+	Adhere to ethical and legal requirements.	Maintain understanding of ethical and legal requirements. Adhere to these requirements whilst conducting research.	Throughout my practice and research I have adhered to Ethical and Legal requirements. I consider myself confident in working independently and conducting applied research whilst not compromising my integrity or the Code of Ethics and Conduct. In addition, through the process of supervising others and teaching I have gained extensive experience of educating and supporting others in the adherence to these principles. Nevertheless, I recognise the importance of keeping up to date with research procedures and seek guidance when needed.	3
C2 (Research management)	3+	Exercise personal responsibility and autonomous decision making.	Apply effective project management through the setting of research goals, intermediate milestones and prioritisation of activities	Research management has been an area that I have continually needed to develop, specifically allocating sufficient time to research activity, developing robust research plans and prioritization of activities. I have struggled with this, nevertheless upon realising that my progress was being hindered by my haphazard approach, I	3

				decided to prioritise the completion of my Thesis over my clinical work and other research projects. Whilst appreciating the impact this may have on my career progression, it was important to consider my short progression over long term goals. This acceptance allowed me to create more time for my thesis and adhere to set goals. Whilst initially disappointed I did not meet the original submission date, I now recognise that the deadline may have been unrealistic. I appreciate that research management will remain a difficulty for me and will be an area of on-going development, especially as I work towards larger research projects. Underpinning this is a need for me to develop a balance between my academic and clinical work. Whether this is possible is another question and something I will need to continually monitor as my career progresses.	

C3 (Finance, funding and resources)	1+	Awareness of funding sources and grant application procedures.	Develop awareness of key relevant funding sources and grant application procedures.	Throughout the academic programme, I have paid limited attention to this objective and upon reflection, I believe this has related to a lack of confidence and available time. Since I commenced my academic role and until more recently I openly explained to others that I did not perceive myself as a "true academic". In others words whilst I had an agenda to conduct practice related research, I did not envisage research as being a priority, as I was mindful that being a practitioner was my primary drive. Nevertheless, throughout the time on this programme, my views have changed and I now have a greater appreciation and a desire to conduct research. With this in mind, I have recently spent time speaking with colleagues and I have also attended a workshop about income and funding opportunities. Through these discussions I gained an opportunity to start developing an understanding of funding sources, grant application	1

				processes, financial management and the significance of income generation in regards to my own career progression. Whilst an excellent opportunity to develop learning, I reflected that my lack of confidence had hindered my willingness to source and pursue funding opportunities. Whilst a level of self-doubt remains, I am now keen to progress with this and with appropriate mentoring I now realise that I do have the knowledge, skill and ability to source funding for research. It is imperative that I make creative use of available resources and cultivate useful connections to support myself through this process.	

D1 (Working with others)	1+	Team working, supervising and supporting the development of others.	Develop supervisor approach to support development and autonomy within supervisees. Ensure advice provided is rationale, well thought out	Whilst I have gained extensive experience supervising research for UG and PG students, and professionals I have for a number of years supervised based on what I thought was good practice rather than truly thinking about my students and trainee psychologists needs and what actually	3

			and defensible. Seek feedback on own supervisory style.	was “good practice”. With this in mind, I decided to develop a more theoretical understanding of supervision, focusing on various models. This has allowed me to develop a greater understanding of the purpose and effective approach to supervision, and whilst my style is continually developing, I now realise that my approach needs to reflect the needs of those I am supervising rather than using a consistent approach. I perceive supervision as a means of helping students to build confidence and competence as they grow in the profession and research, in turn I also get an opportunity to know more about my students. Whilst I have gained experience of leading others both within clinical practice and academic settings (Programme Leadership) and have strived to coach team members, I remain sensitive to their needs and remain transparent in my approach. Overall, I have established an independent	

				personal management style and this is an element of my work that I am committed too. Nevertheless, within my current role as a Lecturer I unfortunately do not have an opportunity to lead others, and whilst valuing this time with less responsibility, it is an element of working that I am beginning to miss. I have spoken with the Head of Department about this and we are in the process of considering available options for me to take a greater level of leadership within my role and to consider a development plan to strengthen my supportive approach to management.	
D2 (Communication and dissemination)	2+	Communication and dissemination of research findings.	Present work to professionals and engage in the knowledge exchange activities. Continue to produce publishable materials and disseminate findings.	During the time on this programme, I have had the opportunity to present at two conferences, and whilst a challenging learning experience, I am now developing confidence in communicating my research findings and defending my arguments to professionals. I will continuously seek to self-improve and explore opportunities	3

				to present my research nationally, and at some point internationally. In order to prioritise my thesis, I made the decision to reduce my commitment to other research projects. Whilst not an ideal position, I have continued to provide supervision and guidance to my research collaborators. I am now in a position whereby I have several papers awaiting my final edit and submission for peer review, and this will be progressed once my thesis has been submitted. Whilst in the past I was reluctant to publish research due to a perceived lack of confidence, I am now keen to work towards actively publishing in a variety of outlets and develop my skills to become a peer reviewer for publications.	

D3 (Engagement and impact)	1+	Teaching approach to support students learning.	Continually improve own approach and develop wider repertoire of teaching styles and techniques.	Reflecting on my teaching experience I am able to recognise my achievements, whilst also acknowledging areas of development. I have gained an extensive array of experience of teaching across undergraduate and postgraduate programmes. I pride myself on utilising a research focused approach to teaching whilst also incorporating examples from practice to strengthen the students theoretical understanding. My commitment to teaching was recognised in 2017, as I was nominated and awarded the title of 'most inspirational lecturer' at Teesside University, this was an excellent achievement. Nevertheless, I strive not to become complacent with my teaching and frequently reflect upon my practice. Furthermore, I seek support and guidance from more experienced academic staff on my teaching approach, and enthusiastically implement varying styles and techniques. I am consistently mindful that my teaching approach is very directive, and I am now striving to	3

				encourage for students to become more independent in their own learning. Furthermore, I am continually mindful of a need for research to have an impact, and whilst I have presented at two conferences and attended numerous research meetings to communicate research findings, I continue to minimise the potential impact of the research I do conduct. I now release that this is related to my confidence rather than competence, and it is an area of my work that I need to develop. With this I have scheduled to attend a work shop on **"**publishing your research for optimal visibility and maximum citation impact**"** to develop a better understanding on strategies to promote and improve opportunities for my published studies to be citied and applied to practice.	

Reflective report

Domain A: Knowledge and Intellectual Abilities

Start of academic programme
Through my research experience I have developed skills in acquiring research literature to assist in developing both theoretical and empirical knowledge. I am confident in my abilities to source literature to aid the development of a research study, notably to ensure that the proposed aims of a study are empirically supported and there is a clinical need for the research outcomes. This is evidenced through my research practice, research publication and supervising Forensic Psychologists in Training and level 7 and 8 students in their academic research projects. I have learned that critical evaluation of literature is an important skill and I evaluate literature in depth to develop a good understanding of the evidence base. Nevertheless, as I have progressed within this academic programme I have come to appreciate that my approach to literature searching is not robust and therefore to ensure I am assessing the reliability and relevance of source material I need to develop my skills in conducting advanced and systematic literature searches. Throughout my research activity and practice I have demonstrated my ability to interpret and communicate complex information in a meaningful manner. I consider myself to be competent in the area of cognitive abilities, notably independent and critical thinking, developing sound and realistic judgement based on evidence and formulating solutions to a range of research problems. Nevertheless, a pertinent area of development is strengthening my skills in drawing greater meaning to research outcomes (theoretical concepts). I thrive on learning and acquiring new knowledge within my practice, nevertheless it is crucial that I acknowledge that other work commitments have infringed on the amount of time that I could commit to my research activity. It is imperative that I place a greater importance on my research progression.

Whilst able to defend my research in a written format I have to date had limited experience of defending research outcomes verbally. This is related to confidence, albeit I am now actively seeking opportunities to present my research outcomes.

Within my academic and supervisory roles, I have gained extensive experience of guiding others on the quality and validity of research information and data. However, I have come to realise the importance of research impact; at varying levels including, practice, policy development and at organizational level. Evaluating research outcomes is an area that I have neglected and as such is an aspect of my research practice that I need to give further consideration. It is important for research outcomes to have value and to have major contributions to understanding.

Prior to the commencement of this academic programme I had developed a clear research idea with a methodology that I considered to be robust. Through considered reflection I acknowledged that the proposed idea was driven by practice rather than underpinning the design and aims of the study by literature, notably an empirically supported rationale. In addition, through the early stages of supervision I acknowledged that I was being rigid to my initial idea, specifically the research design and I had to challenge my underpinning thoughts. It is imperative that I am flexible and open minded, remain responsive to supervision and see beyond my initial research idea. Challenging my abilities in research will aid my competence as a research practitioner.

Current RDF Phase
A1 Knowledge Base = **1**
A2 Cognitive Abilities = **2**
A3 Creativity = **1**

Interim Review Year 1 – April 2017

Current Phase
A1 Knowledge Base = **2**
A2 Cognitive Abilities = **2**
A3 Creativity = **2**

Developing a thorough knowledge and understanding of the current evidence within psychopathy treatment has been a salient focus during this period. Based on this developed understanding I am confident that the proposed study will offer an original and needed contribution to the field. Through discussion in supervision and reflection I am now more mindful of the need to ensure that the chosen methodology for this study is robust and defensible to ensure the research outcomes are meaningful. At this stage I have observed a clear development in my approach to research as in the past I would spend limited time developing a comprehensive understanding of surrounding literature and would develop a study based on my abilities and competence, rather than being driven on a need to produce a rigorous study. This in turn has restricted my development and progression. With this I am now underpinning my decisions for the proposed study on research outcomes and impact. In addition, this thorough approach is allowing me to consider the relevance of my proposed study within the developing evidence base.

In regards to the progression of the proposed study I have developed an overarching aim and have developed a robust empirically rationale. Despite adapting the original study design from a mixed method to a quantitative study, it has become clear during discussions with my supervisor team that my research ideas for this study remain ambitious. Thus I am now considering the aims of the proposed study to ensure they are realistic and manageable. This reflects my need to strive for excellence in research, to seek and to respond effectively to feedback.

A pertinent learning need during this period was for me to develop my skills to evaluate the reliability of current literature. Throughout my research experiences I have learned that critical evaluation of literature is an important skill and whilst I have developed a superficial ability to evaluate literature, I have come to realise that my approach has not been robust. Attending the systematic workshop has been fundamental in developing my skills in conducting advanced research searches and applying robust evaluation criteria to reviewed research papers. Whilst in the initial stages of developing my aims and criteria for conducting a structured review, I am now reviewing literature in a more critical

manner which in turn is assisting me in developing a greater appreciation of the limitations of the research within the field. This critical approach of literature is beneficial in developing my insight, but I am equally mindful that due to the nature of the proposed study I will not be able to fully address the inherent difficulties reflected within past research on Personality Disordered (including psychopathy) treatment effectiveness. Nevertheless, this insight has allowed me to develop a more holistic review of the proposed study from the onset and I have developed awareness of using appropriate source material for research.

Annual Review Year 1 – October 2017

Current Phase
A1 Knowledge Base = **3**
A2 Cognitive Abilities = **2**
A3 Creativity = **2**

I have spent a considerable amount of time developing a detailed understanding of literature relevant to the proposed research area, thus developing an empirically supported rationale for the study. Developing this insight was fundamental in the development of the aims and focus of proposed structured review and the method of the research study. In addition, whilst not directly related to the development of my thesis, during this period I supervised a number of research projects related to Personality Disordered Offenders and as such I have developed a more in-depth understanding of surrounding literature within this area. Three of these studies have been written for publication, of which two have been accepted and one is currently being reviewed by NOMS for approval prior to submitting the paper to a Journal for peer review. As previously reflected, I have for a number of years recognised my apprehensions over submitting papers for publication which is largely underpinned by my lack of confidence in conducting and reporting research. I have also acknowledged that my inaccurate perception of research as being a solitary pursuit is also related to my lack of confidence, and as such I have acknowledged a need for me to talk to colleagues about their research experiences and reviewer comments. This will hopefully allow me to develop a better understanding of the

publication process and hopefully encourage me to see the publication process as being constructive rather than a critical evaluation of my research skills.

From the onset I have focused predominately on my research study and utilised supervision to aid the development of the research aims and design. Whilst confident that I had developed and was proposing a robust research study, I recognised whilst writing the research proposal that I had neglected to consider the structured review in depth and my initial aims were not robust. This was discussed during supervision and the importance of developing a unique structured review was highlighted. Thus I spent time reviewing literature and recently conducted structured reviews relating to treatment effectiveness for personality disordered and psychopathic offenders. I identified a number of recently published systematic reviews, which concluded that the aim of my initially planned review would yield limited benefit. In addition, I was also mindful that published research exploring treatment for personality disorder offenders over recent years was limited and thus I was faced with a number of challenges in identifying a relevant aim for my structured review. Discussing this in supervision was fundamental in progressing the development of the review and after careful consideration it was agreed that I would conduct an up-dated systematic review following a review completed by the Home office in 2003 (Warren et al., 2003). The overarching aim of critically evaluating literature into the effectiveness of treatment for severe or complex personality disordered offenders was decided and a rationale was developed.

After spending time developing the aims and design of the systematic review and research study, writing the research proposal was relatively straight forward and I was able to justify decisions made through reference to literature. Feedback received on the proposal from my supervisors, highlighted areas that required further clarity to ensure the rationale and design was clearly presented. As part of the research approval process the research proposal was submitted to the NOMS research manager for their review. Whilst initial approval was received by NOMS, feedback on the proposal was provided to aid the development of the research design. Receiving independent feedback was useful and it was

utilised to aid the development of the research proposal, nevertheless it further reiterated the restrictions of utilising secondary data. The research proposal was submitted to the University on the 09.05.17 and I presented the proposed structured review and research study to an independent review on the 02.06.17. Feedback received from this process was useful and reiterated the need to remain focused to the research aims to ensure the research was realistic and achievable within the time frame. Following University approval, a submitted my research proposal to the NOMS research manager (Offender Personality Disorder Programme) on the 23.06.17. Feedback received was meaningful and reiterated issues already considered by my supervisor and myself. NOMs research approval was gained on the 08.08.17 and ethical approval was gained from Nottingham Trent University on the 11.08.17.

Whilst I had attended the SR workshop and found this to be fundamental in my learning, I recognized my need to further develop my skills and knowledge in conducting structured literature reviews. I was confident that I had a sound understanding of the process, I was conscious that if not all steps were followed effectively this may have a detrimental impact on the outcome. Thus I spent time reviewing relevant text and published SR articles to develop my competence. Within the early stages of conducting the review I accepted that it was a tedious and lengthy process, something I completely underestimated. At the commencement of the review, I was confident that the review aims, and search criteria were robust, however after numerous database searches my confidence in my initial review plan reduced considerably, more specifically I was overwhelmed by the number of outputs. This raised a number of concerns, predominately whether this was a realistic and achievable review for my thesis submission. At this point, I spent time considering my research aims and through consultation with my supervisor the focus was narrowed. Whilst this provided some relief, I remained apprehensive that I was not conducting a comprehensive review, nevertheless it is important to recognize what is realistic and achievable.

Whilst I have enjoyed employing a structured approach, there were many times during the database searching, review and journal collating that I found myself rushing in order to get it finished and as

such adhering to deadlines I had set. After experiencing feelings of stress and concern that I was not on target, I reflected considerably on the process and reminded myself that rushing this work may lead me to overlooking something important and thus I continually had to prompt myself to slow down. I reminded myself frequently that rigorous and robust results are achieved largely by work that often feels tedious and time consuming, whilst deadlines are needed, quality is more important. Now, I am placing less pressure on myself to get the review complete by stringent deadlines, and I am appreciating the importance of this work.

Interim Review Year 2 – April 2018

Current Phase
A1 Knowledge Base = **3**
A2 Cognitive Abilities = **2**
A3 Creativity = **2**

During the last six months, the main focus of my research has been collating data, developing competence in conducting statistical analysis via self-directed learning and supervision. I encountered a number of barriers in regards to accessing the data from the organisation which impeded on the studies progression. Whilst initially agreed, although informally, that I would have access to the data following, it transpired at this point that due to a change in the organisations data sharing agreement procedures for research, that I would need to complete their induction process, specifically safeguarding, data protection and security awareness.

Whilst recognising the importance of prioritising the organisations induction session to ensure that my research project progressed, due to other work commitments, the earliest induction session that I was available to attend was November 2017. I completed the induction process and was provided access to the data. Nevertheless, at this point I was informed by the organization of additional data sharing agreement requirements that had recently been brought to their attention. With this I was sent a form to complete and return for national approval, rather than local approval. Again this presented as another barrier to my research progression as I was aware from previous research projects of the complexity

and time involved with this process, I was left feeling defeated by another presented challenge. Through the process of reviewing the requirements of national data sharing agreement, I identified that the required data for the study did not fall within the requirements of national agreement, in particular that I would be collating individual level and anonymized data from one prison site. I discussed this openly with the research lead at HMP Frankland and we sought clarity from the National research manager. Through meaningful discussion, it was agreed that national agreement was not needed, and thus local data sharing agreement was approved. The process and experience allowed me to appreciate my own time management skills, my ability to engage with change and to respond flexibly to barriers. It also reminded me of the need to remain up to date on research approval and agreement procedures, rather than relying upon the organisation. This would ensure that a research project can be more effectively planned and in turn managed to ensure deadlines are achieved.

The main frustration during the data collation process was that the difficulties in accessing data. I had initially been informed that the secondary data had been stored centrally within one database and therefore would be easily accessible for research purposes. Nevertheless, it was apparent that was not the case with evident gaps within the data. Some of the participants had partial or no data recorded. There was no information given as to the nature of the missing data, or an explanation as to why this data was not included. Whilst frustrated by this, I decided to take a proactive approach to ensure that the study could progress. I sought guidance from colleagues and located primary sources of the data. Whilst the data collection process took longer than initially planned, by accessing the primary data (completed psychometrics) and entering the data into the database, it provided me with a more in-depth understanding of the psychometric tools and scoring. This strengthened my understanding of the secondary data that supported me through the process of cleaning the data and analysis.

Due to my commitment, I collated all available data in January 2018. Whilst I had anticipated the challenges of cleaning a large data file, I again had underestimated the time it would take to complete this task. Prior to conducting the analysis, I reviewed relevant textbooks to remind myself of the

analysis process. Whilst I commenced with the reliability and validity analysis, discussions with my supervisor ensured I remained realistic on what I could achieve within the time available for this research project. We reviewed my analytical strategy and made justified decisions on what analysis would be conducted. This has been a steep learning process but has been rewarding and enjoyable. Seeing the outputs and starting to understand the findings reiterated the benefit of this study.

Through this process, I recognized that whilst secondary data analysis offers methodological benefits, notably accessing already available data to generate new knowledge, I became aware of the inherit difficulties and challenges. In hindsight, I should have been more prepared and anticipated a level of challenge from this process. Nevertheless, through this experience I have developed a greater understanding of applied research and recognise the importance of taking a strategic approach to research planning, and effectively evaluating and managing potential distractions.

Domain A: Final Submission

Vitae

Domain	Phase required
A1	2+
A2	2+
A3	2+

Current Phase

A1 Knowledge Base = **3**
A2 Cognitive Abilities = **3**
A3 Creativity = **3**

Final Reflections on Being a Researching Practitioner

Following the initial challenges of accessing the secondary data and then spending a considerable period of time cleaning the large data file, conducting the analysis was an exciting process. Observing and understanding the findings provided a sense of meaning to the research project, eventually the clinical relevance of the study was apparent and from the onset I was making theoretical links to support the interpretation of the findings. An unexpected and a challenge to this research project was remaining focused on the research aims, as the breadth of data would allow for a broader range of analysis to be conducted. I was keen to produce as much output as possible to support clinical understanding and in turn the robustness of the findings. However, it was important to remain focused to ensure evidence

provided within the thesis was meaningful and explained in sufficient detail rather than a submission that was broad and lacked substance. Overall, the process of collating and analysing the data has been a valuable learning process that has been challenging yet rewarding. Through this process, I recognized that whilst secondary data analysis offers methodological benefits, notably accessing already available data to generate new knowledge, I became aware of the inherit difficulties and challenges. In hindsight, I should have been more prepared and anticipated a level of challenge from this process. Nevertheless, I have learned and now understand that successful secondary data analysis of data requires a systematic process that acknowledges challenges of utilizing existing data and to take steps to reduce possible limitations.

Despite initial reservations and a refocus of the systematic review, at the stage of excluding papers as based on the set criteria, it became apparent that the review did not include up-to-date empirical studies. I was aware that several other reviews had been conducted, and whilst on varying areas that related to treatment efficacy for psychopathic offenders, collectively they provided an overview of the literature that was being included in the current review. Thus restricting the relevance and ability to offer enhanced understanding. Whilst, I should have been aware of this prior to proposing the review, it is inevitable that this will be a challenge of conducting systematic reviews. I accepted the identified issues and I remained to persist with the review for a period of time. I eventually raised my concerns with my supervisor and through in-depth discussions it was decided that the focus of the review would change. Following this I spent time reviewing literature and having meaningful discussions with professionals (both practitioners and researchers) with expertise in the field of treatment for psychopathic offenders, and through the process I was able to identify a need to develop understanding into treatment attrition for psychopathic offenders. Admittedly, I was disappointed with myself and felt frustrated about the time I had wasted. Nevertheless, after a period of time, I reflected upon the process and acknowledged the learning that I had gained and how I could utilize this to support the completion of the new systematic review.

The systematic review is now complete, and whilst again I underestimated the time it would take, I am confident that the process followed was thorough and well thought-out. I demonstrated my ability to synthesise the evidence, critique selected papers and my review. I am now in the process of making sense of the findings, and I am finding value in using the evidence to identify factors to support future practice.

Whilst the systematic review was a challenging process, I now have a greater appreciation of conducting a systematic critique of literature and will keenly apply my developed skills in the future whilst reviewing literature. Through this process, I have recognized the importance of conducting SR's, notably I am not creating new knowledge, arguments or theories but instead exploring what has already been published. Throughout, I have developed an awareness of appropriate sources for literature and have conducted advanced searches using a range of information. This has allowed me to appreciate the importance of searching broadly for literature to ensure I gain a comprehensive understanding to develop robust arguments. In addition, whilst conducting the SR I have learned the importance of proficient critical thinking skills to strive for independent thinking and to develop independent arguments based on evidence. Furthermore, I have engaged in a number of discussions with professionals who work with Personality Disordered offenders and feel more confident in discussing literature relating to the effectiveness of treatment for personality disordered offenders. I now feel that I am doing important research by conducting this SR. By conducting this review in such a rigorous and robust manner I am hopeful that there is less chance that I have gaps in my knowledge by missing important pieces of work. Whilst I would not consider myself to be "proficient and confident in applying critical thinking skills", I have certainly developed these skills to a point whereby I have a way of implementing independent and critical thinking to make sound and realistic judgements based on evidence available. As my SR progresses, I am confident that my evaluation of literature will continue to develop.

During the write-up of the thesis I quickly realized that writing succinctly for publication and now favoring the approach was a hinderance. I struggled to write in detail, and frequently questioned whether information provided benefit to arguments presented. This led to a process of reediting paragraphs. However, after further reflection I realized that I was striving for excellence in my work and this was contributing to a sense of self-doubt in my abilities. In response, a reviewed a number of theses and took a lead from the level detail provided within, this provided a standard to work towards. The length of submitted chapters for supervision was raised by my supervisor, and the word count of the thesis and for each chapter was discussed. I recognized that I had overlooked this and instantly raised a level of concern about achieving a high standard of work within the restricted word count. This concern remained for me, however over time the thesis structure and requirements became clearer, my concerns reduced and my ability to write succinctly became a strength of the write-up.

Reflecting upon the research process so far, I have encountered a number of challenges and have struggled to commit sufficient time to support the studies progression. Having a passion for this area of research and in turn persistence to make a future contribution to the larger body of research has maintained my motivation to move forward and continue. When I have encountered a barrier, I have had to remind myself not to be discouraged but to understand why I have been faced with the hurdle. Fully understanding the barrier has allowed me to identify effective solutions or a method of overcoming it. The research process has also highlighted the importance of having an in-depth understanding of background literature to support critical decisions and therefore ensuring the research study conducted is as robust as possible. I have also come to realize that conducting this academic programme and in turn the research study is a lonely venture, however, I realize now that my lack of commitment to develop links with other students on this programme has not helped in reducing these feelings of isolation. Whilst this is a regret, I am thankful for the support of my supervisory team who have utilized their knowledge and areas of expertise to support the research progression.

Individual learning plan post thesis submission:

1. Contribute knowledge to enrich the research area of treatment efficacy by progressing both studies for publication and communicate findings to wider audiences. The necessity of research impact is a crucial element of this objective.
2. Remain committed to research and continue to seek ways to develop own research agenda.
3. Strengthen research skills, specifically analytical abilities and critical synthesis of literature.

Domain B: Personal effectiveness

Start of academic programme
Reflecting on my experiences of conducting research it is apparent that whilst I find the process of research rewarding it is challenging. This has become more apparent whilst engaging with the process of publication. Nevertheless, whilst presented barriers have impacted upon my motivation and commitment, I equally thrive on developing greater insight in to applied research. My sense of achievement after conducting meaningful research and effectively managing encountered difficulties encourages me to continue moving forwards and persevering with research. Through my experience of conducting and supervising research, I consider myself to be confident in my abilities and indeed I have had experience of defending my research ideas in the past. I am aware of my boundaries in knowledge and skill within research and whilst I recognise outstanding areas of development for myself, I do tend to neglect the development of my competence in research. This is largely underpinned by feeling comfortable in conducting research within my skill base and rejecting opportunities for development due to time restraints. In addition, whilst reflecting on my practice as a Forensic Psychologist is a strength, I have come to realise that my practice of reflecting on research activities is at times curtailed. Whilst I normally pride myself on managing my time effectively, I have realised that this strength is related to my practice rather than research. I have in the past placed limited importance on research planning and frequently priorities other commitments. Upon reflection this is an area I need to concentrate on to maintain commitment and motivation. Career progression is a salient focus of mine and I do strive to network as a means to aid my progression. Nevertheless, I have come to appreciate the importance of networking within the academic field and whilst I have in the past made efforts to network with other researchers, I have not made this a priority. Upon reflection I am unsure whether this is related to a lack confidence or not having a desire

to progress within my research career. As a Registered Psychologist I also engage in continued professional development to ensure my practice and skills are up to date. Although my research experience in terms of publications is limited, I am keen to develop a positive reputation within the academic field of Forensic Psychology.

Current Phase

B1 Personal Qualities = **2**
B2 Self-Management = **1**
B3 Professional and Career development = **2**

Interim Review Year 1

Current Phase

B1 Personal Qualities = **2**
B2 Self-Management = **2**
B3 Professional and Career development = **3**

Based on earlier reflections I spent time developing a research plan to aid the progression of my professional doctorate research study. This plan was shared and discussed with my supervisory team. The plan has recently been developed further to reflect all required tasks within the research process and this will be discussed within the next supervision session.

My engagement in this academic programme, specifically discussions with my supervisory team has allowed me to identify that my approach to research to date has been haphazard. Through reflection I have acknowledged that I have allocated limited time to my research supervision and independent research activities in the past, this in turn has infringed upon the quality of the research undertaken and in turn research outcomes. Spending time understanding the requirements of the programme, developing a research plan and discussing this in supervision has provided a realistic overview of the requirements of conducting a well thought out and planned research project. This strategic approach has allowed me to prioritise research tasks alongside my other work commitments and regularly reviewing the plan critically has provided an opportunity to identify gaps and evaluate progress made

thus far. This approach has developed my commitment to this research project and indeed my overall commitment to the academic programme. Nevertheless, though my experiences so far and feedback from my supervisor team I am mindful of my need to enhance my time management and thus to strive for excellence in research.

I pertinent opportunity for networking with fellow researchers was gained by attending a research forum with the National Offender Management Services (NOMS). The purpose of the meeting was to gain insight into NOMS (Offender Personality Disorder pathway) research plans and their drive to form collaborations with Universities to develop their research profile. This meeting provided an opportunity to share information and research plans with academics and practitioners. Whilst resistant to contribute to discussions due to feeling unconfident, I pushed myself and shared the research plans for my thesis. This led to a meaningful discussion and a level of excitement about the findings. This reinforced not only the importance of being confident in my own skills and ideas but also the necessity of the research being conducted.

Whilst I have been a management member of the PORSCH committee I have not committed myself to the benefits of engaging with the members of a research group nor have I engaged within the research activities (conferences, workshops and collaborative research opportunities) attached with this group. Attending the recent research meeting by NOMS and talking with the varied professionals who attended has provided a clearer understanding of the potential benefits of effective networking. I can now understand that developing and maintaining co-operative networks and working relationships is fundamental.

As I had realised that my research career progression was to some extent stagnating, I decided to arrange a research mentoring meeting with the Associate Dean of research. This provided an opportunity to reflect upon past research experiences, consider my current research plans to support self-improvement and consider my contribution to Research Excellent Framework (REF) 2020. Within the meeting we

discussed whether it would be viable for me to apply for an early career research scholarship with the criminal justice voluntary sector. Whilst it was acknowledged that I met the criteria for the application, an overarching concern was that a focus of our discussion was whether I would have the time to fully commit to this position. Upon reflection although this does appear to be an excellent opportunity for my research career, I remain concerned that I do not have the time to fully commit to this position and how this could be detrimental to my research career. It was agreed that I would predominately focus on my current research agenda and continue to attend research mentoring meetings on a regular basis to support my career progression.

Annual Review End Year 1

Current Phase

B1 Personal Qualities = **3**
B2 Self-Management = **2**
B3 Professional and Career development = **3**

As per my normal practice I have reflected greatly upon my research and clinical practice in order to identify areas of progression, strengths and weaknesses. With this I continuously seek ways to improve my performance and of those I supervise (both research and practice). During this period, I have recognised the importance of prioritising research and maintaining my commitment to research activities. I have also strengthened my time management skills to ensure that research projects are progressed and that I am able to respond effectively to challenges. In regards to gaining access to the secondary data for the research study, I have encountered a number of barriers which have impacted upon my ability to gain a full understanding of data available. This has impeded upon my ability to develop concrete plans in regards to the analytical strategy for this study. Nevertheless, due to having completed a number of research studies that have utilised data from the Westgate unit, I was aware that I will have access to clinical data (IPDE and PCL-R), demographic and offence data and pre and post treatment psychometric data for approximately 120 offenders who have engaged with the personality disorder treatment service and as such the Chromis programme. I had also been informed that

approximately 50 of these offenders have completed the Chromis programme in its entirety, 40 have been deselected from treatment at various stages and 30 are currently in treatment. Whilst the aforementioned has been useful in formulating my research proposal, I remain to hold a number of apprehensions relating to inherit limitations of secondary data, particularly missing data. Following ethical and research approval, it was agreed by the Westgate unit that I would gain access to the secondary data as of August 2017 and I was granted approval to visit the unit on two separate days to review the data. However, I was then informed of recent changes to the Westgate unit (HMP Frankland's) data sharing agreement procedures for research and was informed that I would be unable to have further access to the data until I had completed HMP Frankland's induction process, specifically safeguarding, data protection and security awareness. This placed a salient barrier to progression of the research, in particular meeting the deadline (October 2017) of having the data ready for analysis. Whilst initially frustrated by this, I recognised the importance of taking a strategic approach to research planning, and effectively evaluating and managing potential distractions. By reviewing my research plan, I identified that the scheduled contingency time would allow the overall deadline for the research project to be met and for the deadline of having the data analysed and results available to Westgate (HMP Frankland) by April 2018 to be achievable. This experience has allowed me to appreciate my own time management skills, my ability to engage with change and to respond flexibly to barriers.

Reflecting further on the research plan, it is important for me to recognise that due to my academic commitments and workload requirements, time available to progress with the structured review and research study between September 2017 and February 2018 will be limited. I have taken this into account within the research plan, therefore ensuring set deadlines are realistic and achievable. In recognising, the importance of allocating sufficient time to the progression and completion of the structured review and research study (thesis), I have informed Teesside University that I will be prioritising research relating to my thesis over other research activities (both supervision and research conducted by myself) and business engagement activity, thus research output during this period will be curtailed. This has been agreed. Nevertheless, I will continue to engage with the research mentoring

scheme at my own organisation, continue to maintain and developing research networks and explore income and funding opportunities that could be commenced after submission.

Due to my efforts in developing a professional and research network I was invited to a joint NHS and prison service research network meeting (Offender Personality Disorder). I perceived this as an excellent opportunity to strengthen my working relationship with other professionals and organisations. I circulated the invite to colleagues and less experienced researchers as I appreciate the importance of circulating external work opportunities. However, due to other work commitments (teaching) I was unable to attend the meeting. Whilst disappointing, I realised that I have a number of other network opportunities that I need to pursue.

During the reporting period I was asked by the Head of Department to apply for a Principle lecturer post for undergraduate provision in Psychology at my University. I gave considered thought to this position and the opportunities it could provide for my career progression, in particular management responsibilities. Nevertheless, I was equally mindful of the requirements of this role and time commitment and thus I identified that it would have an impact upon my other work commitments, notably research progression and practice. With this I recognised the importance of maintaining an acceptable work-life balance but being mindful of my overall career plans. If I was successful in gaining this post, I recognised that it would provide an immediate gain, however it would have an impact upon my long-term career plans. Thus I did not apply for the position and whilst I initially questioned this decision, three months on I have not had any regrets. I have recognised that in the process of establishing my career trajectory, it is important to have a holistic view to aid current decisions and the impact these decisions may have in the long-term.

Interim Review Year 2

Current Phase

B1 Personal Qualities = **3**
B2 Self-Management = **3**
B3 Professional and Career development = **3**

Reflections

Reflections within this domain replicate those already discussed (previous interim and annual review), with on-going areas of strength and development. However, during this time I have spent considerable time reflecting on my role as Senior Lecturer at Teesside University, and through this process I acknowledged that to some extent I was stagnating. I do not think that this has been intentional but a product of me trying to succeed in my academic role and also in practice. Further to this, I realised that within my academic role, I have scoped out the work commitments (teaching and programme leading) that I feel are suited to my skills and knowledge, however this I feel has impeded upon my plans for development and progression, in essence I am comfortable within my role with no need to develop. Whilst in a strong position, it is impacting upon my desire to develop in others area. This thought out reflection was underpinned by being offered a new academic role at a different institution (Newcastle University). Whilst I had not anticipated being offered this new job role, it did make me give considered thought to my current circumstance and career plans for the future. Working alongside esteemed colleagues at Newcastle University will encourage me to give greater importance to my research activity. Whilst saddened by leaving Teesside university, I now realise that I need to remove myself from "feeling comfortable" and take opportunities offered at Newcastle to aid my academic career.

Final Submission

Phase required
B1 2+
B2 2+
B3 1+

Current Phase

B1 Personal Qualities = **4**
B2 Self-Management = **3**
B3 Professional and Career development = **3**

Final Reflections on Being a Researching Practitioner

Throughout the process of this academic programme and reflecting upon my experience, I have acknowledged that in the past I have conducted research in isolation and I am resistant to seek support from others. I now appreciate that this approach has become detrimental to my progression and

development. Seeking guidance from supervision and during a mentoring process has allowed to appreciate the benefits of seeking guidance. I am now aware of my need to build a range and a variety of support structures to support my development and research progression. Thus, the most pertinent learning from this experience is the importance of seeking support and help. I have come to recognize that the admission of fallibility during research does go a long way in accomplishing the aims and goals effectively and assisting in retaining professional respect.

Whilst always holding a level of enthusiasm for research and holding a desire to inspire others, as my confidence and indeed competence has developed over the length of this academic programme, my commitment to research has grown. I now actively seek feedback on my research performance and strive to respond to this as a means of working towards excellence in research, this is particularly relevant to peer review feedback. Whilst in the past such feedback would have knocked my confidence, now I use such feedback constructively to support my development and research outputs.

Time management has been a difficulty throughout this programme and whilst I initially blamed myself for not committing enough time to my progression, I have come to realise that the core issue underpinning this was striving to achieve too much with balancing academic work, clinical practice, completing my thesis and also maintaining a work life balance. This has been a struggle throughout and despite attempting to rebalance my priorities, I have not been successful. Nevertheless, I now recognise that I do have some established time management skills, however I need to maintain attention to my work-life balance.

Throughout my career I have held a critical view of my own performance and whilst I perceived this to be related to an honest reflective approach, I have now realised that I need to have more confidence in my abilities. Thus, I now strive to have a balanced and more realistic view of my own potential in academic working and clinical practice. Furthermore, through my supervision of other researchers and trainee psychologists, I recognise that I am committed to supporting and encouraging the professional

development of others. Whilst this is a role I will continue to develop more specifically to create more opportunities for development and to support others to make their own informed decisions. Within the early stages of this academic programme, I recognised that I had created limited opportunities to network with other researchers and practitioners, favouring an approach of working in isolation. I reflected that this was underpinned by a lack of opportunities. During the early stages of time at Newcastle, I have strived to network with colleagues in and outside of my department, which in turn has created opportunities to attend networking events. I hope to continue with this to assist in developing professional rapport and gain further opportunities for research.

Individual learning plan post thesis submission:

1. Develop opportunities to improve own performance and that of less experienced researchers/practitioners.
2. Strengthen research management skills whilst maintaining a work-life balance.
3. Strengthen career trajectory by enhancing and utilising network opportunities.

Domain C: Research Governance and Organisation

Start of academic programme
Throughout my practice and research, I have adhered to Ethical and Legal requirements. I consider myself confident in working independently and conducting applied research whilst not compromising my integrity or the Code of Ethics and Conduct. In addition, through my supervision and teaching I have gained extensive experience of educating and supporting others in the adherence to these principles. Research management is an area that I need to develop, specifically allocating further time to research activity, developing robust research plans and prioritization of activities. Whilst I recognize the significance of income and funding generation for my University, to date I have no experience of funding or principles of financial management. With this in mind I need to make creative use of available resources with my University and cultivate useful connections in order to seek funding opportunities for research projects. However, I now recognise the importance of developing my competence in research prior to pursing a research funded project.
Current RDF Phase C1 Professional Conduct = **3** C2 Research Management = **1** C3 Finance, funding and resources = **0**

Interim Review Year 1
Current Phase C1 Professional Conduct = **3** C2 Research Management = **2** C3 Finance, funding and resources = **0**
Other than evidence already presented, there has been limited progression with the learning aims of this domain. Whilst to date there has been no meaningful development in my competence relating to professional conduct I am confident in my ethical practice and of those who I supervise. A long-term goal in regards

to this domain is to develop my confidence and competence to support the development of policy and procedures of my own institution, nevertheless I must recognise that my current academic role does not provide opportunities for this. It is imperative that a strength for development and explore opportunities to attend meetings within my university but also wider organisations. Utilising my theoretical understanding to support practice is a particular strength and need to ensure that I maintain this approach to support my professional development.

In regards to attribution and co-authorship I have recently been asked for guidance by a colleague who at that time was experiencing difficulties on a decision to add a third person as a co-author to a paper. During these discussions I reflected upon my approach and highlighted a need to develop a formal arrangement of co-authorship at the commencement of research study. I provided my colleague with advice that reflected guidance from the COPE and ICMJE. Whilst confident in the advice I provided I reflected on difficulties whilst agreeing on co-authorship with papers and ultimately highlighted the importance of all co-authors being accountable for all aspects of the research work, including the accuracy and integrity of any part of the work and to be confident that the research was investigated appropriately. Reflecting upon this discussion encouraged me to consider the co-authorship of work conducted by students (both UG and PG) at my University. It became apparent that the university does not have clear policy or guidance in place to support co-authorship agreements. I have discussed this briefly with the Research Dean and have been assured that this will be considered.

Annual Review End Year 1
Current Phase C1 Professional Conduct = **3** C2 Research Management = **2** C3 Finance, funding and resources = **0**
Throughout my research and clinical practice, I continually adhere to ethical principles. I strive to educate and advise peers and those under my supervision regarding ethical practices and set clear

expectations as a means of support. A long-term goal in regards to this domain is to develop my confidence and competence to support the development of policy and procedures of my own institution.

Interim Review Year 2

Current Phase

C1 Professional Conduct = **3**
C2 Research Management = **2**
C3 Finance, funding and resources = **0**

Other than points already discussed there has been no further competence development within this domain area during the reporting period.

Final Submission

Required standard
C1 1+
C2 3+
C3 1+

Current Phase

C1 Professional Conduct **3**
C2 Research Management **3**
C3 Finance, funding and resources **1**

Final Reflections on Being a Researching Practitioner

Throughout this domain the reflective entries are limited, and I appreciate that this is in part attributed to limited opportunities to develop competence (notably, Finance, funding and resources). However, it is also apparent that some of the competencies of this domain also relate to others (Professional Conduct and research management). Thus, to avoid replication, I have not repeated reflections.

In regards to my professional conduct I pride myself on professionalism by adhering to standards and requirements. I also set expectations for those I am supervising and support less experienced researchers in health and safety, ethical principles and legal requirements. Thus, competence in this area has not developed substantially during this length of this programme. Nevertheless, I appreciate my need to strengthen my practice and those of wider organisations. Again, this will need to be area I develop into,

hopefully as my academic career progresses and I am provided with an opportunity to attend a broader range of university meetings.

As reflected throughout, my time management has been problematic due to a range of factors. Nevertheless, throughout this process I have strengthened my research approach by ensuring research conducted is meaningful and contributes to wider field, and also meets the needs of stakeholders. In regards to the current thesis the organisation (Westgate unit) has provided limited guidance on their outcome expectations, as they openly explained that they trusted my approach with research and my understanding of their treatment unit. Ultimately implying that they were willing to give me full ownership of the research outcome. Whilst this reflected positively upon my reputation, I was keen to seek further guidance and thus arranged a meeting with the clinical lead to discuss the research requirements. Whilst a meaningful meeting which provided some key stake holder contribution, the discussion was led by myself. I was mindful of this and encouraged for the stakeholders' contributions when possible. I left the meeting believing that I had at least educated those who had attended the meeting about the importance of stakeholder involvement, however attempts to arrange a meeting to discuss the research outcome was rejected. They explained that whilst they valued the research completed, the findings at that time was not a priority and a request for a meeting later in the year was requested. This was surprising as I was aware that the unit was in the process of making significant changes to the Chromis programme, and I believed that the research findings would provide needed evidence to support their decision making. With this in mind, I decided to submit an executive summary of findings to the organisation that highlighted practice implications as based on the research outcomes. The clinical lead responded to this and appreciated the valuable input, furthermore she provided further context to her decision for the findings not to be widely circulated across NOMs at that time. It became clear that whilst research can support clinical practice and indeed decision making, there are wider issues that can impede on the communications of findings and to extent impact upon the applicability within clinical practice.

Since I commenced my academic role and until more recently I openly explained to others that I did not perceive myself as a "true academic". In others words whilst I had an agenda to conduct practice related research, I did not envisage research as being a priority, as I was mindful that being a practitioner was my primary drive. Nevertheless, throughout the time on this programme, my views have changed, and I now have a greater appreciation and a desire to conduct research. With this in mind, I have recently spent time speaking with colleagues and I have also attended a workshop about income and funding opportunities. Through this discussion I gained an opportunity to start developing an understanding of funding sources, grant application processes, financial management and the significance of income generation in regards to my own career progression. Whilst an excellent opportunity to develop learning, I reflected that my lack of confidence had hindered my willingness to source and pursue funding opportunities. A level of self-doubt remains, but I am now keen to progress with this and with appropriate mentoring I now realise that I do have the knowledge, skill and ability to source funding for research. It is imperative that I make creative us of available resources and cultivate useful connections to support myself through this process.

Individual learning plan post thesis submission:

- Strengthen knowledge of key funding sources and grant application procedures. Work collaboratively with colleagues to apply for research grants.
- Develop and apply project management strategies.

Domain D: Engagement, Influence and Impact

Start of academic programme
Within my academic and supervisory role, I spend a considerable amount of time coaching less experienced researchers and students in working effectively within a team. Throughout my career I have developed extensive experience of working within a team both multi and cross disciplinary. Throughout I have been consistently mindful of how my behaviour impacted upon others. Within my academic role it has been my experience that teamwork is somewhat limited, as colleagues tend to focus on their individual teaching and research activities. Nevertheless, as a programme leader for undergraduate and postgraduate programmes I pride myself on leading teams, recognizing colleague's strengths and supporting others in the achievement of their individual and team goals. Most recently I have organised a number of team meetings to assist our Forensic Psychology team to identify our goals in terms of progress in research, academic excellence, student recruitment and our programme delivery. These meetings so far have been somewhat challenging due to the varied priorities across the team, although through meaningful exploration we have identified a strategy to move forward. This experience alongside others demonstrated to me my competence in communicating confidently, leadership and negotiating with others. Through experience I have come to recognise the importance of disseminating research findings in a meaningful manner, therefore supporting the wider impact on policy development and practice. Whilst I consider myself to present work in a confident manner, I equally recognize my need to develop skills in constructing arguments and articulating information clearly to a wide range of audiences. This is more so in regards to research, specifically developing confidence and competence in disseminating in a range of outlets, including professional and public. I have developed a sound understanding of the publication process and have started to publish research within the field of Forensic Psychology. Nevertheless, this is an area that I am keen to develop further, specifically developing an understanding of the range and diversity of outlets for publication, seeking

collaborative research opportunities and targeting appropriate journals/outlets to gain a track record of high-quality published research.

I have gained extensive experience in teaching at Undergraduate and Post-graduate level. The knowledge disseminated in my teaching draws greatly from my research, as well as my experience in the forensic field. Through my continued professional development, I have strived to appraise my teaching, synthesise and evaluate a range of sources to reflect on my practice and identify areas for enhancement, plan and design inclusive learning opportunities, thus demonstrating a threshold of competence in facilitating face-to-face, group learning and lectures. I strongly advocate research informed teaching and believe it to be the most effective approach for ensuring quality information is delivered to students.

Current Phase

D1 Working with others = **2**
D2 Communication and Dissemination = **1**
D3 Engagement and Impact = **2**

Interim Review Year 1/Thesis Proposal

Current Phase

D1 Working with others = **2**
D2 Communication and Dissemination = **2**
D3 Engagement and Impact = **2**

I have actively pursued research publications and have developed a good understanding of how research is evaluated and published across a range of journals. Whilst I initially aim to submit papers to the most prestigious journals, my confidence in my own research abilities impedes upon my commitment to this and thus I aim for lower impact journals. This remains as an area that I need to develop further, specifically developing an understanding of the range and diversity of outlets for publication, seeking

collaborative research opportunities and targeting appropriate journals/outlets to gain a track record of high-quality published research.

Reviewer feedback from submitted papers in the past has provided an opportunity to develop my research knowledge and skills, and as such the quality of papers submitted. Recent feedback received on a paper submitted (The violent accounts of men diagnosed with co-morbid anti-social and borderline personality disorders) held a number of themes, predominately the methodology of the study, and the reviewers uncertainty over whether the theme's derived from the qualitative study were specific to the ASPD/BPD diagnoses or reflective of all personality disordered offenders. I reflected upon the feedback received by the reviewers and considered the impact of the paper and its findings. Whilst the feedback was genuinely helpful I spent considerable time reflecting upon the aims of the study, specifically that from a phenomenological perspective, we aimed to explore this specific group of men's accounts of their violent offences. IPA was chosen to allow us to explore the meaning these men made of their violent behaviour (Eatough & Smith, 2006; Willig, 2009). This was an exploratory piece of work. A comparison group was not considered as it was not within the scope or the aims of our study. Also, I was also mindful that as a qualitative study, we would not typically expect to have a control group. Thus there was a salient obstacle in regards to responding to the feedback and preparing for resubmission, notably the expectation that we include a similar qualitative accounts of offenders without the BPD/ASPD diagnoses, and carefully examine the extent to which the themes raised are specific or non-specific. With this in mind I contacted the editor in order to seek clarification on how we could move forward with the resubmission whilst also defending our chosen methodology and seeking guidance on reasonable changes to the paper to meet the reviewer's feedback. I acknowledged that there was a need to make the paper more impactful (i.e. as a hypothesis-generating device) and as such I acknowledged a need to consider how I could draw from the evidence to demonstrate more specificity of the derived theme's to BPD/ASPD offenders. I suggested that within the revision of the paper we would include recommendations that further research into the violent offence accounts other groups of offenders would help resolve the question of specificity of themes. The editor agreed with

our concerns and appreciated that a resubmission based on the reviewer's feedback created a hurdle that was insurmountable. The reviewer agreed with our suggestions in terms of moving forward with this paper but with the clear caveat that such changes would not guarantee that our paper would be accepted. Upon reflection, I believe that my approach to the feedback was pragmatic, I critically reviewed the study in-line with the feedback received and considered a defensible argument to support the methodology. Nevertheless, I remained open and considered alternative options to effectively respond to the feedback and more importantly identified suggestions to assist in developing the quality of the paper and the impact of the research outcomes. This process allowed me to identify my competence and my ability to defend research that I have undertaken.

Attending and presenting at the BIGSPD conference was a challenging, yet positive learning experience. The conference provided an opportunity to develop an up-dated understanding of current practice within the field of Personality Disorder. This was beneficial in terms of my practice as a Psychologist but also my research focus. During the conference I delivered two research talks. The first focused on research studies conducted by myself (in collaboration with a colleague from the prison service) on co-morbidity between Personality, Psychopathy and Clinical Disorder within high risk, high treatment need personality disorder offenders. The second talk relayed findings on two treatment evaluation studies that I had supervised. Presenting my research at the recent conference was an excellent but challenging learning experience. Whilst able to confidently present and effectively communicate the research to a diverse and non-specialist audience, I openly struggled to defend the study following the delegate's questions. I was disappointed by this as I am able to construct coherent arguments and defend my decision within practice, however I struggled to do so within this arena. Unpicking this experience further within my reflections, allowed me to acknowledge that presenting research that I had predominately supervised was related to my limited ability to confidently defend the studies. Whilst I held a sound understanding of the research projects a more comprehensive understanding was needed to allow me to develop a robust response to the delegate's questions.

To date I have gained an extensive experience of teaching at both undergraduate and postgraduate level albeit it has not been without its challenges. I am taking an opportunity over this period to reflect upon my teaching experience and to give further focus to my continued professional developmental within my teaching practices. Throughout this period of critical reflection, I acknowledged that I promote teaching through facilitation rather than transmitting information through a standard lecturing format. I have learned through experience that this approach requires a higher level of interpersonal skills to be able to facilitate the session rather than just delivering it. I perceive my role within a lecture to not only transform knowledge but to assist students to interpret and construct their own knowledge. Whilst there remains scope for further development in this area, which I anticipate will occur through reflective practice it is encouraging to receive positive feedback from students on my style of teaching and also feedback from colleague's observations. Over the past year I have taken the role as Programme Leader of BSc in Forensic Psychology and Professional Doctorate in Psychology. Both programmes are varied and provide their own unique challenges nevertheless, they have both provided a valuable learning opportunity to lead teaching programmes and ensure they adhere to quality standards.

Reflecting on my practice as an academic, I have strived to make sense of my experiences and learning, and how I would do it better the next time. This has formed a crucial part of my professional development as a teacher. It is notable that whilst my experiences of being an academic has not been without challenge, it has provided positive learning experience allowing me to develop my competence. Through my continued professional development, I have strived to appraise my teaching, synthesise and evaluate a range of sources to reflect on my practice and identify areas for enhancement, plan and design inclusive learning opportunities, thus demonstrating a threshold of competence (UKPSF, 2011) in facilitating face-to-face, group learning and sessions. The knowledge disseminated in my teaching draws greatly from my research, as well as my experience in the Forensic field. I strongly advocate research informed teaching and believe it to be the most effective approach for ensuring quality information is delivered to students. Taking into consideration that professional learning advocates academic development to change the conceptual basis upon which lectures practice (Ho, 2000) I have

developed a continued professional development plan (refer to appendix 7) to engage in meaningful learning activities in order to continue my development as an academic and ensure that my practice assists students to become confident, critical, creative, adaptable, articulate and aspiring.

Annual Review End Year 1
Current Phase Working with others = **3** Communication and Dissemination = **2** Engagement and Impact = **3**
Pursuing research for publication remains an area of difficulty for me, and whilst my confidence is increasing I remain to hold a number of apprehensions about submitting papers for peer review. Following the manuscript decline (*'The violent accounts of men diagnosed with co-morbid anti-social and borderline personality disorder')* in February 2017, I submitted the paper to another journal for review (Journal of Offender Therapy and Comparative Criminology). The paper was accepted for publication within its original format, with no suggested revisions by the reviewers. Whilst a positive outcome, the derived confidence of achieving this has been short-lived. Upon reflection, this is directly related to what I perceive as critical feedback by reviewers on the separate paper (27/06/17) that highlighted fundamental issues relating to the study design, interpretation of findings and relevance of the study in developing knowledge. As yet, I have not considered the feedback received in depth nor have I progressed with redrafting the paper. Whilst an excuse for not progressing has been a lack of time, I equally recognise that a more salient barrier has been a lack of confidence in my abilities to meet the feedback of the reviewers. With this in mind, I have identified my inaccurate perception of research as being a solitary pursuit, and as such I have acknowledged a need for me to talk to colleagues about their research experiences and reviewer comments. This will allow me to develop a better understanding of the publication process and hopefully help me to perceive reviewer comments as being constructive rather than a critical evaluation of my research skills. In addition, I need to strive

for high quality research outputs, thus I need to allocate further time to my research activates and challenge any need (personal and from my academic organisation) to produce publications quickly.

Whilst I have gained extensive experience supervising research for UG and PG students, and professionals I have for a number of years supervised based on what I thought was good practice rather than truly thinking about my students and trainee psychologists needs and what actually was "good practice". With this in mind, I decided to develop a more theoretical understanding of supervision, focusing on various models of supervision. In summary I learned that supervisors are there to create an environment that provides effective teaching and learning to trainees in a safe setting. Through regular identification of learning opportunities appropriate to a trainee's and student's level of competence, and opportunities for feedback, supervisors can help students to develop their skills and competence. By acting as positive role model, supervisors can demonstrate good practice to their students. I have also realised that a supervisors ethical and professional behaviour is modelled within the supervisory relationships, thus whilst I have in the past employed a relaxed and 'friendly' approach to supervision I have decided to present in a more professional manner in a hope that my students will learn to parallel this in their own research practice. I perceive supervision as a means of helping students to build confidence and competence as they grow in the profession and research, in turn I also get an opportunity to know more about my students.

In addition, I have given considerable thought to my approach of providing feedback to students. I have come to recognise that I hold unrelenting standards and strive for perfection, nevertheless I have learned that this approach and subsequent feedback I send to students may have a detrimental impact upon their confidence, motivation and commitment to their research. Thus, I have encouraged myself to be more mindful in my approach to feedback and I have strived to utilise more of a constructive model, thus to motive and develop my student's knowledge and skills. Rather than relying on written feedback to students, I have implemented supervision sessions to provide verbal feedback to avoid misunderstandings (the student perceiving feedback critically), provide an opportunity to discuss

feedback meaningfully and thus aiding the students learning process. Whilst more time consuming initially, I have found that those students committed to their research have responded more effectively to feedback, thus producing higher quality outputs which in-turn has reduced supervision time at a later stage. Whilst reflecting upon this approach, I have further learnt the importance of a teaching-learning-research connection within supervision.

Throughout my teaching I thrive to combine up to date and relevant theory with my practical knowledge and experiences. I strongly advocate research informed teaching and believe it to be the most effective approach for ensuring quality information is delivered to students; something that will be a priority for me in this post. As Psychology is a passion of mine I can enthusiastically communicate to the students, and creatively present material at the appropriate level of study. My commitment to effective teaching is supported by being nominated and being awarded a STAR award (Inspiring Supervisor and Lecturer) for two consecutive years (2016 and 2017). These awards were nominated by the student body and chosen by the Universities Senior Executive Management Team.

Within this academic year I was asked by senior management to mentor a new member of staff to our department who, similar to myself was a practitioner and who prior to this job had limited academic experience. I was familiar with the new member of staff as I was on the interview panel who appointed the member of staff into post, and as such I had a good understanding of her past work and research experiences. Nevertheless, I made every effort to spend time developing a working relationship with my colleague. I ensured that I was available to answer any questions she had and provided reflective advice as needed. Throughout our discussions I was mindful of the challenges I encountered whilst transitioning from a full-time practitioner working in the prison service to an academic field, and used these to reduce her anxieties. Whilst I have had experiences mentoring and supervising other professionals, the challenges of mentoring a colleague soon became apparent. It was clear that my new colleague was struggling with academic working and whilst I attempted to understand her experiences, managing student complaints that were related to this colleague as the Programme Leader was placing

me into difficult and challenging situations whereby I had to support the students in their difficulties whilst also supporting my colleague. Whilst creating a nurturing and supportive environment for my colleague was essential, it was equally important for me to develop an understanding of what was underpinning her difficulties. Through meaningful discussions it became clear that her expectations of academic working were not accurate and as such she was not fulfilling her job role. I remained transparent and supported her in developing and implementing a development plan. Following six months I was asked to provide evidence to senior management of my colleague's performance and at this point my colleague resigned from her post. Again this was a difficult situation but allowed me to appreciate the importance of effective personal management, empowering others and explaining clearly the rationale behind procedures and decisions.

On the 23.05.17 I had a meeting with the Enterprise and Business Engagement lead for my school. During the meeting I developed a clearer understanding of Enterprise and Business Engagement Activity and was able to identify activities within my academic and private practice that could support the Universities agenda. Upon reflection I had underestimated the broad nature of Enterprise and Business Engagement and I had not considered the links I had formed with the Prison Service and NHS to be relevant to this work. As an outcome of the meeting I set myself action points to consider developing an UG work experience module that would utilise my links with forensic organisations and to pursue discussions with the Prison Service National Forensic Lead regarding bidding for a contract to deliver a Post graduate academic programme for Registered status.

Interim Review Year 2
Current Phase D1 Working with others = **3** D2 Communication and Dissemination = **2** D3 Engagement and Impact = **3**

I received a request to collaborate on a research project with the School's Associate Dean for research. The proposed research project was focused on the experiences of older offenders and I was asked to collaborate as a means of bringing the "psychological thread to the paper". Whilst it was an honoured opportunity, I needed to be realistic on whether I would be able to commit to the proposed research project. I was aware of my other research commitments, notably my professional doctorate and whilst keen to build collaborative relationships with a range of colleagues I had to prioritise my current commitments. I openly discussed this with my colleague, who appeared surprised by my decline, although I explained my current circumstance and she advised that following the submission of my Professional Doctorate thesis, I should book an appointment to discuss my research plans and progression. Upon reflection, this opportunity allowed to acknowledge my need to build collaborative relationships, but also the importance of managing and negotiating collaborations and external relationships.

During this period, I was also asked to join a PhD supervisory team. The proposed area of research was related to sexual risk assessment (both static and dynamic). This was an excellent opportunity, although I was apprehensive and questioned my own suitability. I discussed this within my research mentor who reflected that my research skills/knowledge, supervision experience and practice knowledge within the research are would be of a great benefit to the PhD student. Whilst this was positive to hear, I thought that being transparent with the supervisory team about my limited experience of supervising research at this level was crucial prior to agreeing to this opportunity. The discussion reduced my concerns and the importance of individual strengths to team was reiterated. During the early stages of supervision, I have found myself taking a lead drawing from knowledge of surrounding literature. Throughout this process I encouraged the student to develop an in-depth understanding of the surrounding literature to support her autonomous decisions regarding her proposed research studies. I also took time to review the Universities supervision policy and procedures.

Final Submission

RDF standards
D1 1+
D2 2+
D3 1+

Current Phase

Working with others = **3**
Communication and Dissemination = **3**
Engagement and Impact = **3**

Final Reflections on Being a Researching Practitioner

During this period, I worked collaboratively with colleagues on writing up a previously conducted study (An exploration of personality disordered offenders' experiences of completing a social skills treatment component) for publication. Throughout I utilised my experience of writing for publication to provide guidance to my colleagues. It was imperative that the paper was presented to a high standard, as we had aimed to submit the paper to a relatively high impact journal. It was equally important to ensure that the clinical implications of the study were clearly communicated to aid future practice. I have developed confidence in my ability to write for publication and through the process was able to support my less experienced colleagues. The reviewer feedback included minor amendments which was positive and reinforced my confidence in my research abilities. A number of points raised did not appear to be relevant or applicable, thus rather than making unnecessary changes, in my opinion, I provided a considered rationale which was communicated to the reviewers. The paper was accepted on this basis. Whilst I remain to be apprehensive about submitting papers for publications, I now value reviewers' feedback and feel able to provide justified reasons when I disagree with points raised. This I believe reflects the robustness of the research studies that I conducted, notably that they are well thought out and justified.

I reluctantly accepted the opportunity to present at the BPS Division of Forensic Psychology conference. Whilst valuing the opportunity to communicate my thesis research to other professionals, I initially experienced a level of self-doubt. Nevertheless, during the process of preparing for the conference, I recognised that I had an in-depth understanding of my study and surrounding literature, which in-turn increased my confidence. I had not expected a large audience; however, the presentation

was well received with relevant questions posed. I felt able to confidently respond to questions which again reflected my developed theoretical understanding. Overall, this was a rewarding experience and unexpectedly, after the conference I received a number of correspondences from colleagues requesting advice regarding treatment with complex offenders and also research. I felt able to provide meaningful advice in response to these queries, but more importantly I felt confident in my abilities to do so. At this point, I reflected upon my journey through my Professional Doctorate and acknowledged that whilst a challenging process, it has provided a range of opportunities to develop confidence and competence. I now consider myself to have an advanced level of knowledge within my field of research and I am able to communicate such knowledge to other professionals, thus supporting engagement. This reflection was further strengthened after providing a workshop to colleagues and other professionals at Newcastle University on my current research activates. Whilst those who attended were not from a Forensic Psychology background, they seemed to value the research I had been involved in, with one delegate stating that they were surprised that "a practitioner was so heavily involved in research". This was initially a surprising comment, although after further thought I considered the accuracy and acknowledged that typically practicing psychologists, certainly from my experience, tend to have limited involvement in conducting research. This reiterated the importance of my research but also to continue supporting colleagues in progress with research projects to develop our practice.

Reflecting on my academic experience, I am able to recognise my achievements, whilst also acknowledging areas of development. I have taught a range of psychology topics with the main focus being Forensic Psychology. I have acted as module leader for both the Postgraduate and Undergraduate modules. During my teaching experience, I continually strive to improve upon my approach and develop a wider repertoire of teaching styles. Nevertheless, more recently I identified that my approach has become stagnant with limited development, and I continue to take a greater ownership over students learning, rather than encouraging for independent learning. I discussed teaching approaches with fellow colleagues and was interested in one lecturers approach of *"chalk and talk".* He explained that he does

not prepare PowerPoint slides, but during his lecturers he raises the topic of discussion and writes key learning out points on the white board. Whilst an alternative approach, I do value not being overly prepared to teach and taking a greater lead from students. Whilst this is an approach I aiming to employ, I do not think I would be able to utilise *"chalk and talk"* throughout the length of a lecture. These discussions have provided some motivation for me to strengthen my approach to teaching and to consider in greater depth the learners needs.

I have also gained valuable experience of leading programmes, beginning with the programme leadership of the BSc (Hons) Forensic Psychology programme. As part of my remit within this role, I was tasked with revising the programme structure to aid the students learning experience and to ensure the programme adhered to the BPS accreditation requirements. In addition, I was asked to develop the Professional Doctorate in Psychology programme, which was approved by the University. This was a unique opportunity that allowed me to develop valuable experience and understanding of developing academic programmes in adherence to regulation requirements at level 8. I have also been the Programme Leader for the Professional Doctorate in Psychology programme and MSc Forensic Psychology programme. My strong programme leadership background and experience on the Psychology Programme Management Team, ensures that I have extensive experience of student support procedures and taking on a pastoral role. Throughout my academic career, I have gained experience of contributing to and managing teaching and programmes, whilst also supporting the development of curriculums. This is an aspect of my role that I fully enjoy, and whilst programme management is not part of my job role at Newcastle University, I have discussed this with the Head of Department and opportunities are now being considered. I do realise that my academic experience has provided me with a sound basis to integrate within the academic team at Newcastle University. Whilst to date I have not yet been involved with teaching, I have taken a proactive approach to the development of a new practitioner programme. Throughout my involvement I was transparent in my approach, notably to develop a programme of studies to provide students with a structured and time bound academic qualification to gain Registered Status through the HCPC, whilst ensuring the students develop the

necessary skills to become competent Psychologists. Whilst I encountered a number of disagreements with colleagues, I strived to value other professionals opinions and when providing alternative views, I ensured they were well thought out and considered.

Individual learning plan post thesis submission:

- Continue to actively publish research within various outlets and strengthen dissemination approach.
- Develop into a role of peer reviewer.
- Continue to improve own teaching approach and develop wider repertoire of teaching styles and techniques.

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Appendices

Appendix 1: Systematic review search strategy

Searches were based on the following search strategy, with variations made to terms and syntax depending upon database requirements:

(TEXT WORD) Psychopathic/ OR Psychopath*

(TEXT WORD) Offender/ OR Offend* Prisoner* OR Inmate* OR Probation*

(ALL TEXT) treatment* OR Intervention OR Therap* OR Psychotherap* OR psychoeducation OR psychosocial OR group-based treatment OR group therap* OR individual therap OR cognitive adj5 therap* OR behav* therap*

(TEXT WORD) dropout/ OR dropout* OR non-complet* OR deselect* OR discontinuat* OR treatment termination OR attrition OR attendance OR engag* OR motivat* OR treatment received OR sessions attended OR Offender compliance OR dosage OR experience OR treatment retention

Appendix 2: Quality assessment form

Scoring System:

1 point for criteria that is high quality 'Yes' (Y) response

0.5 point for criteria that is 'Partial' (P) or 'Unclear' (U) response

0 points for criteria that are low quality 'No' (N) or 'not applicable' (N/A) response

Study Validity	Y	P/U	N (N/A)	Comments
Did the study address a clear focused issue? *Are the hypotheses/aims of the study clearly presented?*				
Sampling & Selection bias				
Was the sample recruited in an acceptable way? *Any selection bias that might compromise the generalisability of the findings. Were the inclusion/exclusion criteria for participant selection explicit.*				
Was the sample representative of a defined population (overall source population)? *Review demographic and offence data. Was the whole population studied, or a select sample? If selected, was this appropriate, explained and its relevance reflected upon?*				
Sample size is sufficient for meaningful outcomes? *Full sample and sub-sample of psychopathic offenders who met PCL-R diagnostic cut-off*				
Intervention				
Intervention has been appropriately defined? *Consider whether the intervention is covered in sufficient detail including reference to the theoretical underpinning and the potential impact on outcome within the target population.*				
Clinical assessment (PCL-R)				
PCL-R assessments conducted appropriately? *Is it reported who conducted the clinical assessment (appropriate personnel). Were assessments conducted appropriately (interview and file based) or conducted solely on file information?*				

PCL-R validation checks conducted? Was inter-rater reliability of clinical assessments checked and if so was it appropriate?				
Applied PCL-R cut off for diagnoses clinically appropriate? *PCL-R ≥ 25*				
Measures (Detection bias)				
Were the measurements for outcomes objective? *Are the measures valid, reliable and standardised. The outcome measures are clearly described along with their validity and reliability within the forensic population utilised in the study. If applicable, were measures of recidivism objective (official or self-report)?*				
Were the outcomes assessed in the same way across groups? *Were assessment procedures consistent across treatment completers/non-completers?*				
Attrition bias				
Treatment non-completion defined and assessment procedure explained? *Binary outcome or specific reasons for drop out?*				
Attrition rates reported? *Attrition rates are described for groups (e.g. psychopathic/non-psychopathic).*				
Analysis bias				
Was the statistical analysis appropriate? *Appropriate analysis for outcome measures?*				
Power analysis, effect size or confidence intervals reported? *Power calculation was completed using a reasonable effect size estimation, and or effect size/confidence intervals reported?*				
Reporting bias				
Are the main findings of the study clearly described and the study's proposed aims addressed?				
Are limitations of the study clearly reported?				

Total = **Percentage = %** **Total no. U's**

Appendix 3: Quality assessment of included studies

Author	Sampling & selection process	Intervention appropriately defined?	Non-completion defined?	Attrition reported?	PCL-R assessment used?	Analysis and reporting of findings	Quality assessment score
Bennett (2015)	Recruitment based on those requiring specialist PDTS during a defined time period. Partial explanation of inclusion/exclusion criteria. Limited demographics reported.	Yes	Offenders who subsequently left treatment for any reason and had not returned to treatment at the time of data collection.	Yes	No explanation of PCL-R assessment procedure or Inter-Rater Reliability (IRR) process. Author has clarified that the PCL-R assessments (clinical purposes) were based on interview and file information.	Limited PCL-R score variances within the sample may have contributed to non-significant findings (PCL-R as a non-significant predictor of treatment non-completion). This should have been considered prior to subsequent analysis. The study was limited to clinical outcomes; including select PD diagnoses and PCL-R total score, (the predictive relevance of the PCL-R factor or facets to treatment non-completion was not examined). Thus, the conducted analysis is considered narrow, restricting the clinical applicability of the study's findings and the relatability (direct comparison) of findings to other studies.	53%
Daffern et al., (2008)	Recruitment based on those requiring medium-security inpatient care. Inclusion/ exclusion criteria not reported. Limited demographics reported.	Treatment unit described, although details of the interventions are not reported (lack of reference to the theoretical underpinning and procedure).	Agency-initiated expulsion (removed for rule-breaking or disruptive behaviour), or client-initiated drop-out.	No	PCL-R conducted by trained psychiatric registrars prior to admission. Assessment procedure and IRR not reported.	The proportion of the sample that met the PCL-R diagnostic cut-off is not explicitly reported, which impedes upon the interpretation of the results. The conducted analysis is narrow, providing restricted evidence for exploring the proposed aim of the study. There is a lack of clarity on the analysis conducted and statistical outcomes (including size/confidence intervals) are not consistently reported. A *post hoc* power calculation suggested that the study was unpowered.	50%

						Despite being an aim of the study, there is limited interpretation of findings relating to treatment non-completion.	
Daffern et al., (2013)	Recruitment based on those requiring medium-security inpatient care. Inclusion/ exclusion criteria not reported. Limited demographics reported.	Treatment unit described, although details of the interventions are not reported (lack of reference to the theoretical underpinning and procedure).	Agency-initiated expulsion (removed for rule-breaking or disruptive behaviour), or client-initiated drop-out.	No	PCL-R conducted by trained psychologists and physicians. Assessment procedure or IRR not reported.	The proportion of the sample that met the PCL-R diagnostic cut-off is not explicitly reported, which impedes upon the interpretation of the results. The quantitative analysis provides meaningful results. The follow-up period for reconviction data was variable (between 3.33 and 10.5 years) with no correction for time 'at risk' within the conducted analysis. Effect size/confidence intervals not reported.	47%
Dickie (2003)	Inclusion of all offenders admitted to the sex offender treatment programme. Partial explanation of inclusion/exclusion criteria. Limited demographics reported.	Yes	Voluntarily withdrew or involuntarily discharged.	Yes	No explanation of PCL-R assessment procedure or IRR.	Due to a small sample size the planned analysis to explore psychopathy, treatment non-completion and recidivism was omitted. There is a lack of clarity on the analysis conducted and results are not clearly explained (statistical outcomes, effect size and confidence intervals are partially reported).	62%
Hildebrand & de Ruiter (2012)	Recruitment based on those requiring secure inpatient care who provided consent for research assessments. Partial explanation of inclusion/ exclusion criteria. Sample demographics reported.	Yes	Treatment compliance (sessions attended)	No	PCL-R independently scored by two assessors (profession not reported). Assessments conducted via semi-structured interview and file information. Good PCL-R IRR reported.	For the purpose of some analysis, a PCL-R $\geq$ 22 cut-off was used, which is lower than the advocated cut-off. Thus, there is a potential for overrepresentation of psychopaths within the study sample, impacting upon outcome and the interpretation of results. The authors report the potential for lower statistical power and report a range of low effect sizes suggesting low practical significance.	65%

Jeandarme et al., (2017)	Recruitment based on those requiring medium-security inpatient care. Sample included those who had been PCL-R assessed, suggesting potential selection bias. Exclusion criteria reported and acceptable. Sample demographics reported.	Yes	Not defined	Yes	PCL-R assessed by professionals with a master's or medical degree. Proportion of assessments completed with file review. Low IRR reported.	Data from three units analysed with no controls over extraneous variables (e.g. variations in treatment approach, objective and treatment environment) that could have influenced outcome. Method of quantitative analysis used provides meaningful results of outcome (albeit effect size/confidence intervals not consistently reported). The analysis and outcome is described in sufficient detail.	62%
Langevin (2006)	Participants recruited from involvement with psychiatric services. The recruitment process is unclear and may suggest potential selection bias. Exclusion criteria not reported. Sample demographics reported.	No	Not defined	No	Two rates scored PCL-R on a subset of 50 cases with good IRR reported. Proportion of assessments completed with file review. If all items not scored, the total score was prorated, which may reduce the reliability of outcome.	Data from a variety of treatment units with no controls over extraneous variables (e.g. variations in treatment approach, objective and treatment environment). Limited analysis conducted to explore psychopathy and treatment non-completion, albeit this was not an explicit aim of the study. Effect size and confidence intervals not reported.	50%
Ogloff, et al., (1990)	Selected on basis of admission to TC during a defined time period. Inclusion/exclusion criteria not reported. Limited demographics reported.	Partial explanation with a lack of reference to the theoretical underpinning.	Not defined	No	Two PCL-R assessors (profession not reported). Assessment process not reported. Good IRR reported.	Whilst an aim of the study was to examine attrition rates, this was not explicitly examined (the study explored differences/associations in PCL-R scores and treatment length). PCL-R factor and facet scores were not examined, restricting the clinical applicability of findings. Effect size and confidence intervals not reported.	41%
Olver (2003)	Inclusion of all offenders admitted to the sex offender treatment programme. Partial explanation of inclusion/ exclusion criteria. Sample demographics reported.	Partial explanation with a lack of reference to the theoretical underpinning.	Premature withdrawal or termination from treatment, and consequent failure to successfully complete programme requirements.	Yes	PCL-R completed by lead researcher (trained) based on file information. 25 PCL-R's assessments were rated by two trained researcher assistants with satisfactory IRR reported.	The study conducted correlation analysis (controlling for sex offender risk) to form predictive inferences between PCL-R total (factors and facets) scores and treatment non-completion (the completion of a regression analysis would have been a more appropriate analytical approach). Effect size and confidence intervals not reported.	68%

Olver & Wong (2009)	Inclusion of all offenders admitted to the sex offender treatment programme. Inclusion/exclusion criteria not reported. Sample demographics reported.	Yes	Premature withdrawal or termination from treatment	Yes	PCL-R completed by lead researcher (trained) based on file information. 25 PCL-R's assessments were rated by two trained researcher assistants with good IRR reported. An additional 43 PCL-R (total scores) were also included from a previous study with no explanation of assessment procedures provided for these additional assessments.	Correlation analysis was conducted and predictive inferences between PCL-R total scores and treatment non-completion were drawn (the completion of a regression analysis would have been a more appropriate analytical approach). Effect sizes and confidence intervals not reported.	68%
Olver & Wong (2011)	Inclusion of all offenders admitted to the sex offender treatment programme. Inclusion/exclusion criteria not reported. Sample demographics reported.	Yes	Premature withdrawal or termination from treatment	No	PCL-R completed by lead researcher (trained) based on file information. 25 PCL-R's assessments were rated by two trained researcher assistants with good IRR reported.	Method of quantitative analysis used provides meaningful results of outcome (effect size and confidence intervals not consistently reported), the analysis and outcomes are described in sufficient detail.	81%
Sewall & Olver (2018)	Inclusion of all offenders admitted to the sex offender treatment programme. Inclusion/exclusion criteria not reported. Sample demographics reported.	Yes	Not attended the programme in its entirety	Yes	PCL-R assessment data from Wong and Olver (2011) study were used, alongside an additional 189 file based PCL-R assessments conducted by the lead researcher and research assistants. IRR conducted but outcome not reported.	Method of quantitative analysis used provides meaningful results of outcome (confidence intervals reported for main analysis). Part of the results lack a level of clarity (with some statistical outcomes not reported). The regression analysis controls for risk of sexual violence.	84%
Shine & Hobson (2000)	Selected on basis of admission to TC during a defined time period. The sample included 73% of	Partial explanation with a lack of reference to the	Not defined	No	PCL-R assessments based on interview and file information. Assessments conducted by the author. IRR not reported.	The quantitative method of analysis is narrow although consistent with the presented aim of the study. Effect size and confidence intervals not reported.	44%

those admitted during 1995, with the remaining 27% not being included. The study reports no differences in demographic, criminological or psychometrics outcomes between sample and those not included, indicating no selection bias. Inclusion/ exclusion criteria not reported. No demographics reported.	theoretical underpinning.	

Appendix 4: University ethical approval

Message sent on behalf of the Chair of the College Research Ethics Committee

Dear Darren

Thank you for the resubmission of your application (No. 2017/149) to the College Research Ethics Committee (CREC) today requesting ethical clearance for the project entitled: *The effectiveness of the Chromis programme for high risk Personality Disordered and Psychopathic Offenders.*

We are pleased to inform you that the CREC was happy to confirm that in its judgement there were no further outstanding ethical concerns that required further discussion or exploration prior to data collection and the reviewers are satisfied that your resubmission now meets with their ethical approval.

The committee would like to wish you well in the completion of your project.

Sent on behalf of K Wheat
Chair CREC

Appendix 5: HMPPS research approval

From: Hunter, Melanie [HMPS] <Melanie.Hunter@hmps.gsi.gov.uk>
Sent: 04 September 2017 02:16
To: Gibson, Kimberley [HMPS]
Cc: 'Johnson, Darren'; Johnson, Darren 2016 (PGR)
Subject: CHROMIS Research

Dear Kimberley

RE: The effectiveness of the Chromis programme for high risk Personality Disordered and Psychopathic Offenders.

Darren received ethical approval for this study from Nottingham Trent on 18th July 2017 and Julie Luther, HSE&LTP Lead Psychologist, approved this on 8th August 2017.

I have copied Darren into this e-mail as well as Suzanne Emm who is our Information Asset Custodian here at Westgate Psychology Service.

Best wishes, Melanie

Melanie Hunter CPsychol
HCPC Registered Practitioner Psychologist – Forensic

Senior Psychologist and Research Lead

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Westgate Unit
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E-mail: Melanie.Hunter@hmps.gsi.gov.uk

Appendix 6: Psychometric scale and subscale means and standard deviations for assessment stages 1 to 5 with mean change between assessment stages for moderate and high PCL-R groups and full sample (total).

Appendix 6.1: SPSI-R subscale

	n	**S1**	**S2**	**S3**	**S4**	**S5**	**Mean change**		
		M(SD)	M(SD)	M(SD)	M(SD)	M(SD)	S2-S3	S4-S5	S1-S5
PPO									
Moderate	16	9.1 (4.3)	9.7 (4.2)	12.1 (4.4)	11.6 (4.7)	12.9 (4.1)	2.4	1.3	3.8
High	16	9.5 (5.2)	9.6 (4.3)	14.3 (2.9)	12.3 (3.5)	14.1 (4.7)	4.7	1.8	4.6
Total	32	9.3 (4.7)	9.7 (4.2)	13.2 (3.8)	12 (4)	13.5 (4.4)	3.5**	1.5	4.2**
NPO									
Moderate	16	12.5 (8.2)	9.3 (6.3)	5.4 (4.7)	5 (4.3)	4.2 (3.4)	- 3.9	0.8	-8.3
High	16	12.7 (9.4)	12.5 (8.8)	5.2 (2.7)	4.2 (3.6)	5.9 (6.7)	- 7.3	- 1.7	-6.8
Total	32	12.6 (8.6)	10.8 (7.6)	5.3 (3.8)	4.6 (3.9)	5.0 (5.3)	- 5.5**	-0.4	-7.6**
RPS									
Moderate	16	26.8 (17.9)	32 (16.3)	47.1 (16)	44.9 (17.5)	53 (13.9)	15.1	8.1	18.1
High	16	37.5 (22.1)	39 (20.1)	55.8 (10.1)	51 (15.6)	56.6 (15.6)	16.8	5.6	13.5
Total	32	32.2 (20.5)	35 (18)	51.4 (13.9)	48 (16.6)	54.8 (14.7)	16.4**	6.8	22.6**
ICS									
Moderate	16	16.1 (10.2)	13.8 (10)	6.2 (5.8)	5.8 (4.9)	5.5 (6.4)	- 7.6	- 0.3	-10.6
High	16	15.3 (12.7)	14 (9.5)	5.7 (4.6)	6.3 (8)	5.8 (9.1)	- 9.2	- 0.5	-9.5
Total	32	15.7 (11.3)	13.9 (9.6)	6.0 (5.1)	6 (6.5)	5.7 (7.7)	- 7.9**	- 0.3	-10**
AS									
Moderate	16	9.9 (5.9)	8.3 (5.9)	5.3 (4.4)	4.5 (4)	5.2 (4.3)	- 3	- 0.7	- 4.7
High	16	11 (8)	8.7 (6.4)	5.1 (3.8)	4.9 (4.5)	4.6 (4.9)	- 3.6	- 0.3	- 6.4
Total	32	10.5 (7)	8.5 (6.1)	5.2 (4)	4.7 (4.2)	4.9 (4.6)	- 3.3	- 0.2	- 5.6**

** significant at the .01 level * significant at the .05 level

Appendix 6.2: BIS total and subscales

	n	S1	S2	S3	S4	S5	Mean change		
		M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	S2-S3	S4-S5	S1-S5
BIS Total									
Moderate	15	74.6 (11.8)	70 (13.4)	61.3 (11.4)	60.2 (10.7)	55.4 (11.8)	- 8.7	- 4.8	- 19.4
High	15	69.3 (15.5)	64 (10.8)	54.7 (5.6)	54.2 (10.2)	49.6 (8.8)	- 9.3	- 4.6	- 19.7
Total	30	71.9 (13.8)	67 (12.)	58 (9.5)	57.2 (10.7)	52.5 (10.3)	- 9**	- 4.7	- 19.4**
MI									
Moderate	15	23.2 (6)	21.3 (5.6)	16.8 (2.9)	16.9 (3.2)	17 (4.9)	- 4.5	- 0.1	- 6.2
High	15	22.5 (5.7)	19.8 (3.9)	16.3 (2.9)	16 (3.2)	14.8 (3.3)	- 3.5	- 1.2	- 7.7
Total	30	22.9 (5.7)	20.6 (4.8)	16.6 (2.9)	15.4 (3.2)	15.9 (4.2)	- 4**	- 0.5	- 7**
CI									
Moderate	15	25.2 (3.7)	23.9 (4.5)	21.7 (4.4)	21.4 (3.7)	19.8 (3.9)	- 2.2	- 1.6	- 5.7
High	15	24 (5.4)	22.2 (5)	19.3 (3.9)	18.6 (3.8)	18.1 (3.4)	-.2.9	- 0.5	- 5.9
Total	30	24.6 (4.6)	23 (4.7)	20.5 (4.3)	20 (4)	18.9 (3.7)	- 2.5*	- 1.1	- 5.7**
NPI									
Moderate	16	26.1 (5)	24.7 (5)	22.7 (5.9)	21.9 (5.1)	18.6 (4.6)	- 2	- 3.3	- 7.5
High	15	22.8 (5.5)	21.9 (3.6)	19.1 (3)	19.6 (4.2)	16.6 (3.2)	- 2.8	- 3	- 6.2
Total	30	24.4 (5.4)	23.3 (4.5)	20.9 (4.9)	20.7 (4.8)	17.6 (4)	- 2.4	- 3.1*	- 6.8**

** significant at the .01 level * significant at the .05 level

Appendix 6.3: NAS-PI total and subscales

	n	S1	S2	S3	S4	S5	Mean change		
		M(SD)	M(SD)	M(SD)	M(SD)	M(SD)	S2-S3	S4-S5	S1-S5
Cog									
Moderate	16	31 (6.28)	30.6 (5.2)	27.0 (5.9)	27.4 (5.4)	24.2 (5.1)	-3.3	-3.1	-6.7
High	18	30.5 (7.05)	28.7 (7.4)	25.7 (4.9)	25.5 (6.4)	23.6 (3.9)	-2.9	-1.9	-6.8
Total	34	30.7 (6.60)	29.6 (6.4)	26.3 (5.3)	26.4 (6.04)	23.9 (4.4)	-3.2*	-2.5	-6.8**
Aro									
Moderate	16	31.5 (6)	30.1 (6.3)	26.6 (6.3)	27.3 (4.5)	24.1 (5.5)	-3.4	-3.1	-7.3
High	18	30.5 (9.2)	28.3 (8.9)	25 (5.8)	25.1 (7.4)	22.8 (4.5)	-3.3	-2.2	-7.6
Total	34	30.9 (7.7)	29.2 (7.7)	25.7 (6)	26.1 (6.2)	23.5 (5.01	-3.4*	-2.6	-7.4**
Beh									
Moderate	16	29.6 (5.4)	28.6 (5.4)	25 (5.9)	25.5 (4.8)	23.1 (5.2)	-3.6	-2.3	-6.1
High	18	29 (7.9)	25.4 (7.6)	22.8 (5.3)	22.2 (6.4)	21.5 (3.9)	-2.6	-0.7	-7.4
Total	34	29.3 (6.7)	26.9 (6.8)	23.9 (5.6)	23.8 (5.9)	22.3 (4.5)	-3	-1.5	-7**
AR									
Moderate	16	23.9 (3.9)	25.5 (3.9)	27.6 (4.2)	27.6 (4.4)	27.3 (3.9)	2.1	-0.2	3.4
High	18	23.8 (4.3)	26.6 (4.7)	28.5 (4)	28.1 (4.6)	28.7 (5)	1.8	0.6	4.8
Total	34	23.8 (4)	26 (4.3)	28 (4.1)	27.8 (4.4)	28 (4.5)	2.2	-.02	4.2**
NAS									
Total									
Moderate	16	116.1 (16.5)	114.9 (15.5)	106.4 (13.9)	107.9 (11)	99 (14.8)	-8.5	-8.93	17.1
High	18	113.8 (20.3)	109.1 (19.6)	102.1 (13.0)	101.1 (17.8)	96.7 (10.6)	-7	-4.34	17.0
Total	34	114.1 (19.6)	111.8 (17.8)	104.1 (13.4)	104 (15.2)	97.8 (12.6)	-7.7*	-6.1	16.3**
PI Total									
Moderate	15	59.6 (15.1)	54.6 (12.8)	50 (10.7)	50.9 (10.1)	46 (10.9)	-4.6	-4.9	-13.6
High	18	57.8 (19.3)	53.7 (18.0)	44.3 (14.2)	45 (13)	45.6 (11.6)	-9.3	0.5	-12.2
Total	34	58.7 (17.2)	54.1 (15.5)	47.0 (12.8)	47.8 (11.9)	45.8 (11.1)	-7.1**	-2	-12.9**

** significant at the .01 level * significant at the .05 level

Appendix 6.4: LoC total

	n	S1	S2	S3	S4	S5	Mean change		
		M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	S2-S3	S4-S5	S1-S5
LoC total									
Moderate	17	48.6 (9.2)	44.2 (8.0)	54.4 (10.7)	55.0 (10.2)	55.0 (9.1)	10.2	0	6.4
High	19	44.7 (10)	45.4 (8.2)	54.5 (8.03)	53.7 (9.6)	55.2 (8.4)	9.1	1.5	10.5
Total	36	46.5 (9.8)	44.8 (8.09)	54.5 (9.25)	54.3 (9.7)	55 (8.6)	9.7**	0.7	8.5**

** significant at the .01 level * significant at the .05 level

Appendix 6.5: YSQ-SF subscale

	n	S1	S2	S3	S4	S5	Mean change		
		M(SD)	M(SD)	M(SD)	M(SD)	M(SD)	S2-S3	S4 -S5	S1-S5
ED									
Moderate	16	15.3 (7.8)	14.7 (7.0)	16.3 (7.3)	18.4 (6.9)	16.7 (6.6)	1.6	-1.7	1.4
High	18	16.7 (8.1)	17.5 (8.1)	17.0 (6.7)	15.7 (7.1)	18.1 (8.5)	.5	2.4	1.4
Total	34	16.0 (7.9)	16.2 (7.6)	16.7 (6.9)	17.0 (7.1)	17.5 (7.6)	.5	.5	1.5
Aba									
Moderate	16	12.1 (7.9)	12.5 (6.8)	11.1 (6.1)	12.8 (6.2)	8.8 (5.1)	-1.4	-4	-3.3
High	18	13.3 (7.8)	15.5 (8.7)	15.1 (9.8)	12.8 (6.4)	11.6 (7.4)	-.4	-1.2	-1.7
Total	34	12.7 (7.8)	14.0 (7.9)	13.2 (8.4)	12.8 (6.3)	10.2 (6.5)	-.8	-2.6	-2.5*
Mis									
Moderate	16	18.1 (7.3)	15.6 (8.4)	13.2 (8.7)	13.1 (7.1)	12.6 (6.2)	-2.4	-.5	-5.5
High	18	15.6 (8.9)	16.0 (8.3)	13.6 (9.1)	13.1 (7.1)	11.2 (7.2)	-2.4	-1.9	-4.4
Total	34	16.8 (8.2)	15.8 (8.3)	13.4 (8.8)	13.1 (7.1)	11.9 (6.7)	-2.4	-1.2	-4.9**
SI									
Moderate	16	15.6 (9.0)	14.0 (7.2)	10.3 (6.5)	11.2 (5.4)	8.9 (3.9)	-3.7	-2.6	-6.7
High	18	12.6 (8.6)	12.8 (8.1)	11.1 (8.7)	12.5 (8.7)	10.2 (7.6)	-1.7	-2.3	-2.4
Total	34	14.0 (8.8)	13.4 (7.6)	10.7 (7.7)	11.9 (7.3)	9.6 (6.1)	-2.7	-2.3*	-4.4**
Def									
Moderate	16	12.4 (7.4)	10.7 (5.9)	10.6 (5.5)	10.3 (5.1)	8.6 (4.6)	-.1	-1.7	-3.8
High	18	13.6 (8.4)	13.1 (7.2)	12.0 (8.3)	12.0 (8.8)	10.1 (6.8)	-1.1	-1.9	-3.5
Total	34	13.0 (7.9)	12.0 (6.6)	11.3 (7.1)	11.2 (7.3)	9.4 (5.8)	-.7	-1.8	-3.6**
FA									
Moderate	16	11.3 (5.7)	10.0 (6.1)	10.0 (6.0)	10.1 (6.2)	7.8 (3.9)	0	-2.3	-3.5
High	18	12.3 (6.5)	12.3 (5.8)	9.8 (5.3)	10.3 (6.3)	10.3 (6.1)	-2.5	0	-2
Total	34	11.9 (6.1)	11.2 (6.0)	9.9 (5.6)	10.2 (6.1)	9.2 (5.3)	-1.3	-1	-2.7*
De									
Moderate	16	10.8 (6.6)	10.6 (6.4)	9.1 (4.1)	10.4 (5.0)	8.0 (2.9)	-1.5	-2.4	-2.8
High	18	12.3 (6.1)	12.8 (6.5)	9.7 (4.3)	11.3 (6.2)	7.8 (2.7)	-3.1	-3.5	-4.5
Total	34	11.6 (6.3)	11.7 (6.4)	9.4 (4.2)	10.9 (5.6)	7.9 (2.8)	-2.3	-3**	-3.7**
Vu									
Moderate	16	9.4 (4.3)	9.3 (4.4)	9.1 (4.7)	9.9 (4.9)	7.8 (3.2)	-.2	-2.1	-1.6
High	18	10.1 (6.0)	11.0 (7.4)	9.2 (7.5)	10.4 (7.0)	9.8 (7.8)	-1.8	-.6	-0.3
Total	34	9.8 (5.2)	10.2 (6.2)	9.1 (6.3)	10.2 (6.0)	8.9 (6.1)	-1.1	-1.3	-.9
Enm									
Moderate	16	5.5 (1.0)	5.5 (1.2)	5.6 (1.3)	5.7 (1.5)	6.1 (1.7)	.1	.4	.6
High	18	7.0 (3.2)	9.0 (6.5)	7.8 (5.9)	7.1 (4.9)	7.0 (3.3)	-1.2	-.1	0
Total	34	6.3 (2.5)	7.4 (5.0)	6.8 (4.4)	6.4 (3.7)	6.6 (2.7)	-.6	.2	.3
Sub									
Moderate	16	10.4 (4.1)	9.0 (3.6)	8.3 (3.0)	9.8 (4.3)	8.6 (3.0)	-.7	-1.2	-1.8
High	18	11.1 (6.7)	11.6 (6.1)	10.5 (6.8)	10.7 (6.8)	8.9 (3.5)	-1.1	-1.8	-2.2
Total	34	10.8 (5.6)	10.4 (5.2)	9.5 (5.4)	10.3 (5.7)	8.8 (3.2)	-.9	-1.5	-2

SS									
Moderate	16	10.0 (3.6)	10.1 (3.9)	12.4 (4.4)	12.5 (4.6)	13.3 (3.0)	2.3	.8	3.3
High	18	11.0 (5.2)	13.2 (6.2)	13.7 (6.4)	11.1 (5.3)	12.2 (6.4)	-.5	1.1	2.2
Total	34	10.5 (4.5)	11.7 (5.4)	13.1 (5.5)	11.7 (4.9)	12.7 (5.1)	1.4	1	2.2
EI									
Moderate	16	13.3 (7.8)	11.5 (5.2)	9.5 (4.3)	10.7 (5.9)	9.4 (4.8)	-2	-1.3	-3.9
High	18	13.6 (8.0)	14.3 (7.8)	12.0 (8.0)	12.9 (8.9)	11.6 (7.1)	-2.3	-1.3	-2
Total	34	13.5 (7.8)	13.0 (6.8)	10.8 (6.5)	11.9 (7.6)	10.5 (6.1)	-2.2	-1.3	-3*
US									
Moderate	16	12.9 (5.5)	11.8 (5.3)	15.2 (6.7)	14.1 (5.5)	14.0 (5.3)	3.4	-.1	1.1
High	18	16.5 (6.7)	17.3 (6.6)	16.9 (6.8)	17.5 (7.3)	17.1 (6.7)	-.4	-.4	.6
Total	34	14.8 (6.3)	14.7 (6.6)	16.1 (6.7)	15.9 (6.6)	15.6 (6.2)	1.4	.3	.8
Ent									
Moderate	16	7.9 (3.0)	7.6 (3.0)	8.1 (3.6)	7.0 (2.6)	7.2 (2.3)	.5	.2	-.7
High	18	9.8 (4.8)	10.2 (5.5)	7.7 (3.0)	9.8 (5.6)	8.5 (3.4)	-2.5	-1.3	-1.3
Total	34	8.9 (4.1)	9.0 (4.6)	7.9 (3.3)	8.5 (4.6)	7.9 (3.)	-1.1	-.6	-1
IS									
Moderate	16	11.1 (6.8)	11.8 (7.0)	9.5 (6.0)	9.4 (5.9)	7.3 (2.5)	-2.3	-2.1	-3.8
High	18	12.2 (7.6)	12.1 (7.1)	8.7 (5.3)	10.0 (7.5)	8.7 (5.2)	-3.4	-1.3	-3.5
Total	34	11.7 (7.1)	12.0 (6.9)	9.1 (5.5)	9.4 (5.9)	8.1 (4.2)	-2.9	-1.3	-3.6**

** significant at the .01 level * significant at the .05 level

Appendix 7: Psychometric calculated reliable change pre-to post treatment for PCL-R group and Chi-square analysis outcome (reliable change categories (deterioration and uncertain change versus improvement) in moderate and high PCL-R groups)).

Appendix 7.1: SPSI subscales

	Reliable Deterioration		Uncertain Change		Reliable Improvement		χ^2 effect sig.
	n	**%**	***n***	**%**	***n***	**%**	
PPO							
Moderate	0	0	13	42.1	3	8.8	
High	1	2.9	8	23.5	7	22.4	.10
Total	1	2.9	21	65.6	10	31.2	
NPO							
Moderate	0	0	9	29	8	24.3	
High	1	3.2	8	25.8	6	19.4	.63
Total	1	3.1	17	53.1	14	43.7	
RPS							
Moderate	1	3.1	2	6.2	12	37.4	
High	2	6.2	4	12.4	11	34.3	.35
Total	3	9.3	6	18.7	23	71.8	
ICS							
Moderate	1	3.1	7	21.8	8	24.9	
High	1	3.1	8	24.9	7	21.8	.75
Total	2	6.2	15	46.8	15	46.8	
AS							
Moderate	3	9.3	4	12.4	9	28.1	
High	1	3.1	5	15.6	10	31.2	.16
Total	4	12.5	9	28.1	19	59.3	

Appendix 7.2: BIS total and subscales

	Reliable Deterioration		Uncertain Change		Reliable Improvement		χ^2 effect sig.
	n	**%**	***n***	**%**	***n***	**%**	
BIS Total							
Moderate	0	0	3	9.7	12	38.7	
High	0	0	5	16.1	11	35.5	.38
Total	0	0	8	25.8	23	74.2	
MI							
Moderate	0	0	8	25.8	7	22.6	
High	0	0	8	25.8	8	25.8	.56
Total	0	0	16	51.6	15	48.4	
CI							
Moderate	0	0	10	32.3	5	16.1	
High	0	0	9	29.0	7	22.6	.41
Total	0	0	19	61.3	12	38.7	
NPI							
Moderate	0	0	4	12.9	11	35.5	
High	0	0	7	22.6	9	29	.26
Total	0	0	11	35.5	20	64.5	

Appendix 7.3: NAS-PI total and subscales

	Reliable Deterioration		Uncertain Change		Reliable Improvement		χ^2 effect sig.
	n	**%**	***n***	**%**	***n***	**%**	
Cognitive							
Moderate	1	2.9	8	23.5	7	20.5	
High	0	0	10	29.3	8	23.5	.51
Total	1	2.9	18	52.9	15	44.1	
Arousal							
Moderate	0	0	9	26.4	7	20.5	
High	0	0	11	32.3	7	20.5	.38
Total	0	0	20	58.8	14	41.1	
Behavioural							
Moderate	0	0	9	26.4	6	17.6	
High	0	0	10	29.3	9	26.5	.48
Total	0	0	19	55.8	15	44.2	
Anger							
Moderate	0	0	13	38.2	2	5.8	
High	0	0	11	32.4	8	23.5	.10
Total	0	0	24	70.6	10	29.4	
NAS Total							
Moderate	2	5.8	7	20.6	7	20.6	
High	0	0	10	29.4	8	23.6	.24
Total	2	5.8	17	50	15	44.2	
PI Total							
Moderate	2	5.9	5	14.7	9	26.5	
High	1	2.9	10	29.4	7	20.6	.34
Total	3	8.8	15	44.1	16	47.1	

Appendix 7.4: LoC total

	Reliable Deterioration		Uncertain Change		Reliable Improvement		χ^2 effect sig.
	n	**%**	***n***	**%**	***n***	**%**	
LoC							
Moderate	0	0	12	33.3	5	13.9	
High	1	2.8	8	22.2	10	27.8	.14
Total	1	2.8	20	55.5	15	41.7	

Appendix 7.5: YSQ-SF subscales

	Reliable Deterioration		Uncertain Change		Reliable Improvement		χ^2 effect sig.
	n	**%**	***n***	**%**	***n***	**%**	
ED							
Moderate	2	5.9	10	29.4	4	11.7	
High	2	5.9	12	35.3	4	11.7	.96
Total	4	11.8	22	64.7	8	23.5	
Aba							
Moderate	3	8.8	6	17.6	7	20.6	
High	2	5.9	13	38.2	3	8.8	.11
Total	5	14.7	19	55.9	10	29.4	
Mis							
Moderate	0	0	8	23.5	8	23.5	
High	0	0	13	32.2	5	14.7	.16
Total	0	0	21	61.8	13	38.2	
SI							
Moderate	0	0	6	17.6	10	29.4	
High	0	0	14	41.2	4	11.8	.13
Total	0	0	20	58.8	14	41.2	
Def							
Moderate	0	0	11	32.4	5	14.7	
High	1	2.9	14	41.2	3	8.8	.41
Total	1	2.9	25	73.5	8	23.5	
FA							
Moderate	0	0	11	32.4	5	14.7	
High	1	2.9	14	41.2	3	8.8	.41
Total	1	2.9	25	73.5	8	23.5	
De							
Moderate	0	0	12	35.3	4	11.8	
High	0	0	15	44.1	3	8.8	.42
Total	0	0	27	79.4	7	20.6	
Vu							
Moderate	0	0	14	41.2	2	5.9	
High	2	5.9	15	44.1	1	2.9	.32
Total	2	5.9	29	85.3	3	8.8	
Enm							
Moderate	2	5.9	13	38.2	1	2.9	
High	3	8.8	13	38.2	2	5.9	.81

Total	5	14.7	26	76.5	3	8.8	
Sub							
Moderate	0	0	14	41.2	2	5.9	
High	0	0	14	41.2	4	11.8	.38
Total	0	0	28	82.4	6	17.6	
SS							
Moderate	3	8.8	13	38.2	0	0	
High	3	8.8	14	41.2	1	2.9	.63
Total	6	17.6	27	79.4	1	2.9	
EI							
Moderate	0	0	11	32.4	5	14.7	
High	0	0	15	44,1	3	8.8	.27
Total	0	0	26	76.5	8	23.5	
US							
Moderate	1	2.9	14	41.2	1	2.9	
High	1	2.9	16	47.1	1	2.9	.99
Total	2	5.9	30	88.2	2	5.9	
Ent							
Moderate	0	0	15	44.1	1	2.9	
High	0	0	15	44.1	3	8.8	.34
Total	0	0	30	88.2	4	11.8	
IS							
Moderate	0	0	13	38.2	3	8.8	
High	0	0	14	41.2	4	18	.57
Total	0	0	27	79.4	7	20.6	