**Why are Psychopaths Difficult to Treat? Testing the Two-Component Model for the
Treatment of PCL Psychopaths**

By

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Note to Reader

Although the research in this thesis is my own, I conducted it in a lab as part of a community of graduate and postgraduate research students. I also received advice and direction from my supervisors and other academic staff. Therefore, I often use the word “we” in this thesis to reflect these facts. As you will also see, I use the word “we” in a different context to refer to what is known (or not known) in the wider scientific community.

Abstract

Psychopathic personality disorder as conceptualised by the family of scales referred to as the Psychopathy Checklist (PCL), is often cited as a specific responsivity characteristic that will interfere with an otherwise effective treatment programme. However, most research on the treatment of prisoners high on PCL psychopathy asks whether or not they are treatable as opposed to why they are difficult to treat. The Two-Component model (2-C; Wong & Olver, 2015) for the treatment of PCL psychopaths proposes that treatment difficulties observed for those high on PCL psychopathy are primarily caused by the interpersonal and affective personality features of psychopathy represented by PCL Factor 1 (F1). Thus the 2-C model suggests that therapists work around the emotional deficits and disruptive behaviours associated with PCL F1 to focus on changing risk-relevant behaviours that are associated with PCL Factor 2 (F2). In this thesis, we test the assumptions of the 2-C model with a group of high-risk violent men who attended an intensive violence treatment programme and were assessed with a PCL instrument. Specifically, we examined whether the personality features of PCL psychopathy led to more treatment difficulties than the behavioural features by exploring relationships between the factors/facets of the PCL and treatment completion, reconviction, change on dynamic risk, the therapeutic alliance and behaviour during treatment.

In support of the 2-C model we found that PCL:SV Part 1 and its underlying facets were significantly associated with higher rates of removal from treatment, a poorer therapeutic alliance, and lower levels of emotional and performance based behaviours during treatment. Mediation analyses also revealed that the relationships between PCL:SV Part 1 variables and removal were partly explained by lower levels of emotional and performance based behaviours. Also in support of the 2-C model, we found that PCL:SV Part

2 and its underlying facets demonstrated stronger, significant associations with pre-treatment dynamic risk and post-treatment reconvictions when compared with PCL:SV Part 1 variables. Furthermore, poorer performance based behaviours during treatment mediated relationships between PCL:SV Part 2 variables and reconviction outcomes. Several of our findings however, also failed to support or contradicted assumptions of the 2-C model. All these findings are discussed in relation to their implications for the 2-C model, psychopathy treatment research, specific responsivity, the structure of PCL psychopathy, and the utility of the PCL in forensic and legal settings.

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General Introduction

Criminal psychopathy as conceptualised by the Psychopathy Checklist (PCL; Hare 1980) is a personality disorder that harbours several implications for any person who meets the criteria. For example, high scores on PCL instruments have been used as evidence to support sentences of death and indefinite detention, and have further been used as a basis for denying people treatment within the criminal justice system (DeMatteo & Edens, 2006; D' Silva, Duggan, & McCarthy, 2004; Hughes, Hogue, Hollin, & Champion, 1997; Lloyd, Clark, & Forth, 2010; McCarthy & Duggan, 2010). One reason these instruments have had such serious implications for people's lives is a small of body of research demonstrating that those who score high on the PCL are difficult to treat, untreatable, or even made worse by treatment (e.g., Ogloff, Wong, & Greenwood, 1990; Rice, Harris, & Cormier, 1992; Seto & Barbaree, 1999). Critics of this research have noted that many of the treatment programmes evaluated did not meet the standards of appropriate and effective treatment (Skeem, Polaschek, & Manchak, 2009; Skeem, Polaschek, Patrick, & Lilienfeld, 2011; Wong 2000). Furthermore, subsequent research suggests that people who score highly on PCL instruments can benefit from appropriate high-intensity treatment programmes (Caldwell, Skeem, Salekin & Van Rybroek, 2006; Polaschek, 2011; Wong, Gordon, Gu, Lewis, & Olver, 2012). And although those with higher PCL scores are more problematic during treatment, those who perform well and make more risk related changes are less likely to commit new crimes (Langton, Barbaree, Harkins, & Peacock, 2006; Olver, Lewis, & Wong, 2013; Olver & Wong, 2009).

Considering the position that those high on PCL psychopathy are treatable but more difficult to treat than those with lower PCL scores, in this thesis we advocate that more research is needed to understand why these difficulties occur and more specifically what

elements of psychopathy are most responsible for poorer treatment outcomes. These types of research questions are consistent with the Risk Need Responsivity (RNR) model of correctional rehabilitation which suggests that psychopathy represents a *specific responsivity* factor that interferes with an otherwise effective treatment programme (Andrews & Bonta, 2010; Andrews, Bonta, & Hoge, 1990). One theory, named the Two-Component model (2-C; Wong, Gordon, Gu, Lewis, & Olver, 2012; Wong & Olver, 2015), proposes that the source of greater treatment difficulties observed for those high on PCL psychopathy arises from the interpersonal and affective personality features of psychopathy also referred to as Factor 1 (F1). Therefore, based on the 2-C model, therapists are advised to work around the disruptive interpersonal features and emotional deficits represented by F1 and focus on changing antisocial behaviours associated with the impulsive lifestyle and antisocial features of PCL psychopathy also referred to as Factor 2 (F2).

The aim of this thesis is to explore why PCL psychopaths are difficult to treat by testing the assumptions of the 2-C model with a group of high-risk violent men who attended an intensive violence treatment programme and were assessed with a PCL instrument. More specifically we are interested in whether the F1 personality features of psychopathy are the main source of problematic relations and behaviour during treatment, and whether the F2 behavioural features should really be the focus of risk related change. To answer these questions and develop more specific research questions and hypotheses we begin our investigation by reviewing the relevant literature on PCL psychopathy, the RNR model, models of specific responsivity, the treatment of PCL psychopaths, and the 2-C model. By investigating this topic, we hope to develop a deeper understanding of how PCL psychopathy manifests both during and after treatment, and provide better information about what it really means to have a high PCL score.

Chapter 1

What is PCL Psychopathy?

1.1 History and Development of the PCL

Psychopathy is a type of antisocial personality disorder with a substantial history in clinical and forensic psychology. The term was originally used to describe a wide variety of traits and conditions including different emotional disorders, character disorders, and mental disabilities (Koch, 1891). Over time more refined formulations of the concept were developed – these conceptions generally involved normal mental abilities with some combination of behavioural (e.g., explosive or reckless behaviour), affective (e.g., shallow affect, emotional coldness) or interpersonal (e.g., charm, social dominance, persuasiveness) traits (Kraepelin, 1904/1915; Pinel, 1806/1962; Prichard, 1835; Schneider, 1950/1958). The most influential formulation from this period came from Hervey Cleckley who developed the first comprehensive list of characteristics, operationalising the construct (Cleckley, 1941/1988). Cleckley's traits listed in Table 1—under three categories later constructed by Patrick (2006)—illustrate a smart and charming individual without anxiety who behaves antisocially and without concern for the future through impulsive and irresponsible decision making, and who is also generally egocentric, unemotional, untrustworthy and hard to relate to.

Cleckley's checklist inspired the development of tools for diagnosing psychopathy, the most popular of which was the Psychopathy Checklist (PCL; Hare, 1980). Robert Hare and his colleagues developed the PCL by first rating a group of prison inmates on a global 7-point scale that assessed how well an inmate fitted Cleckley's conception of psychopathy (Hare, 1980). During this procedure, all the traits that were explicitly or implicitly used in deciding a score out of 7 were listed down, resulting in more than 100 potentially

measurable traits. From this large list of traits, items perceived as redundant or difficult to score were removed from the list and preliminary scoring criteria were developed for the remaining items. The prison inmates originally scored on the global 7-point scale were now also scored on the new items and statistical analyses were used to select the final 22 items forming the first PCL (see Table 2). The PCL was later revised by removing 2 of the items, altering the names of 11 items and improving the descriptions and scoring for each of the items, creating the Psychopathy Checklist-Revised (PCL-R; Hare & Vertommen, 1991; Hare, 2003). The popularity of the PCL-R also led to the development of two other PCLs, the Psychopathy Checklist: Screening Version (PCL:SV; Hart, Cox, & Hare, 1995), a shorter screening version of the PCL-R which was faster to administer, and The Psychopathy Checklist: Youth Version (PCL:YV; Forth, Kosson, & Hare, 2003), an adaptation of the PCL-R for adolescents.

Table 1

Sixteen Diagnostic Criteria for Psychopathy Developed by Cleckley (1941/1948) and Divided into Three Categories by Patrick (2006)

Item category	No.	Description
Positive adjustment	1.	Superficial charm and good “intelligence”
	2.	Absence of delusions and other signs of irrational thinking
	3.	Absence of “nervousness” or psychoneurotic manifestations
Behavioural deviance	14.	Suicide rarely carried out
	7.	Inadequately motivated antisocial behavior
	8.	Poor judgement and failure to learn by experience
	4.	Unreliability
	13.	Fantastic and uninviting behavior with drink and sometimes without
Emotional – interpersonal deficits	15.	Sex life impersonal, trivial, and poorly integrated
	16.	Failure to follow any life plan
	5.	Untruthfulness and insincerity
	6.	Lack of remorse or shame
	10.	General poverty in major affective reactions
	9.	Pathologic egocentricity and incapacity for love
	11.	Specific loss of insight
	12.	Unresponsiveness in general interpersonal relations

Note. Table adapted from Patrick (2006, p. 612).

Although the PCL instruments were based on Cleckley's criteria, critics noted that there were substantial differences between Cleckley's psychopath and the psychopath depicted in the PCL instruments (Skeem, Polaschek, Patrick, & Lilienfeld, 2011). As illustrated in Table 2 only some of Cleckley's items resemble items in the PCLs, whereas the remaining items including: "Absence of delusions and signs of irrational thinking", "Absence of nervousness or psychoneurotic thinking", "Suicide rarely carried out", "Fantastic and uninviting behaviour with drink and sometimes without", and "Unresponsiveness in general interpersonal relations" bear little or no resemblance to any PCL items. Furthermore the PCL appears to add traits of volatility with "Poor behavioural controls" and callousness with "Callous/lack of empathy" while enlarging the role of antisocial behaviour (see Table 2). Therefore in comparison with Cleckley's psychopath the PCL depicts a colder, angrier and more thoroughly antisocial individual who may or may not have anxious, neurotic or schizophrenic symptoms. This concept of psychopathy more closely resembles a formulation by Cleckley's contemporaries McCord and McCord (1964), who described a more antisocial, maladjusted, aggressive and callous psychopath with the same lack of emotion and impulsive tendencies as Cleckley's depiction. Unsurprisingly, both Hare and the McCords developed their concepts with prison inmates, whereas Cleckley's psychopath was developed with psychiatric patients. Hare later acknowledged that his instrument 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 (Hare & Neumann, 2008).

Table 2

Relationships between Cleckley's Items and Items in the Psychopathy Checklist, Psychopathy Checklist-Revised and Psychopathy Checklist: Screening Version

Cleckley's items	PCL	PCL-R	PCL:SV
1. Superficial charm and good "intelligence"	1. Glibness/superficial charm	1. Glibness/superficial charm	1. Superficial
9. Pathologic egocentricity and incapacity for love	3. Egocentricity/grandiose sense of self worth	2. Grandiose sense of self worth	2. Grandiose
5. Untruthfulness and insincerity	5. Pathological lying and deception 6. Conning/lack of sincerity	4. Pathological lying 5. Conning/manipulative	3. Deceitful
6. Lack of remorse or shame	7. Lack of remorse or guilt	6. Lack of remorse or guilt	4. Lacks remorse
10. General poverty in major affective reactions	8. Lack of affect and emotional depth	7. Shallow affect	5. Lacks empathy
—	9. Callous/lack of empathy	8. Callous/lack of empathy	
8. Poor judgement and failure to learn by experience	15. Impulsivity 4. Proneness to boredom/ low frustration tolerance	14. Impulsivity 3. Need for stimulation/proneness to boredom	7. Impulsive
—	11. Short tempered/poor behavioural controls	10. Poor behavioural controls	8. Poor behavioural controls
16. Failure to follow any life plans	14. Lack of realistic, long-term plans 10. Parasitic lifestyle	13. Lack of realistic long term goals 9. Parasitic lifestyle	9. Lacks goals
11. Specific loss of insight	20. Failure to accept responsibility for own actions	16. Failure to accept responsibility for own actions	6. Doesn't accept responsibility
15. Sex life impersonal, trivial, and poorly integrated	12. Promiscuous sexual relations 17. Frequent marital problems	11. Promiscuous sexual behaviour 17. Many short-term marital relationships	— —
4. Unreliability	16. Irresponsible behaviour as a parent	15. Irresponsibility	10. Irresponsible
7. Inadequately motivated antisocial behaviour	13. Early behaviour problems 18. Juvenile delinquency 19. Poor probation or parole risk 21. Many types of offence	12. Early behavioural problems 18. Juvenile delinquency 19. Revocation of conditional release 20. Criminal versatility	11. Adolescent antisocial behaviour 12. Adult antisocial behaviour
—	2. Previous diagnosis as psychopath	—	—
—	22. Drug or alcohol abuse not direct cause of antisocial behaviour	—	—

Note. Some of Cleckley's items that have no relationship with items in the PCLs are not listed.

1.2 Structure of the PCL

1.2.1 Does the PCL Measure a Dimensional or Categorical Construct?

Although other modern scales such as the Psychopathic Personality Inventory (PPI; Lilienfeld & Andrews, 1996) were developed to more comprehensively tap into Cleckley's concept of psychopathy, PCL psychopathy is still the dominant conception in modern research and practice and is the concept of focus in the current thesis (Skeem et al., 2011). Due to the large amount of research conducted with PCL instruments, there are a number of ongoing debates regarding the structure and nature of PCL psychopathy relevant to the current research. The first issue regards whether PCL psychopathy is a categorical or dimensional construct; that is, are there categorically psychopaths and non-psychopaths or are all people just relatively more or less psychopathic? Manuals for the PCL instruments do provide recommended cut-off scores to help assessors distinguish psychopaths from non-psychopaths (e.g., 30 out of 40 in the PCL-R and 18 out of 24 in the PCL:SV). However, the manuals also recommend using continuous, dimensional scores over cut-off scores because they have better psychometric properties, do not assume psychopathy is categorical and do not make assumptions about the exact score that would accurately detect a clear taxon (Hare, 2003; Hart et al., 1995).

Some studies investigating the categorical nature of psychopathy have found evidence of a taxon (Harris, Rice, Hilton, Lalumière, & Quinsey, 2007; Harris, Rice, & Quinsey, 1994), though the statistical methods used in these studies have been heavily criticised (Walters, Marcus, Edens, Knight, & Sanford, 2011), and the large majority of research supports a dimensional perspective (Edens, Marcus, Lilienfeld, & Poythress, 2006; Guay, Ruscio, Knight, & Hare, 2007; Marcus, John, & Edens, 2004; Walters, Duncan, & Mitchell-Perez, 2007; Walters, Gray, Jackson, Rogers, Sewell, Taylor, et al., 2007). Although

the weight of evidence clearly supports a dimensional framework, a lot of PCL based studies still use cut scores to create psychopathic and non-psychopathic, or high and low psychopathy groups (e.g., Harris, Rice, & Cormier, 1991; Langton, Barbaree, Harkins, & Peacock, 2006). Although this grouping method can aid research by making comparison analyses simpler they are generally based on an artificial dichotomy, and more specifically a cut-off score that is not clinically or theoretically meaningful. Based on the evidence, we view PCL psychopathy as a dimensional construct and all analyses in this thesis using PCL data will use continuous PCL scores in keeping with that perspective.

1.2.2 How Many Components Underlie the PCL?

Another ongoing debate in PCL research regards the underlying structure of the PCL, whether it is unitary or multifarious, and the exact number of components that underlie its structure. The PCL was originally constructed with the intention of capturing a single underlying syndrome but early factor analytic research with both the PCL and PCL-R identified two correlated underlying dimensions. One of these two dimensions contained interpersonal and affective personality trait items (e.g., Glibness/superficial charm and Lack of remorse or guilt) and was named *Factor 1* (F1) and the second dimension contained chronic antisocial behaviour and impulsive lifestyle items (e.g., Early behavioural problems and Impulsivity) and was named *Factor 2* (F2; Hare & Vertommen, 1991; Harpur, Hakstian, & Hare, 1988; Harpur, Hare, & Hakstian, 1989). Subsequent factor analytic research by Cooke and Michie (2001) using different factor analytic methods identified a hierarchical structure with three underlying dimensions as opposed to two. In this structure the original Factor 1 was split in two, with the interpersonal trait items in one dimension (the new Factor 1) and the affective trait items in a second dimension (the new Factor 2); a third dimension named *Factor 3* contained items relating to an impulsive lifestyle. The three-factor model has been

replicated in both male and female samples across Britain, North America and Europe by both the original authors and by independent investigators (Cooke, Kosson, & Michie, 2001; Cooke, Michie, Hart, & Clark, 2005a, 2005b; Skeem, Mulvey, & Grisso, 2003; Warren et al., 2003).

The three-factor model was heavily criticised because it only used 13 of the 20 items in the PCL-R (the two-factor model used 17), with all antisocial behaviour items left out on the basis that they were not considered fundamental to the psychopathy concept (Hare & Neumann, 2005; Neumann, Kosson, & Salekin, 2007). Subsequent factor analytic research, which did not exclude the antisocial behaviour items, identified a hierarchical two-factor/four-facet structure, with the original Factors 1 and 2 both subsumed by two lower order facets: Factor 1 was subsumed by Facets 1 and 2, named the *Interpersonal* and *Affective* facets, and Factor 2 was subsumed by Facets 3 and 4, named the *Lifestyle* and *Antisocial* facets (Hare, 2003). The first three facets in the four-facet model replicate the three factors identified by Cooke and Michie (2001) with the fourth facet representing the antisocial behaviour items excluded in their model (see Appendix D for item compositions of PCL-R and PCL:SV factors and facets). The four-facet model has been well supported with confirmatory factor analyses (CFA) replicating the structure across large samples consisting of males and females in groups of adult prisoners, adolescents, psychiatric patients and community members and with all three PCL instruments: the PCL-R, PCL:SV and PCL:YV (Hare & Neumann, 2006; Hill, Neumann, & Rogers, 2004; Vitacco, Neumann, & Jackson, 2005).

The debate regarding whether or not to exclude antisocial behaviour items from the structure of the PCL stems partly from the increased role given to antisocial behaviour in the PCL compared with Cleckley's conception cited above. Cooke, Michie and Hart (2006)

argued that antisocial behaviour is not a core symptom of psychopathy and is instead a secondary symptom or consequence of the core psychopathy personality symptoms. To support this argument Cooke et al. (2006) used structural equation modelling procedures (SEM) to demonstrate that antisocial behaviour fits better as a consequence of the impulsive and irresponsible lifestyle traits in factor 3 (the Lifestyle facet) than as part of the core construct. However, Hare and Neumann (2006) countered that antisocial behaviour is a core feature of the psychopathy construct, that behavioural and personality traits are developmentally interrelated and that causality between personality and behavioural traits cannot be inferred from SEM of cross-sectional data. In conjunction with this argument Hare and Neumann (2006) provided further support for the four-facet model using SEM, CFA and item response theory (ITR) techniques on a series of large and varied samples.

Research directly comparing the three-factor and four-facet models of the PCL has found mixed results, with both models generally producing good structural fits, but the three-factor model producing better fits with the PCL-R (Cooke et al., 2005b; Vitacco, Rogers, Neumann, Harrison, & Vincent, 2005; Weaver, Meyer, Van Nort, & Tristan, 2006) and the four-facet model producing better fits with the PCL:SV (Hill et al., 2004; Vitacco, Neumann, & Jackson, 2005). When compared on their abilities to predict external correlates the four-facet model outperformed the three-factor model when predicting institutional and community aggression as well as general and violent reconvictions, though the two models performed equally when predicting verbal intelligence (Hill et al., 2004; Vitacco, Neumann, & Jackson, 2005; Walters & Heilbrun, 2010; Walters, Knight, Grann, & Dahle, 2008). Due to the lack of consensus regarding the most appropriate PCL model, we will utilise the two-factor/four-facet model in this thesis because it encompasses the three-factor model and is therefore more easily comparable to all of the previous research.

1.2.3 Does the PCL Measure a Unified Construct?

Finally, although there is agreement that, regardless of the number, multiple dimensions underlie the PCL psychopathy construct, there is still debate as to whether these dimensions are related but ultimately separate constructs, or whether they all feed into one single overarching construct representing psychopathy. That is, is the PCL actually measuring a real unified psychopathy construct or is it measuring several separate constructs that we artificially string together and named psychopathy? Proponents of the idea that the PCL measures a unitary construct (Cooke & Michie, 2001, Cooke et al., 2006; Hare & Neumann, 2006, 2008) believe the PCL represents a structural hierarchy with a single core psychopathy construct on the first level and some combination of factors and facets from the alternative models on the second and subsequent levels. Correlations between the various factors and facets are often given as implicit evidence that a single overarching construct must exist (Hare & Neumann, 2006, 2008). Neumann, Hare and Newman (2007) used SEM to provide evidence that the four-facet PCL model could be explained by an overarching unitary construct which they named a second-order cohesive super-factor. One implication of the PCL representing a unitary psychopathy construct is that PCL total scores should be able to provide unique information that are not provided by any factor or facet scores, even when looked at in combination; that is, there should be evidence that the whole is greater than the sum of its parts. This notion is supported by Hare who states in the PCL-R manual that “The most important score is the Total Score, and users should routinely score all 20 items” (Hare, 2003, p. 3).

Critics of the idea that the PCL measures one unitary construct note that the factors and facets of the PCL appear to provide more information when separated than when combined into the total score (Hicks & Patrick, 2006). Firstly, there is evidence that the

factor and facet scores of the PCL perform better than the total scores when predicting external correlates such as anxiety, serotonergic function and negative emotionality (Dolan & Anderson, 2003; Harpur et al., 1989; Hicks & Patrick, 2006). Secondly, relationships between the factors and facets of the PCL and external correlates including self-criticism, IQ, cognitive function, heart-rate, serotonergic function and negative emotionality, are often in opposite directions, which may explain why they sometimes fail to predict when combined into the total score (Dolan & Anderson, 2003; Hansen, Johnsen, Thornton, Waage, & Thayer, 2007; Hicks & Patrick, 2006; Patrick, 1994; Salekin, Neumann, Leistico, & Zalot, 2004; Shine & Hobson, 1997; Vitacco et al., 2005). Thirdly, there is evidence that the factors and facets become more predictive when used simultaneously in regression models than when used separately or when combined in the total score (Hicks & Patrick, 2006; Verona, Hicks, & Patrick, 2005). These findings are known as suppressor effects and they suggest that variance shared by different factors or facets can actually suppress their performance. This suppression can be eliminated if the factors/facets are entered simultaneously in a regression analysis but will likely be made worse if they are added together in a total score (Hicks & Patrick, 2006).

Together this evidence suggests that the PCL does not measure a unitary construct, but may instead be operationalising two distinct constructs and thus may be capturing distinct subtypes of psychopaths (Hicks & Patrick, 2006). Based on this literature, we will utilise total, factor and facet scores in our analyses and enter factor and facet scores simultaneously to enhance our prospects of detecting potential relationships and to provide more evidence regarding this ongoing debate.

1.3 Summary and Conclusions

Although PCL psychopathy has roots in clinical theory and was developed using Cleckley's criteria of psychopathy, critics have noted that the final instruments diverged substantially from the source material. Mainly, in comparison with Cleckley's concept, the PCL added traits of coldness and volatility while increasing the role of antisocial behaviour. Furthermore, the PCL excluded a number of characteristics referring to the absence of psychopathology, meaning more psychopathology may be present in PCL psychopathy. Questions regarding what core traits should be included in the PCL have continued in debates on the underlying structure of the PCL and whether the PCL represents a unitary construct. Because this thesis focuses only on PCL psychopathy we do not intend to contribute to the wider debate on what psychopathy is, but will speak to the strengths and weaknesses of the PCL and provide information about what the PCL measures and what a high PCL score means.

Chapter 2

Correctional Rehabilitation and Models of Specific Responsivity

2.1. The Risk Need Responsivity (RNR) Model of Rehabilitation

There is now a substantial body of research demonstrating that treatment can reduce a person's propensity to commit crime (Andrews, Zinger, Hoge, Bonta, Gendreau, & Cullen, 1990; Lipsey & Cullen, 2007; Smith, Gendreau, & Swartz, 2009) and that treatments for criminal behaviour work best when they follow the principles of the Risk Need Responsivity model of correctional rehabilitation (RNR: Andrews & Bonta, 2010; Andrews, Bonta, & Hoge, 1990). The RNR model is based on a broad personality and cognitive social learning perspective of human behaviour and aims to identify the appropriate factors that can be used to decide the level and type of intervention required for effective treatment. The *risk principle* states that treatment should be proportionate to a person's risk level; that is, people with the highest likelihood of reconviction should receive the greatest amount of treatment whereas people with the lowest likelihood should receive none. Risk level is generally determined by scores on instruments that measure characteristic and contextual factors known to have a relationship with reconviction, called *risk factors* (e.g., sex, age, and criminal history; Andrews & Bonta, 2010).

The *need principle* states that treatments should focus on peoples' criminogenic needs, which refers to risk factors that can be changed, also called *dynamic risk factors*. Dynamic risk factors are changeable traits or circumstances linked to reconviction, that when changed, result in changes in reconviction (e.g., criminal peers, criminal attitudes and substances abuse). Dynamic risk factors are distinct from *static risk factors*, which cannot be changed (e.g., age, criminal history). Dynamic risk factors were developed in contrast to

non-criminogenic needs, which refer to changeable need factors that are unrelated to reconviction (e.g., depression) and so should not be targeted during treatment for the purposes of reducing reconviction (Andrews & Bonta, 2010).

The *responsivity principle* refers to factors that influence the effectiveness of treatment interventions and can be broken down into two sub-principles: *general responsivity and specific responsivity*. The general responsivity principle states that the treatment delivered should be of the highest quality in terms of established effectiveness. At present this means providing cognitive behavioural treatments that focus on changing antisocial thoughts, emotions and behaviours and building new prosocial skills. The specific responsivity principle states that the style and mode of treatment should be tailored to the treatment setting and individual characteristics of the client. That is, there are many setting and individual based factors that may influence the effectiveness of treatment (e.g., age, sex, ethnicity, intelligence, anxiety, depression, personality and high-security prison settings) and thus, treatments should be modified in whatever way necessary to prevent those factors from inhibiting full engagement (Andrews & Bonta, 2010).

Meta-analytic research evaluating the RNR model has confirmed that treatments are most effective when they provide greater intensity treatment to higher-risk prisoners, target dynamic risk factors and use cognitive behavioural methods. Furthermore, treatment effectiveness increases with closer adherence to the RNR principles, with a 28% average reduction in recidivism reported for programmes that adhere to all three principles (Andrews & Bonta, 2010; Lipsey & Cullen, 2007; Smith et al., 2009). Although this research has provided a solid empirical foundation for the basic model of risk, need and general responsivity, much less research or attention has been afforded to the sub-principle of specific responsivity. Unlike risk, need and general responsivity factors, which may be

evaluated in terms of their direct relationship to reconviction, specific responsivity factors are more likely to display indirect relationships with reconviction based on how they interact with the other RNR principles. That is, specific responsivity factors will only be related to reconviction in terms of how much they obstruct effective treatments, and will show little relationship with regards to ineffective treatments that do not adhere to the other RNR principles (Bourgon & Bonta, 2014). Therefore, if specific responsivity factors can be correctly identified and managed accordingly during treatment, they may hold great potential for increasing the effects of already effective treatment programmes.

2.2 Models of Specific Responsivity

Despite the relative lack of attention given to specific responsivity in the RNR literature, some researchers have begun to further define and develop the concept and have formed functional models of the factors that may be involved and how they interact (Kennedy, 2000; Serin, 1998; Serin & Kennedy, 1997; Ward, Day, Howells, & Birgden, 2004). Drawing on drug treatment change and motivational interviewing literature (Miller & Rollnick, 1991; Prochaska, DiClemente, & Norcross, 1992), Serin and Kennedy (1997) conceptualised responsivity as a broad construct that encapsulates *treatment readiness* and *motivation* and is related to treatment responses and outcomes. In this model treatment readiness is defined as who will respond favourably to treatment and under what conditions (Rogers & Webster, 1989) and motivation as “the probability that a person will enter into, continue and adhere to a specific strategy” (Serin & Kennedy, p.10). Moreover, readiness and motivation are affected by individual characteristics which are further broken down into internal and external responsivity factors. Internal responsivity factors are individual characteristics that can interfere with learning and include demographic, personality,

affective and cognitive characteristics (e.g., age, gender, social skills, psychopathy, anxiety, depression, intelligence and verbal skills). In contrast, external responsivity factors pertain to treatment setting and therapist characteristics that may interact negatively with characteristics of the client, disrupting engagement. Serin and Kennedy (1997) suggest that measures of motivation and other client characteristics could be taken before treatment and compared with measures of treatment performance or gain in order to evaluate the effects of specific responsivity factors on intermediate treatment targets (e.g., participation).

Serin (1998) simplified the original model and defined responsivity as encapsulating treatment readiness and treatment performance factors that affect intervention. In this model treatment readiness includes motivational factors that are cognitive, behavioural, affective and environmental in nature whereas treatment performance mostly consists of specific behavioural indices of engagement and understanding (see Table 3). Serin suggests that clients' levels of responsivity could be measured by clinicians using the items in each category, and then assessed in conjunction with their risk levels to produce an appropriate reintegration strategy (e.g., high risk and low responsivity may indicate high risk management concerns but high risk and high responsivity may indicate only moderate risk management concerns). This application of the model suggests that these responsivity factors may moderate the relationship between risk and reconviction through treatment. Although this and the original model provide some good ideas for the potential factors involved in specific responsivity and how they might be categorised or applied to wider risk management strategies, they are vague with regards to how the various factors operate in treatment and interact with factors in other categories. Furthermore they provide little

information on how to validate the various responsivity factors so that we can identify those most important for improving treatment effectiveness.

Table 3

Specific Responsivity Factors Categorised by Treatment Readiness and Treatment Performance

Treatment readiness	Treatment performance
1. Problem recognition	1. Knowledge of the program content
2. Goal setting	2. Skills acquisition
3. Motivation	3. Disclosure
4. Self-appraisal	4. Confidence
5. Expectations	5. Knowledge of application
6. Behavioural consistency	6. Skills application
7. Views about treatment	7. Understanding of criminality
8. Self-efficacy	8. Motivation
9. Dissonance	9. Insight
10. External supports	10. Attendance
11. Affective component	11. Disruptiveness
	12. Appropriateness
	13. Depth of emotional understanding
	14. Participation

Note. Table adapted from Serin (1998, p.30)

2.2.1 The Multi Factor Offender Readiness Model

Building on some of the previous work, Ward et al. (2004) developed a clearer, more comprehensive, specific responsivity model named the Multi Factor Offender Readiness Model (MORM). The MORM is described as a readiness model which incorporates both motivation and responsivity and is defined as “the presence of characteristics (states or dispositions) within either the client or the therapeutic situation, which are likely to promote engagement in therapy, and that, thereby, are likely to enhance therapeutic change” (Howells & Day, 2003, p. 320). Therefore, in the MORM, readiness is a higher-order concept that encapsulates responsivity, whereas responsivity was a higher-order concept that encapsulated readiness in the previous models. Also unlike the previous models, the MORM tries to shift focus away from characteristics that will prevent or block engagement in treatment to ones that will promote it. The MORM provides a set of readiness factors

divided into internal (person based) and external (context based) categories which are conceptualised as the required readiness conditions to engage and therefore perform optimally in treatment (see Figure 1).

Figure 1. Treatment readiness model adapted from Ward (2004, p. 650)

As illustrated in Figure 1 the internal readiness conditions include cognitive, affective, volitional, behavioural and identity factors. Cognitive factors refer to beliefs, attitudes and thinking styles that inhibit engagement with treatment such as negative beliefs or attitudes towards therapy or the criminal justice system, low expectations about the process and outcomes of therapy, low levels of perceived self-efficacy in treatment, and cognitive resistance regarding change and compliance which might be associated with some of the interpersonal and affective features of psychopathy (Ward et al., 2004). Affective factors refer to feelings and emotions that promote or inhibit treatment engagement; for instance, feelings of personal inadequacy and shame, or the inability to control emotions, may inhibit engagement, whereas feelings of guilt and remorse about an offence or some level of psychological distress (e.g., anxiety or depression) may motivate someone to change. Behavioural factors refer to the behavioural abilities and competencies needed to engage, including the ability to recognise problematic behaviours, to seek help in changing

those behaviours, and the basic communication and social skills required to participate in therapy. Volitional factors refer to the traits involved with forming and implementing goals. These goals must align with the goals of rehabilitation in order to be effective and could be operationalised as the motivation to change (Prochaska et al., 1992). Finally, identity factors refer to basic values (e.g., autonomy, relatedness) which reflect the type of person someone wants to be. These values will ultimately be influenced by personal demographics like age, sex, race and class (Ward et al., 2004).

In the MORM, the internal readiness conditions interact with the external readiness conditions of circumstances (e.g., voluntary versus mandated treatment), location (e.g., prison versus community based treatment), opportunity (e.g., the openness of the prison environment), resources (e.g., the institutional resources available for delivering effective treatment), support (e.g., access to friends and family), and programme/timing (e.g., the type of programme offered and when it will be available). Both internal and external readiness conditions will determine a therapist's ability to form a good *therapeutic alliance* (or working alliance) which involves an affective bond with the client, a collaborative relationship and agreement on specific goals and tasks (Bordin, 1994). Internal and external readiness conditions will also have direct effects on other elements of treatment engagement, reflected by attendance, participation, and programme completion. Furthermore, assuming that the treatment is effective, higher levels of engagement will lead to greater reductions in dynamic risk and therefore greater reductions in post-treatment reconviction.

2.2.2 Evaluating the Models of Specific Responsivity

Unlike the specific responsivity models proposed by Serin and Kennedy (1997) and Serin (1998), the MORM provides a cohesive and coherent structure of the factors that may

be involved in specific responsivity and how they influence treatment processes and treatment effectiveness (Ward et al., 2004). However, unlike with the previous models, the focus of the MORM is primarily on the personal and contextual factors required before treatment begins and views engagement and performance as simple consequences of those factors. In contrast, Serin's (1998) responsivity concept gives as much weight to the factors involved in performance and engagement as to personal and contextual pre-treatment factors, and this is reflected in the number of performance indicators proposed (see Table 3). Furthermore, although the intention of the MORM is to identify the positive characteristics needed in order to maximise treatment effectiveness, many of the examples given still resemble obstacles that need to be managed or removed (e.g., negative attitudes or beliefs towards therapy, emotional dysregulation, shame, and resistance fuelled by psychopathic traits; Ward et al., 2004). This suggests that, regardless of semantics, in practice the MORM still takes into account negative characteristics that generate obstacles to treatment engagement. Given these issues, we view specific responsivity as a mixture of these models, with the structure, categories and clarity of relationships described in the MORM but with an equal focus on the factors involved on engagement and performance as described by Serin (1998), and taking into account both positive and negative characteristics that will either promote or obstruct therapeutic engagement and effectiveness.

Chapter 3

The Treatment of PCL Psychopaths and Specific Responsivity

3.1 Early Treatment Research

From the standpoint of the Risk Need Responsivity (RNR) model, psychopathy has always been given as a prime example of a specific responsivity factor that may interfere with an otherwise effective treatment process for people convicted of criminal offenses (Andrew, Bonta, & Hoge, 1990). However, despite this perspective, which views psychopathy as just one of many factors that may disrupt treatment effectiveness, psychopaths have long been separated from other groups in correctional rehabilitation literature and viewed as a specific group that either can or cannot be treated (Skeem, Polaschek, & Manchak, 2009). Prominent theorists have often claimed that psychopaths are untreatable; for instance, after working with and observing the progress of psychopathic patients for three decades: Cleckley (1988) concluded “I am no longer hopeful that any methods available today would be successful with typical psychopaths” (p. 439). Early research on the treatability of psychopaths did not help to clarify the issue due to severe methodological flaws including varied conceptions and measures of psychopathy, poorly matched or non-existent control groups, treatment types and intensities that would be considered ineffective based on RNR, and biased outcome measures that were based on therapists’ impressions of progress (Harris & Rice, 2006; Salekin, 2002).

Fortunately, the development of PCL instruments spawned a new wave of research which could reliably identify psychologically similar groups of people. However, some of the first treatment studies using PCLs suggested the situation for psychopaths was even worse than previously suspected. Using the Psychopathy Checklist-Revised (PCL-R) Rice, Harris and

Cormier (1992) found that psychopaths who attended an intensive 2-year therapeutic community treatment programme were more likely to be reconvicted for a new violent offence than a matched control group of untreated psychopaths, whereas non-psychopaths who attended the same treatment programme were less likely to obtain a new violent conviction compared with matched untreated controls. Although no significant differences in general reconvictions were detected, these results led the authors to speculate that this particular treatment made PCL psychopaths worse by teaching them social and emotional skills which improved their ability to manipulate others. Hare, Clark, Grann and Thornton (2000) came to a similar conclusion after finding that men higher on PCL-R F1 were more likely to be reconvicted for a general offence if they had attended a short-term anger management or social skills training programme than if they had not attended any treatment.

Other treatment research during this time reinforced these sentiments with findings that higher PCL scores were associated with more disruptive and rule-breaking behaviours during treatment and less attendance, compliance, participation, motivation, improvement and treatment completion (Hobson, Shine, & Roberts, 2000; Ogloff, Wong, & Greenwood, 1990; O'Neill, Lidz, & Heilbrun, 2003; Richards, Casey, & Lucente, 2003). Finally, one study found that men with high PCL-R scores who behaved well during treatment were far more likely to be reconvicted for a general, violent or sexual offence than men with high PCL scores who had behaved poorly (Seto & Barbaree, 1999).

Taken together this early treatment research, using the PCL, not only supported the previously held notion that psychopaths were untreatable but further suggested that treatment may actually make them worse. This preliminary evidence, in combination with other PCL research on risk, was subsequently used to suggest that those with high PCL

scores should be treated differently within the criminal justice system (Skeem, Polaschek, Patrick, & Lillienfeld, 2011). Reviews of court cases conducted since the early PCL treatment studies found that high PCL scores were often given as evidence of high risk and untreatability in cases regarding whether an individual convicted of on an offence should be indefinitely detained, released on parole, given a death sentence, or transferred from a youth to an adult criminal justice system (DeMatteo & Edens, 2006; Lloyd, Clark, & Forth, 2010; Viljoen et al., 2011). Additionally, a number treatment programmes began denying treatment to people with high PCL scores based on the evidence that treatment would fail to help them or make them worse (D' Silva, Duggan, & McCarthy, 2004; Hughes, Hogue, Hollin, & Champion, 1997; McCarthy & Duggan, 2010; Richards et al., 2003).

3.2 Subsequent Treatment Research with PCL Psychopaths

Although the early PCL treatment research was taken by some as the last word on the treatability of psychopaths, continued research in the area began to reveal a different story. Reviews of the early literature began to question the treatment programmes and research methods that found treatment made psychopaths worse (D'Silva et al., 2004; Skeem et al., 2009; Vien & Beech, 2006). Specifically, few of these treatment programmes had followed the principles of RNR, and would not therefore be likely to be effective in reducing reconviction rates for any individuals convicted of offending let alone those high on PCL psychopathy (Andrews et al., 1990; Skeem et al., 2011). For instance, in the first study by Rice et al. (1992), the treatment programme was a radical 1960s therapeutic community, where the patients were mainly responsible for treating one another, and were allowed to administer experimental drugs such as LSD to each other as part of the treatment. Furthermore, there was no evidence that psychopaths got worse by enhancing

their social and emotional manipulation skills, but there was evidence that they received more punishments involving seclusion and drug administration, and that these punishments were predictive of recidivism for the entire sample (Polaschek & Daly, 2013; Rice et al., 1992). Similarly, the anger management and social skills programmes that appeared to make those high on PCL-R F1 worse, were far too short with regards to the risk and need principles, and information on treatment completion rates and even group sizes for these men were not reported, making it difficult to explore alternative explanations (Hare et al., 2000).

Aside from the critical reviews of the early research, new and methodologically superior follow-ups of the early research also revealed a more optimistic picture. One follow-up to the Seto and Barbaree (1999) study using longer follow-up times and more accurate reconviction data failed to replicate the finding of greater reconviction rates for better behaved men with higher scores on the PCL-R, and instead found no relationships between behaviour during treatment and reconviction (Barbaree, 2005). Moreover, a second follow-up that increased the sample size and improved the scales for measuring behaviour reversed the original results, finding that men with high PCL-R scores who behaved poorly during treatment were more likely to be reconvicted for a sexual offence than men with high PCL-R scores and good behaviour (Langton, Barbaree, Harkins, & Peacock, 2006).

Other more recent treatment studies with PCL psychopaths were also obtaining more positive results. Research on civil psychiatric patients scored with the PCL:SV found that intensive treatment reduced violent behaviour in the community regardless of PCL:SV score, and that those scoring high on the PCL:SV were less likely to be violent if they received a higher dose of treatment (Skeem, Monahan, & Mulvey, 2002). Adolescents who

scored highly on the PCL:YV were found to be less than half as likely to obtain a new violent conviction if they had graduated an intensive treatment programme housed in a state psychiatric hospital as opposed to attending a typical juvenile correctional institution (Caldwell, Skeem, Salekin & Van Rybroek, 2006). Similarly, adult prisoners who scored highly on the PCL:SV were less likely to be reconvicted for a violent or general offence if they had completed an intensive prison-based violence treatment programme compared to an untreated control group of prisoners that were matched on risk level (Polaschek, 2011). In another study where adults attending an intensive violence treatment programme were stringently matched with untreated controls on PCL-R scores, no difference in reconviction rates were found; however, the control group were reconvicted for more severe offences than the treatment group, suggesting treatment had reduced the severity of their criminal behaviour (Wong, Gordon, Gu, Lewis, & Olver, 2012). Finally, in two intensive treatment programmes for men convicted of violent and sexual offences, men who made more positive change during treatment—measured by reductions in dynamic risk scores on the Violence Risk Scale (VRS; Wong & Gordon, 2006) and Violence Risk Scale—Sex Offender version (VRS-SO; Wong, Olver, Nicholaichuk, & Gordon, 2003)—were less likely to be reconvicted for violent or sexual offences regardless of their PCL-R score (Olver, Lewis, & Wong, 2013; Olver & Wong, 2009).

Although some of these more recent treatment studies were not without flaws (e.g., self-reported violence, small sample size, no control groups or control groups not matched on PCL scores), together they suggested the opposite of the early research: showing that treatment could be effective for those high in PCL psychopathy, and that much like with other groups convicted of offending, treatment was most effective when it followed the principles of RNR. That is, high-intensity treatments that focused on changing relevant

dynamic risk factors using cognitive-behavioural methods appeared to be effective for those high in PCL psychopathy, whereas short and unsupported treatment methods were ineffective and could even be damaging. Despite the more positive outlook provided by this new set of studies, the early finding that high PCL scores were associated with more difficulties during treatment (e.g., Ogloff et al., 1990) remained consistent throughout the research. Specifically, in some of the newer studies high PCL scores were still associated with less cooperative and more disruptive behaviour during treatment, less change on dynamic risk and less treatment completion (Caldwell, McCormick, Umstead, & Van Rybroek, 2007; Langton et al., 2006; Olver et al., 2013; Olver & Wong, 2009). Therefore, the collective PCL treatment research suggests that given the appropriate treatment, people high in PCL psychopathy are treatable but they are more difficult to treat than similar people low on PCL psychopathy.

3.3 Conceptualising PCL Psychopathy within Specific Responsivity Models

The evidence that PCL psychopathy simply creates challenges to an otherwise effective treatment process fits well with its placement in the RNR model as a specific responsivity factor that interferes with treatment delivery (Andrews et al., 1990). In this context the treatability of people high on PCL psychopathy should never have been separated from the treatability of other people convicted of offending, because based on the evidence, differences in PCL psychopathy are only relative and not categorical (see Chapter 1). From this perspective, research investigating why psychopaths are difficult to treat, or what it is about psychopathy that makes it a specific responsivity factor may have been more informative than research concerning whether or not psychopaths were treatable on a dichotomous yes/no basis. By understanding the unique obstacles presented

by psychopathy during treatment, programmes could develop ways to confront or manage the issues it creates and subsequently increase treatment effectiveness.

By conceptualising PCL psychopathy as primarily constituting a specific responsivity factor with regards to treatment, it becomes relevant to examine how it may function within the models of specific responsivity (see Chapter 2) in order to provide a deeper integration with the specific responsivity concept and to develop a deeper theoretical foundation. On a practical level, this can be most easily achieved by breaking the PCL down into its lower level facets and viewing each of these facets as an independent specific responsivity factor. In the context of the Multifactor Offender Readiness Model (MORM: Ward, Day, Howells, & Birgden, 2004), the separate facets of the PCL (see Chapter 1) can be conceptualised as easily fitting within some of the internal readiness conditions required for good engagement and performance in treatment (see Figure 1).

For example, Facet 1, the Interpersonal facet falls within the cognitive internal readiness conditions by representing traits such as grandiosity and deceitfulness which cause resistance to therapy through a lack of openness/truthfulness and beliefs about not needing to change. Facet 2, the Affective facet falls within the affective readiness conditions by representing a lack of emotions such as remorse and empathy that may be needed to engage with the therapist and other emotion-based components of treatment, or even to motivate change/treatment engagement at all. Facet 3, the Lifestyle facet falls within the volitional readiness conditions by representing impulsivity and other deficits in the ability to set and follow through with goals or to develop and maintain the motivation to change. And Facet 4, the Antisocial facet falls within the behavioural readiness conditions by representing dysfunctional behaviours such as angry outbursts and verbally abusive behaviours which may interfere with the basic communication and social skills required for

effective treatment engagement. These facets could be similarly placed within the readiness conditions of Serin's (1998) specific responsivity model (see Table 3).

When represented in terms of internal readiness conditions in the MORM, PCL psychopathy and its underlying facets should interact with external readiness conditions such as the treatment type and setting, and will influence indices of engagement and performance during treatment such as attendance, participation, completion, change on dynamic risk and the therapeutic alliance. As discussed above, most of these effects have already been demonstrated within the PCL treatment literature, providing good empirical support for the conceptualisation of PCL psychopathy within the theory and models of specific responsivity (Caldwell et al., 2007; Hobson et al., 2000; Langton, et al., 2006; Ogloff et al., 1990; Olver et al., 2013; Olver & Wong, 2009; O'Neill et al., 2003; Polaschek & Ross, 2010; Rice et al., 1992; Richards et al., 2003; Seto & Barbaree, 1999). Given the strengths of this interpretation, in the current research we will use these models of specific responsivity in combination with more specific psychopathy treatment models (see next Chapter) as a foundation for investigating why PCL psychopaths are difficult to treat. Using these models we can generate more specific research questions that will illuminate how PCL psychopathy disrupts the treatment process and clarify some of the confusion within the treatment literature.

Chapter 4

Why are PCL Psychopaths Difficult to Treat?

4.1 The Psychopathy Treatment Programme and the Two-Component Model

Despite poor outcomes for those scoring high on PCL psychopathy demonstrated in early treatment research, Wong and Hare (2005) recognised that early conclusions of treatment not working for PCL psychopaths were overly pessimistic due to substantial methodological flaws in the research, and a lack of research available (Wong, 2000). Wong and Hare also recognised that many of the treatment programmes being analysed did not adhere to the principles of Risk, Need and Responsivity (RNR; Andrews & Bonta, 2010), and speculated that studies showing PCL psychopaths to be more problematic during treatment were a sign of responsivity issues that needed to be understood and addressed in order for treatment to be effective. In response to this problem, they developed a manual that could be used to create a tailored RNR based treatment programme for PCL psychopaths named The Psychopathy Treatment Programme (PTP: Wong and Hare, 2005). The PTP identified and addressed the specific responsivity issues caused by psychopathic traits during treatment. Within the PTP manual Wong and Hare began to develop a working model of why PCL psychopaths were difficult to treat that was later formalised as the Two-Component model (2-C: Wong, Gordon, Gu, Lewis, & Olver, 2012; Wong & Olver, 2015).

The first component of the 2-C model, the *interpersonal component*, proposes that the problems presented by PCL psychopaths during treatment are directly caused by manifestations of the interpersonal and affective traits of PCL psychopathy (F1). According to the model, the personality traits represented by PCL F1 lead to a number of behaviours that

inhibit full engagement with treatment and result in lower treatment completion and treatment effectiveness. The model also proposes that these personality traits are psychobiological in nature and unrelated to violent recidivism; thus changing these traits will not only be very difficult but will also fail to lead to changes in violent behaviour (Wong & Hare, 2005; Wong & Olver, 2015). Therefore, therapists should not try to change these personality traits during treatment, but should develop strategies to work around their behavioural manifestations. The second component of the 2-C model, the *criminogenic component*, states that the impulsive lifestyle and antisocial characteristics of psychopathy, represented by PCL F2, are predictive of violent and general recidivism because they are proxies for changeable dynamic risk factors that should be the focus of behavioural change in treatment (Wong & Hare, 2005; Wong & Olver, 2015). In summation, the 2-C model suggests that therapists should manage the personality traits of psychopaths while changing their antisocial behaviours in an intensive cognitive-behavioural treatment programme.

The 2-C model overlaps with the RNR model of correctional rehabilitation, with PCL F2 representing risk and need factors and PCL F1 representing responsivity factors (Wong et al., 2012). Specifically, scores on PCL F2 represent the level of risk and therefore intensity of treatment required, and items of PCL F2 either represent established dynamic risk factors (e.g., impulsivity, poor behavioural controls and parasitic lifestyle), or are proxies for dynamic risk factors (e.g., juvenile delinquency could be a proxy for criminal attitudes), which should be the targets of change during treatment. However, Wong and colleagues recommend using a tailored dynamic risk assessment instrument such as the Violence Risk Scale (VRS; Wong &

Gordon, 2006) to correctly identify present dynamic risk factors (Wong et al., 2012; Wong & Hare, 2005; Wong & Olver, 2015).

Conversely, with regards to RNR, scores on PCL F1 are representative of specific responsivity issues that will interfere with an otherwise effective treatment programme. Wong and Hare identify three specific areas of treatment responsivity that they believe will be adversely affected by the Interpersonal and Affective facets of PCL psychopathy: the therapeutic alliance, treatment motivation or readiness, and information processing (Wong & Hare, 2005). The therapeutic alliance between a therapist and client is an important in-treatment responsivity factor that is linked to treatment outcome (Horvarth & Symonds, 1991). Wong and Hare propose that the Interpersonal facet of the PCL will disrupt the therapeutic alliance through behaviours such as lying about thoughts, feelings and offence history, as well as manipulating staff members. Together, these behaviours may cause confusion and resentment that turn staff members against each other (splitting). Correspondingly, the Affective facet will disrupt the therapeutic alliance because affective deficits (e.g., lacking empathy) can make it difficult to form a meaningful bond. In short, clients high on PCL F1 will display uncooperative, closed and defensive behaviours that will inhibit the formation of a good therapeutic alliance (Wong & Hare, 2005). Wong and Hare also suggest that Interpersonal and Affective facets of the PCL will lead to less motivation for treatment which will be evidenced by less change during treatment and a greater likelihood of removal due to insufficient 'progress'. Finally, research has demonstrated that psychopaths tend to ignore relevant contextual cues (especially punishment) when they are focused on a goal (Newman, 1997). According to Wong and Hare, this information processing deficit is associated with PCL F1 and leads to problems in

social and emotional interactions during treatment, due to an inability to change behaviour based on social cues (Wong & Hare, 2005).

4.2 An Alternative to the 2-C Model

Similar to Wong and Hare, Thornton and Blud (2007) acknowledge that psychopaths are difficult to treat and that most treatment difficulties result from the behavioural manifestations of the Interpersonal and Affective facets of the PCL during treatment. With this acknowledgement, Thornton and Blud offer a number of hypotheses regarding how each facet of the PCL may influence treatment processes, some of which converge with the assumptions of the 2-C model and some of which do not. In line with the propositions by Wong and Hare, Thornton and Blud suggest that the Interpersonal facet of the PCL will lead to dishonesty regarding treatment relevant thoughts, feelings and history. Likewise, they suggest that the Interpersonal facet will lead to the manipulation of staff through displays of fake intentions to change behaviour. Thornton and Blud further propose that the Interpersonal facet will result in negative attitudes towards change (i.e., clients will not believe they need to change), and socially dominant behaviours towards therapists and other therapy members, especially during group treatment sessions. Similar to Wong and Hare, Thornton and Blud propose that the Affective facet of the PCL will disrupt the therapeutic alliance, but add that it will also lead to lack of understanding of empathy and emotion based treatment modules (e.g., victim empathy development and anger management), as well as a lack of meaningful motivation to change antisocial behaviour due to a lack of emotional distress.

In contrast to Wong and Hare, Thornton and Blud suggest that the Lifestyle and Antisocial facets of the PCL will also manifest in treatment interfering behaviours, though less so than the Interpersonal and Affective facets. Specifically, the Lifestyle facet will lead to deficits in the ability to sustain engagement and follow through with treatment goals which will be evident in behaviours during treatment such as boredom, failing to complete homework, missing treatment sessions, and an increased likelihood of treatment withdrawal. Conversely, the Antisocial facet will manifest in an oppositional style and a lack of compliance with the rules of treatment, which may result in failing to complete treatment. Furthermore, the Antisocial facet represents a deficit in the ability to maintain alternative prosocial behaviours and will therefore be more highly associated with antisocial behaviour and reconvictions post-treatment (Thornton & Blud, 2007).

To summarise, Thornton and Blud agree with Wong and Hare with regards to the Interpersonal and Affective facets of the PCL creating the most responsivity issues during treatment and the types of issues they will cause (e.g., a weaker therapeutic alliance). However, Thornton and Blud also propose a number of responsivity issues caused by the Lifestyle and Antisocial facets of the PCL, which Wong and Hare would more likely characterise as changeable risk related behaviours or dynamic risk factors. One salient conflict that arises from these differences is that Thornton and Blud hypothesise that the Lifestyle and Antisocial facets are more likely to lead to withdrawal from treatment and treatment non-completion, whereas Wong and Hare believe that the Interpersonal and Affective facets are more likely to lead to removal from treatment due to a lack of motivation.

4.3 Integrating Theories of Treatment Difficulties with Specific Responsivity Models

In the previous chapter, we discussed how each of the separate PCL facets could represent different readiness conditions within a model of specific responsivity, namely the Multi Factor Offender Readiness Model (MORM; Ward, Day, Howells, & Birgden, 2004). In that discussion, we conceptualised how the different facets of the PCL might represent deficits in the required readiness conditions which would influence engagement and performance during treatment (see Section 3.3). The theories of how PCL facets interfere with treatment processes proposed by Wong and Hare as well as Thornton and Blud are also consistent with the concept of PCL facets representing deficits in readiness conditions that disrupt indices of engagement and performance, such as participation, the therapeutic alliance, change, and treatment completion. However, because the Lifestyle and Antisocial facets appear to fit inside the categories of volitional and behavioural readiness conditions within the MORM, Thornton and Blud's ideas are technically more consistent with the MORM than those of Wong and colleagues, who don't consider the Lifestyle and Antisocial facets to represent responsivity factors or consequently readiness conditions (Wong et al., 2012; Wong & Hare, 2005; Wong & Olver, 2015). Regardless of the level of consistency, both sets of ideas can function as specific hypotheses within the overall framework of the MORM which in turn can be viewed as a model of specific responsivity that sits within the RNR model of correctional rehabilitation (see Figure 2). These types of specific hypotheses would help clarify how deficits in readiness conditions like the PCL facets influence specific indices of treatment engagement, performance and ultimately treatment effectiveness.

Figure 2. Proposed hierarchical relationship between the RNR, the MORM and the 2-C models.

4.4 Research on the Two-Component Model

4.3.1 Research Underlying the 2-C Model

In the development of the 2-C model Wong and colleagues cite a number of different research findings as providing post-hoc empirical support for the model (Wong et al., 2012; Wong & Hare, 2005; Wong & Olver, 2015). First, the idea that PCL F1 represents enduring psychobiological traits is supported by neuroimaging research demonstrating lower volumes and activity in brain regions associated with emotional processing such as the amygdala for PCL psychopaths compared to non-psychopaths (Koenigs, Baskin-Sommers, Zeier, & Newman, 2011). This assumption regarding PCL F1 is also supported by cross-sectional analysis on large groups of men and women which have found PCL-R F1 scores are stable across adulthood, whereas PCL-R F2 scores decrease with age (Hare, 2003; Harpur & Hare, 1994). Second, the idea that PCL F2 is representative of risk, but PCL F1 is not, is supported by meta analyses revealing that PCL-R F2 (but not PCL-R F1) is predictive of violent and sexually violent recidivism (Hawes, Boccaccini, & Murrie, 2013 ; Yang, Wong, & Coid, 2010). The Antisocial facet in particular has been found to be the strongest predictor of violent and general recidivism when compared to the other three facets in multiple samples using the PCL-R and PCL:SV (Walters & Heilbrun, 2010; Walters, Knight, Grann, & Dahle, 2008; Walters, Wilson, & Glover, 2011). The

association between PCL F2 and dynamic risk is further supported by large correlations between PCL-R F2 and dynamic risk measured by the VRS ($r = .80$; Wong & Olver, 2015).

4.3.2 Treatment Research on the 2-C Model

Although no research has explicitly tested the 2-C model, a handful of studies have investigated whether the different factors or facets of the PCL are uniquely associated with responsivity or risk based treatment processes and outcomes as suggested by the 2-C model. Hobson, Shine and Roberts (2000) investigated the relationships between the two PCL-R factors and behaviour as rated by prison staff in an intensive therapeutic community. They found that PCL-R F1 was associated with poorer behaviour at 3 and 6 months in group treatment sessions, and on the wing of the therapeutic community, whereas PCL-R F2 was only associated with poorer behaviour on the wing at 3 months, as well as a lower likelihood of participating in off wing activities at 3 months (e.g., education). Richards, Casey and Lucente (2003) also looked at the relationships between the two PCL-R factors and various indicators of treatment engagement and outcome in a study comparing two types of drug abuse treatment for incarcerated females. They found that higher scores on both PCL-R F1 and F2 were associated with a higher likelihood of infractions during treatment, as well as removal from a therapeutic community. However, only PCL-R F1 scores were associated with shorter stays in treatment and removal from treatment, whereas only PCL-R F2 scores were associated with poorer ratings of participation by therapists, and only in one specific treatment module. PCL-R F1 scores were also more predictive of criminal charges post-treatment than PCL-R F2 scores (Richards et al., 2003). It should be noted that the treatment programmes evaluated in these two studies would

not be considered suitable for people high on PCL psychopathy based on the RNR principles and the guidelines of the Psychopathy Treatment Programme (Wong & Hare, 2005).

Only three studies have investigated the distinct contributions of PCL facets on treatment processes and outcomes in three treatment programmes that have demonstrated effectiveness with those high on PCL psychopathy (Caldwell, Skeem, Salekin & Van Rybroek, 2006; Olver, Lewis, & Wong, 2013; Olver & Wong, 2009; Wong & Hare, 2005). In a treatment programme for adolescents, Caldwell (2011) looked at the impact of each facet of the PCL:YV on behavioural change during treatment, and violent recidivism post-treatment. Analyses revealed that higher scores on the Interpersonal facet were associated with the poorest behaviour at the beginning of treatment, but those high on the Interpersonal facet also made the greatest amount of positive behavioural change over the course of treatment. Furthermore, treated adolescents high on the Interpersonal facet were less likely to be charged with a new violent offence post-treatment in comparison to an untreated group of adolescents who were also high on the Interpersonal facet. In comparison, no interactions were detected between the other three facets and behavioural change over treatment or violent recidivism. The author concluded that the treatment appeared to have its greatest effects for those high on the Interpersonal facet of the PCL:YV (Caldwell, 2011).

Olver and colleagues also examined the relative effects of PCL-R factors and facets in two treatment programmes for adults convicted of violent or sexual offences (Olver, Lewis, & Wong, 2013; Olver & Wong, 2011). In a treatment programme for adults convicted of sexual offences, Olver and Wong (2011) found that scores on both F1 and F2 of the PCL-R made equivalent contributions to the prediction of treatment non-completion when compared

simultaneously in a logistic regression, suggesting higher scores on either factor made non-completion more likely. Each of the four PCL-R facets were also positively correlated with treatment dropout, but when compared simultaneously in a logistic regression model, only the Affective facet remained a unique contributor to predicting treatment dropout (Olver & Wong, 2011). In a treatment programme for adults convicted of violent offences, Olver et al. (2013) found that all the PCL-R factors and facets were negatively correlated with change on VRS dynamic risk, suggesting higher scores on any PCL-R factor or facet were associated with less therapeutic change during treatment. However, when PCL-R F1 and F2 were compared simultaneously in a regression model, only PCL-R F1 made a unique contribution to predicting less therapeutic change, and when the four PCL-R facets were compared simultaneously in a regression model, only the Affective facet made a unique contribution to predicting less change. These results were paralleled in the recidivism analyses, with both PCL-R F1 and F2 demonstrating a relationship with violent recidivism, but F1 making a unique contribution to the prediction of violent recidivism when compared with F2 in a Cox regression model. Again, when the four PCL-R facets were compared simultaneously in a cox regression model, only the Affective facet made a unique contribution to predicting violent recidivism. Finally, the Affective facet also appeared to weaken the positive effects of treatment because controlling for it in a cox regression analysis greatly weakened the relationship between therapeutic change and a reduced likelihood of violent recidivism (Olver et al., 2013).

From the results of these two studies Olver and colleagues concluded that the PCL-R F1 and in particular the Affective facet created the most barriers to treatment effectiveness,

speculating that these traits manifested in a poor therapeutic alliance, a reluctance to engage, and a lack of motivation, resulting in less completion, change, and more reconviction.

To summarise, in support of the 2-C model, PCL F1 and its underlying facets, the Interpersonal and Affective facets are more often associated with indices of poor responsivity including poorer behaviour in treatment, less change, and less treatment completion, especially when the shared variance with PCL F2 and the Lifestyle and Antisocial facets is controlled for in regression models. However, as suggested by Thornton and Blud (2007) the Lifestyle and Antisocial facets or PCL F2 are also associated with indices of poor responsivity, just less so than PCL F1 and its underlying facets. Also, contrary to the 2-C model and previous research, PCL F1 and its underlying facets were more often associated with general and violent recidivism for the treatment samples examined, suggesting some F1 traits might be more risk-relevant in treatment samples than is assumed by the 2-C model. Thus, although there is some initial support for the 2-C model, the evidence suggests that there is still overlap between each factor/facet of the PCL and both risk and responsivity related treatment processes/outcomes; that is, PCL F1 is still associated with elements of risk and PCL F2 is still associated with elements of responsivity during treatment.

4.5 Introduction to the Current Research: Testing the Two-Component Model

Although the research thus far provides some initial support for the 2-C model, the theory and research concerning the model makes a number of assumptions that have not yet been investigated. First, despite hypotheses that the Interpersonal and Affective facets will lead to a poorer therapeutic alliance, especially in terms of forming an affective bond, no research

has thoroughly investigated the relative contributions of different PCL factors/facets to the therapeutic alliance in treatment (Olver & Wong, 2011; Wong & Hare, 2005). Second, despite various speculations about how the Interpersonal and Affective facets of PCL psychopathy lead to specific types of treatment interfering behaviours, no research has actually examined what types of behaviour the different PCL factors/facets are associated with during treatment, meaning that therapists are currently left to guess which treatment behaviours should be managed versus those that should be changed. Third, in relation to the second point, it is assumed that there are responsivity-based behaviours that will explain the relationship between PCL F1 and outcomes such as treatment non-completion, following which, there should be risk-based behaviours that will explain the relationship between PCL F2 and risk-based outcomes such as reconviction. Thus we should be able to empirically differentiate risk from responsivity-based treatment behaviours by examining their relationships with the factors/facets of the PCL and different treatment outcomes.

In response to these gaps in the research, the purpose of the current thesis was to conduct a comprehensive investigation into why PCL psychopaths are difficult to treat, by testing some of the unexplored assumptions of the 2-C model in a group of high-risk violent men who were assessed with the PCL and attended an intensive, prison-based, cognitive-behavioural treatment programme that is consistent with many of the guidelines for a Psychopathy Treatment Programme (Wong & Hare, 2005). Specifically, in order to investigate the assumptions of the 2-C model listed above the analyses were conducted in successive steps. First, in line with the previous research, we examined the relationships between the factors/facets of the PCL and treatment non-completion (Chapter 6), change on dynamic risk

and recidivism (Chapter 7) to assess whether the relationships identified in the current sample were consistent with the assumptions of the 2-C model and the previous research. Second, to assess whether PCL F1 and its underlying facets are associated with a poorer therapeutic alliance we examined the relationships between the factors/facets of the PCL and the therapeutic alliance (Chapter 8). Third, we examined the relationships between the factors/facets of the PCL and different types of behaviour during treatment (Chapter 9) to assess whether PCL F1 and its underlying facets are associated with different types of behaviour during treatment than PCL F2 and its underlying facets. Finally, based on the results of the preceding analyses, we examined whether certain types of behaviour in treatment can explain relationships between the factors/facets of the PCL and treatment outcomes (i.e., recidivism and non-completion) to assess whether we can empirically identify risk versus responsivity related in-treatment behaviours (Chapter 10).

For each set of analyses we tested specific hypotheses based on the 2-C model, and in some cases, tested these hypotheses against alternative ideas proposed by Thornton and Blud (2007). In light of the research on the dimensional nature of PCL psychopathy (see Section 1.2.1), all analyses were conducted with continuous PCL total, factor and facet scores. Similarly, for each analysis involving the PCL we adopted the hierarchical two factor/four facet structure in order to assess the assumptions of the 2-C model, and to make the results more easily comparable with the previous research. Finally, based on the previous studies by Olver and colleagues, where possible, we examined the relative (i.e., unique) contributions of PCL factors and facets to treatment processes and outcomes, by entering the two factors or four facets simultaneously in multivariate analyses (Olver & Wong, 2011; Olver et al., 2013). These types of

multivariate analyses are consistent with research examining whether the PCL represents a unitary or multifaceted construct (see Section 1.2.3) because they can reveal unique relationships that are otherwise suppressed by the shared variance between the factors or facets of the PCL (Hicks & Patrick, 2006). The results of each analysis will be discussed with regards to the specific hypotheses made and the closely related research, followed by a general discussion of what the separate analyses reveal in combination and how they might inform the 2-C model, the treatment of psychopaths, specific responsivity and the underlying structure of the PCL.

Chapter 5

General Method

5.1 Sample Characteristics

The sample consisted of 277 men (59% Māori, 25% NZ European, 14% Pacific Island, 1% Asian, 1% Other) who attended the prison treatment unit Te Whare Manaakitanga, between 1998 and 2010. At programme entry, their mean age was 31.1 years ($SD = 7.98$) and their mean level of education was 9.55 years ($SD = 1.86$). In order to be eligible for the treatment programme, men must have a violent index offence or a history of violent offending. Most men in the sample (77%) were determinately sentenced, to an average of 6.29 years imprisonment ($SD = 5.98$) for their index offence(s). The remaining men were serving either a life imprisonment sentence (22%) or a sentence of preventive detention (1%). In New Zealand people sentenced to life imprisonment or preventive detention can remain in prison for the rest of their life and if released will remain on parole for the rest of their life unless recalled. The minimum non-parole period is either 10 or 17 years, depending on aggravating factors, for a life sentence and 5 years for preventive detention (Sentencing Act 2002).

The sample's offence backgrounds show a long and prolific history of general and violent convictions. On average they obtained their first conviction when they were 15.96 years old ($SD = 2.90$), and their first violent conviction when they were 18.32 ($SD = 3.63$). Up to and including their index offence(s), they had obtained an average of 45.71 convictions ($SD = 34.20$), of which, 7.3 ($SD = 5.41$) were violent and 0.25 were sexual ($SD = 0.66$). At the time of treatment, they were in prison for an average of 4.58 index offences ($SD = 4.98$), at least one of which was violent for almost the whole sample (99%). Of the most serious violent index

offences, 11% were assaults (e.g., male assaults female, assaults with weapon, common assault, assaults child, assaults police), 30% were serious assaults (e.g., wounds with intent to injure/gbh), 26% were murders/manslaughters, 3% were attempts/threats of murder, 28% were robbery (e.g., aggravated robbery, demands to steal), and 2% were other offences (e.g., burglary, supplies class A drug).

The Risk of re-Conviction $\times$ Risk of re-Imprisonment (RoC*RoI) is an actuarial risk assessment measure developed and used by the New Zealand Department of Corrections (Bakker, Riley, & O'Malley, 1999). The RoC*RoI is based on static risk variables derived from formal conviction records, including person characteristics and conviction history data. Receiver Operating Characteristic (ROC) analysis has found a good level of predictive accuracy (AUC = 0.76) for the RoC*RoI (Bakker et al., 1999). The RoC*RoI is expressed as a statistical probability score between 0.0 and 1.0, where 0.0 represents a 0% chance of returning to prison for a new conviction within five years and 1.0 represents a 100% chance. The average RoC*RoI at treatment start date for the current sample was 0.63 ($SD = 0.19$), indicating a 63% likelihood of returning to prison within five years.

5.2 Treatment

5.2.1 General Summary

The treatment unit Te Whare Manaakitanga—previously referred to as the Rimutaka Violence Prevention Unit—is located in Rimutaka prison near Wellington, New Zealand. Te Whare Manaakitanga is a 30-bed medium-security residential treatment unit originally conceptualised as an intensive treatment programme for adults convicted of violent offences. The unit is structured with individual self-contained cells for the prisoners on one side and

additional buildings housing the therapy staff and treatment rooms on the opposite side. The unit first opened in 1998 and is currently still in operation.

5.2.2 History and Underlying Theories of the Unit

The treatment was originally constructed using ideas from two other established and influential treatment units in New Zealand (Polaschek & Kilgour, 2013): A high-intensity community-based treatment programme for adults convicted of violent offences named the Montgomery House violence prevention programme and a high-intensity prison-based treatment programme for adults convicted of child sex offences named Kia Marama (Hudson, Wales, & Ward, 1998, Polaschek & Dixon, 2001). The result was a session-based group therapy programme, with sessions aimed at working through cognitive behavioural skill-based modules that targeted a variety of risk factors. The programme was also designed for use with Māori and Pacific prisoners and incorporated cultural and reintegrative practices. Like Montgomery House, the treatment was broadly based on social learning theories and drew more specifically from theories of aggression and violence, such as script models and social information processing, which merge well with cognitive behavioural therapies (Anderson & Bushman, 2002; Crick & Dodge, 1996; Huesmann, 1988; Polaschek & Kilgour, 2013). Put simply, the treatment's core philosophy is that violent attitudes and behaviours are learnt from direct experience and observing other people in the environment, and it is therefore possible to learn new non-violent alternatives to replace these antisocial attitudes and behaviours (Polaschek & Dixon, 2001).

Over time, the treatment also began to draw from developmental and life-course criminology theories which take into account the influence of genetic and early neuro-cognitive

developmental factors, as well as the relevance of risk factors at different points in the lifespan (Farrington, 2007; Moffitt, 1993). Following a review in 2005, the programme was changed in 2007 to include some aspects of a therapeutic community model and to follow a prescriptive manual to increase the programme's therapeutic integrity (Polaschek & Kilgour, 2013). At around this time the unit also started using the Violence Risk Scale (VRS: Wong & Gordon, 2000) to identify dynamic risk factors which can then be tracked using a modification of the transtheoretical model of change (Prochaska & DiClemente, 1986; Prochaska, DiClemente, & Norcross, 1992).

The programme broadly follows the principles of the Risk Need Responsivity (RNR: Andrews & Bonta, 2010) model of correctional rehabilitation for effective treatment interventions, though adherence to the model grew stronger over time (Polaschek & Kilgour, 2013). The programme is also consistent with the recommendations for a Psychopathy Treatment Programme (PTP; Wong & Hare, 2005), which is described as a cognitive-behavioural skill based programme for adults convicted of violent offences that adheres to the principles of RNR and includes relapse prevention procedures. Several evaluations of the programme over different time periods found that men who completed the programme were less likely to be reconvicted both generally and violently when compared with matched untreated or less treated control groups (Kilgour & Polaschek, 2012; Polaschek, 2011; Polaschek, Wilson, Townsend, & Daly, 2005; Polaschek, Yesberg, Bell, Casey & Dickson, 2016).

5.2.3 Treatment Eligibility and Assessment Process

In order to be eligible for the programme, prisoners must agree to be transferred for assessment, have a violent index offence or a history of violent offending and an absence of

factors that seriously impair participation (e.g., neurological disorders, poor English language skills or major mental disorders). After the first few years a minimum actuarial risk criterion was also introduced ($\text{RoC} \times \text{RoI} > 0.4$, a 40% chance of returning to prison within five years) and was increased in 2006 ($\text{RoC} \times \text{RoI} > 0.7$, a 70% chance of returning to prison within five years), raising the mean risk-level of participants.

Case officers refer treatment candidates once they are nearing the end of their sentence or are eligible for parole. Each referral is screened by unit staff using the eligibility criteria and suitable candidates are invited to the unit for the assessment process. The assessment process consists of interviews, a battery of psychometric tests and self-report questionnaires, and staff observations of behaviour in the unit. Therapists collect information on risk factors, current offence processes, offending history, social history, family and support, reintegration needs on release and treatment responsivity factors such as motivation to change. This information is collated to identify specific treatment targets and develop a working formulation. Suitable candidates are then offered a contract to attend the core treatment programme and agree to abide by the unit rules. Men can voluntarily withdraw from the programme at any stage, or be removed from the programme for breaking the unit rules or disrupting the treatment of others.

5.2.4 Format of Treatment Delivery

Treatment consists of approximately 330 hours of group sessions over 28 weeks. Groups consist of approximately 10 prisoners who meet three to four times a week for two to three hours at a time. Each group is led by a team of two therapists, usually one psychologist and one rehabilitation worker. Unlike psychologists, rehabilitation workers may have no formal training in criminal or clinical psychology or prisoner rehabilitation but do usually have experience in

social services. Therapy staff liaise with family and plan each prisoner's reintegration as part of the treatment process. Therapists may also engage in individual sessions with prisoners who are struggling in group or have idiosyncratic blocks to treatment engagement that need resolving (e.g., social anxiety). A cultural consultant is also available for prisoners and staff seeking Māori or Pacific cultural advice and Māori language and concepts are used throughout the treatment programme (Polaschek & Dixon, 2001; Polaschek & Kilgour, 2013; Polaschek et al., 2005).

5.2.5 Group Treatment and Session Content

The course of group treatment has three phases, beginning with orientation and engagement, followed by knowledge and skill building, and ending with making preparations for transfer and release. At the end of each phase, prisoners receive feedback about their treatment progress. Throughout these phases, the group therapists systematically guide the men through a set of intervention modules described in Table 4. A typical group session will start with a formal opening and a round of check-ins to gauge the group mood. Therapists will then introduce a topic and start a group discussion where they encourage men to contribute, challenge one another and disclose personal information relevant to the topic. During these discussions therapists will employ Socratic questioning methods to openly explore the underlying assumptions and beliefs held by the men regarding various topics. Most sessions will also involve a practical or written task in order to apply and solidify the day's lesson. Major writing tasks include formulating offence cycles and relapse prevention plans. Practical tasks include individual presentations, group presentations, role-plays and debates. Throughout these tasks men are encouraged to help and challenge one another in order to enhance the

learning environment. Group sessions generally end with a round of check-outs and a formal closing.

Table 4

Descriptions of Group Treatment Modules

Module	Description
Orientation	Establishing group rules, norms and values, increasing motivation and introducing group members to key cognitive-behavioural concepts.
Formulating offence chains	Identifying the key issues surrounding each index offence and other offences including thoughts, feelings and behaviours as well as other contributing risk factors such as substance abuse.
Restructuring offence supportive thinking	Developing awareness of, identifying, and learning to challenge offence-supportive thoughts emotions and behaviours.
Mood management	Identifying unpleasant emotions and their link to antisocial behaviour and learning emotion regulation techniques such as anger management.
Victim empathy	Learning to understand the cognitive and emotional perspective of the victim through perspective taking and forgiveness based exercises.
Moral reasoning	Investigating moral dilemmas to develop perspective taking and challenge ingrained attitudes.
Problem solving	Learning a step-by-step model which includes problem identification, brainstorming strategies and choosing strategies to apply to real-life problems.

Communication and relationship skills	Using the skills learnt from earlier modules to identify issues and learn new skills for managing interpersonal relationships.
Relapse prevention planning	Using new skills for making detailed plans to avoid subsequent offending. Includes formulating graduated release plans with strategies for avoiding and managing high-risk situations.

5.3 Measures

All data for this thesis were collected retrospectively from a variety of archival sources. The majority of descriptive information and data from risk and psychological scales were collected from a database of all men who attended Te Whare Manaakitanga between 1998 and 2010. Information in the database were collected and compiled from within the programme by therapists and researchers throughout the treatment period of interest. Where possible data were checked against official records and changed or updated for the current study. Data collected from this database for the current study have also been used in a number of previous studies (Dickson, Polaschek & Casey, 2013; Polaschek, 2010; Polaschek, 2011; Polaschek et al., 2005). Data for the Working Alliance Inventory-Short form (WAI-S; Horvath & Greenberg, 1989; Tracy and Kokotovic, 1989) were provided courtesy of Elisabeth Ross who collected the data for her PhD thesis (Ross, 2008). Offending history, reconviction data, treatment notes, treatment reports, and incident reports were collected from the New Zealand Department of Corrections through an electronic database known as the Integrated Offender Management System (IOMS) or through paper based file archives also held by the department.

5.3.1 Psychopathy Measurements

5.3.1.1 The Psychopathy Checklist-Revised. The PCL-R is a 20 item clinician-rated scale that measures traits characteristic of psychopathic personality disorder (e.g., callousness, glibness and irresponsibility) in forensic populations. Ratings are ideally made on the basis of a semi-structured interview and relevant file information; however, ratings can be made on file information alone. Factor analytic research shows that the PCL-R has two oblique factors which can be further divided into four facets (Hare, 2003). Facets 1 and 2 contain interpersonal and affective items respectively, and when combined make up the interpersonal affective factor (Factor 1). Facets 3 and 4 contain impulsive-irresponsible lifestyle and antisocial behaviour items respectively, and combine to make up the antisocial lifestyle factor (Factor 2). Two remaining items referring to sexual behaviour and marital relationships do not contribute to the factor structure.

Each item of the PCL-R is rated on a 3-point scale (2 = item definitely applies, 1 = item applies somewhat, 0 = item doesn't apply). Items can then be summed to produce relevant facet, factor and total scores. Facets 1 and 2 are scored out of 8, Facets 3 and 4 out of 10, Factor 1 out of 16 and Factor 2 out of 20. Total scores are out of 40 with scores of 30 or above traditionally used to diagnose psychopathy (Hare, 2003). If items cannot be scored due to a lack of information, using information provided in the instrument's scoring guide, total, factor and facet scores can be prorated for up to one missing item in each facet, two missing items in each factor and five missing items in the total score. Psychometric research has shown high inter-rater reliability and moderate-high internal consistency for facet, factor and total scores of the PCL-R (Hare, 2003). A large numbers of studies have also demonstrated good construct and

predictive validity for the facet, factor and total scores of the PCL-R (Campbell, French, & Gendreau, 2009; Guy, Edens, Anthony, & Douglas, 2005; Hare, 2003; Hemphill, Hare, & Wong, 1998; Hicks & Patrick, 2006; Patrick, Hicks, Krueger, & Lang, 2005; Patrick & Zempolich, 1998; Porter & Woodworth, 2006; Salekin, Rogers, Kenneth, & Sewell, 1996; Verona, Patrick, & Joiner, 2001; Walters, Knight, Grann, & Dahle, 2008).

5.3.1.2 The Psychopathy Checklist: Screening Version. The PCL:SV is a 12 item clinician-rated scale, originally conceptualised as a shorter screening version of the PCL-R (Hart et al., 1995). Six items in the PCL:SV are derived directly from six PCL-R items (e.g., PCL:SV item 1. Superficial, is derived from PCL-R item 1. Glibness/superficial charm; Cooke, Michie, Hart, & Hare, 1999). The remaining six PCL:SV items are derived from a combination of two PCL-R items (e.g., PCL:SV item 3. Deceitful, is directly derived from PCL-R items 4. Pathological lying, and 5. Conning/manipulative). Only the two items that do not fit the two factor/four facet structure of the PCL-R (11. Promiscuous sexual behaviour, and 17. Many short-term marital relationships) were not used in the development of the PCL:SV (Cooke et al., 1999).

Factor analytic research on the PCL:SV has confirmed the same two factor/four facet structure found with the PCL-R (Hill, Neumann, & Rogers, 2004; Neumann & Hare, 2008; Vitacco, Neumann, & Jackson, 2005). Research comparing the PCL:SV and PCL-R has also found high correlations between the comparable facet, factor and total scores of the two instruments ($r = .87-.95$; Guy & Douglas, 2006). Like the PCL-R, PCL:SV ratings are made on the basis of file information alone or in combination with a semi-structured interview. Each PCL:SV item is scored on the same 3-point scale used in the PCL-R but because there are fewer items, Facets 1, 2, 3 and 4 are scored out of 6, Factors 1 and 2 (named Part 1 and 2) out of 12 and the total is

scored out of 24 with scores of 18 or above used to diagnose psychopathy. If items cannot be scored due to a lack of information, total and part scores can be prorated using guides provided in the instrument for up to one missing item in each part and up to two missing items in the total score (Hart et al., 1995). The PCL:SV has demonstrated comparable validity and reliability to the PCL-R (Campbell et al., 2009; Cooke et al., 1999; Hare & Neumann, 2006; Neumann & Hare, 2008; Hart et al., 1995; Vitacco et al., 2005; Yang, Wong, & Coid, 2010).

5.3.1.3 PCL assessment procedure. Psychopathy was assessed using either the Psychopathy Checklist-Revised (PCL-R; Hare, 2003) or The Psychopathy Checklist: Screening Version (PCL:SV; Hart, Cox & Hare, 1995). At Te Whare Manaakitanga the PCL-R was used to assess psychopathy from 1998 to 2001 but was replaced by the PCL:SV from 2001 to 2010 because it takes half as long to administer and is considered equivalent to the PCL-R (Cooke et al., 1999). Because of this switch, 22% of the current sample was assessed with the PCL-R and the remaining 78% with the PCL:SV. Furthermore, all of the PCL-Rs were assessed by psychologists at the beginning of treatment using semi-structured interviews and file information but only 77% of the PCL:SVs were assessed this way. The remaining 23% of PCL:SVs were scored retrospectively using file information only by a trained doctoral student under the close supervision of Prof. Devon Polaschek who was highly experienced with the instrument. Previous research has found comparable scores between the file information plus interview and file information only methods (Guy & Douglass, 2006).

All those scoring PCL-Rs and PCL:SVs had attended a New Zealand Department of Corrections workshop run by a certified trainer and practitioner of both instruments. Following the workshop, trainees were encouraged to send completed PCLs to the trainer for quality

assurance until they were deemed officially certified to use the instruments. Twenty-two PCLs (8%) from the current sample were revised by the trainer, with the revised scores used in the final dataset. In addition to training and certification, psychologists recorded the evidence for their scores in an evidence recording sheet before making ratings, and many of these were scrutinised by experienced senior clinicians to establish agreement about the ratings. No data are available to quantify inter-rater agreement, but anecdotally it was usually very high, with disparities resolved by discussion.

5.3.1.4 Conversion of PCL-R to PCL:SV scores. Given the strong conceptual and structural relationship between the PCL-R and PCL:SV cited above, we decided to standardise our mixed psychopathy measurements by transforming PCL-R item and factor scores into PCL:SV item, part and total scores. Table 5 outlines each PCL:SV item, part and total score, and the corresponding PCL-R item(s)/factor(s) needed for each conversion as well as the formula used for each conversion. Our conversion formulae were based on the strong conceptual and structural relationships between items, facets and factors of the PCL-R and PCL:SV detailed in previous work¹ (Cooke et al., 1999; Guy & Douglas, 2006; Hart et al., 1995; Hill, Neumann, & Rogers, 2004). David Cooke, an expert in the research of both scales confirmed the conversion formulae were a defensible approach (personal communication, November 16, 2014).

¹ A conversion formula for PCL-R to PCL:SV total scores was published in Cooke et al. (1999), though this formula used PCL-R total scores, meaning it converted two PCL-R items (11 and 17) that have no relation to items in the PCL:SV and may overestimate PCL:SV total scores. For this study we developed a new formula to calculate PCL:SV total scores using PCL-R factor scores because they do not contain the two unrelated PCL-R items. This formula was only used when PCL-R items could not be converted to PCL:SV items and subsequently summed to produce PCL:SV total scores.

Table 5

PCL-R to PCL:SV Items/Factors/Total Conversion Materials and Formulas

PCL:SV items/parts/total	Corresponding PCL-R item(s)/factor(s) used in conversion	Conversion formula
1. Superficial	1. Glibness/superficial charm	SV1 = R1
2. Grandiose	2. Grandiose sense of self-worth	SV2 = R2
3. Deceitful	4. Pathological lying 5. Conning/manipulative	SV3 = (R4+R5)/2
4. Lacks remorse	6. Lack of remorse or guilt	SV4 = R6
5. Lacks empathy	7. Shallow affect 8. Callous/lack of empathy	SV5 = (R7+R8)/2
6. Doesn't accept responsibility	16. Failure to accept responsibility for own actions	SV6 = R16
Part 1	Factor 1: Interpersonal/affective	SVP1 = (RF1/8)×6
7. Impulsive	3. Need for stimulation/ proneness to boredom 14. Impulsivity	SV7 = (R3+R14)/2
8. Poor behavioural controls	10. Poor behavioural controls	SV8 = R10
9. Lacks goals	9. Parasitic lifestyle 13. Lack of realistic long term goals	SV9 = (R9+R13)/2
10. Irresponsible	15. Irresponsibility	SV10 = R15
11. Adolescent antisocial behaviour	12. Early behaviour problems 18. Juvenile delinquency	SV11 = (R12+R18)/2
12. Adult antisocial behaviour	19. Revocation of conditional release 20. Criminal versatility	SV12 = (R19+R20)/2
Part 2	Factor 2: Lifestyle/antisocial	SVP2 = (RF2/10)×6
Total	Factor 1 and Factor 2	SVTotal = (RF1+RF2)/18×12

Note. In the conversion column R = PCL-R, SV = PCL:SV, F = Factor and P = Part, e.g., SVP1 = (RF1/8)×6 translates to PCL:SV Part 1 is equal to PCL-R Factor 1 divided by eight multiplied by six.

For the current study, 60 PCL-Rs (22%) were converted to PCL:SVs. Specifically, items from 54 PCL-Rs were converted to PCL:SV items and the converted items were used to calculate PCL:SV facet, part and total scores. Of the 6 remaining PCL-Rs, 4 had only factor and total scores available and 2 were missing items necessary for item conversion (Factor 2 and total scores

were pro-rated for these 2 cases). For these 6 remaining PCL-Rs, Factor 1 and 2 scores were converted to PCL:SV Part 1, 2 and total scores; and PCL:SV facets were not calculated. Of the original non-converted PCL:SVs, one Part 1 score, four Part 2 scores, and five total scores were pro-rated due to missing items. Two PCL:SVs had only Part 1, 2 and total scores available. PCL:SV facet scores could not be pro-rated and so were not calculated if items from that facet were missing.

The number, means, standard deviations, 95% confidence intervals and ranges for all the PCL:SV total, part and facet scores—including those converted from PCL-R scores—are displayed in Table 6. Correlations between PCL:SV total, part and facet scores are displayed in Table 7. Fewer facet scores were available than factor and total scores due to cases that were either missing items or had no items available. From a categorical framework of psychopathy, the group on average met the cut-off recommended to diagnose psychopathy ($PCL:SV \geq 18$; Hart et al., 1995) with 182 men (66%) equal to or above the cut-off and 95 men (34%) below the cut-off. Using the less conservative cut-off ($PCL:SV \geq 13$; Hart et al., 1995) 241 men (87%) met the criteria for psychopathy and 36 men (13%) did not.

Table 6

Descriptive Statistics for PCL:SV Facet, Part and Total Scores

PCL:SV variable	N	M (SD)	95% CI	Range
Part 1 (Interpersonal/affective)	277	8.52 (3.06)	[8.15, 8.88]	0–12
Part 2 (Lifestyle/antisocial)	277	9.50 (2.10)	[9.25, 9.74]	3–12
Facet 1 (Interpersonal)	268	3.82 (1.80)	[3.60, 4.03]	0–6
Facet 2 (Affective)	269	4.77 (1.51)	[4.59, 4.95]	0–6
Facet 3 (Lifestyle)	266	4.34 (1.29)	[4.19, 4.50]	0.5–6
Facet 4 (Antisocial)	268	5.16 (1.09)	[5.03, 5.30]	1–6
Total score	277	18.02 (4.48)	[17.49, 18.55]	3–24

Table 7

Correlations between PCL:SV Facet, Part and Total Scores

PCL: SV variable	Part 1	Part 2	Interpersonal	Affective	Lifestyle	Antisocial
PCL:SV Total	.91**	.81**	.83**	.84**	.72**	.70**
Part 1		.50**	.93**	.90**	.44**	.44**
Part 2			.43**	.49**	.90**	.85**
Interpersonal				.67**	.39**	.38**
Affective					.42**	.44**
Lifestyle						.54**

** $p < .01$.

Chapter 6

Psychopathic Traits and Treatment Non-completion

6.1 Introduction

According to the Two-Component model for the treatment of psychopaths (2-C) the association between higher scores on the Psychopathy Checklist (PCL) and a greater likelihood of treatment non-completion (Ogloff, Wong, & Greenwood, 1990; O'Neill, Lidz, & Heilbrun, 2003; Richards, Casey, & Lucente, 2003) is due to the traits represented in PCL Factor 1 (F1) and its underlying facets, the Interpersonal and Affective facets (Wong & Olver, 2015). More specifically Wong and Hare (2005) propose that the lack of motivation to change caused by the interpersonal and affective traits of PCL psychopathy will result in a higher likelihood of removal from treatment by staff members. These ideas contrast with those by Thornton and Blud (2007) who propose that the traits represented by PCL Factor 2 (F2) and its underlying facets, the Lifestyle and Antisocial facets will lead to greater treatment non-completion, with the Lifestyle facet in particular leading to greater withdrawal from treatment. As reported in Section 4.3.2, evidence thus far is more supportive of an association between PCL F1, and in particular the Affective facet, and treatment non-completion. However, although less often, PCL F2 and its facets are still found to be associated with treatment non-completion (Olver & Wong, 2011; Richards et al., 2003), and no research yet has investigated the relationships with regards to the different categories of non-completion that are referred to in the theories (i.e., removal and withdrawal).

Therefore, for our first set of analyses, we examined the relationships between the different parts and facets of the PCL:SV and two types of treatment non-completion: removal

and withdrawal. Based on the 2-C model and the previous research, we expected that removed men would score higher on PCL:SV Part 1 and its underlying facets than men who completed or withdrew from treatment. Furthermore, we expected that scores for PCL:SV Part 1 and its underlying facets would be more predictive of treatment non-completion than for PCL:SV Part 2 and its underlying facets. However, based on the ideas of Thornton and Blud (2007) we also expected men who withdrew from treatment to score higher on the Lifestyle facet than completers or removed men.

6.2 Method

6.2.1 Types of Non-completion

In order to test our hypotheses treatment non-completion was broken down into two categories: 1. withdrew from treatment, and 2. removed by staff. Withdrawing was defined as terminating one's own treatment before treatment finished. Common reasons for withdrawal included, experiencing too much anxiety during group sessions, relocating to a prison closer to their family, and beliefs that the programme was not necessary or that they would be paroled regardless of treatment.² Removal was defined as having one's attendance terminated by staff before treatment finished; reasons for removal included offending in the programme, poor responsivity and criminal justice system removals (e.g., removal for prison security purposes). Both non-completion categories were compared against treatment completion which was

² Two unclear non-completion cases that were only classified as "other" in our database were also included in the withdrawn category.

defined as attendance in the programme for the entire 28 weeks without withdrawing or being removed.

6.2.4 Data Analytic Strategy

A one way ANOVA was conducted to assess for any differences in PCL:SV total scores between treatment completers and the two types of non-completers. Two MANOVAs followed by post-hoc ANOVAs were conducted to assess for the same group differences in PCL:SV part and facet scores respectively. MANOVAs were separated for part and facet scores, and both were separated from total scores so as not to violate the assumption of singularity (Field, 2013). Post-hoc comparison tests were conducted following ANOVAs to identify differences between completers, withdrawers and removed men. Finally, discriminant function analyses were performed to examine the relative contributions of PCL:SV part and facet scores in predicting completion status. Partial eta squared (η_p^2) and eta square (η^2) were used as effect size measures for MANOVAs and ANOVAs respectively and Cohen's d was used as the effect size measure for post-hoc comparison tests. Cohen (2013) provided the following guidelines to interpret eta squared (.01 = small, .06 = medium, .138 = large) and Cohen's d effect sizes (.2 = small, .5 = medium, .8 = large).

6.3 Results

Of the 277 men in the current sample, 214 (77%) completed the treatment programme, 45 (16%) were removed from treatment, and 18 (7%) withdrew before finishing treatment. Completers spent an average of 224.50 days ($SD = 29.19$) in treatment, whereas removed men averaged 110.93 days ($SD = 60.72$) and men who withdrew averaged 89.72 days ($SD = 65.71$). As displayed in Table 8, men who were removed from treatment had higher mean PCL:SV total, part and facet scores than treatment completers and men who withdrew from treatment. There were also larger mean differences between the three groups on PCL:SV total, Part 1, Interpersonal and Affective facet scores compared with PCL:SV Part 2, Lifestyle and Antisocial facet scores; this pattern is illustrated with the four facets in Figure 3.

The one way ANOVA revealed a significant difference between the three completion groups on PCL:SV total scores (see Table 8). MANOVAs also revealed—using Pillai’s trace—significant differences between the three groups on both PCL:SV part scores; $V = 0.43$ $F(4, 548) = 3.01$, $p < .05$, $\eta_p^2 = 0.021$, and facet scores $V = F(8, 518) = 2.13$, $p < .05$, $\eta_p^2 = 0.032$. Post-hoc ANOVAs—also displayed in Table 8—revealed significant differences between the three completion groups on PCL:SV Part 1 and its facets, the Interpersonal and Affective facets, but not PCL:SV Part 2 and its facets, the Lifestyle and Antisocial facets. Post-hoc Games-Howell comparison tests³ revealed that men removed from treatment had significantly higher PCL:SV total, Part 1, Interpersonal and Affective facet scores than treatment completers with mean

³ Games-Howell comparison tests were chosen because they are accurate when sample sizes are unequal (Field, 2013).

differences in the moderate range based on Cohen's d effect sizes (see Table 9). Removed men also had significantly higher PCL:SV Part 1, Interpersonal and Affective facet scores than men who withdrew from treatment with effect sizes in the large range, though there was no significant difference in total scores. There were no significant differences between men who completed versus withdrew from treatment.⁴

Figure 3. Mean PCL:SV facet scores for treatment completers compared with men who were removed or withdrew from treatment. Error bars are 95% confidence intervals.

⁴ Non-parametric Kruskal-Wallis and post-hoc Mann-Whitney U tests were also conducted to account for the influence of outliers and non-normal distributions in the data with the same pattern of results found.

Table 8

Comparisons between Treatment Completers, Withdrawers and Removed Men on PCL:SV Total, Part and Facet Scores

PCL variable	Completed			Removed			Withdrew			<i>F</i>	η^2
	<i>n</i>	<i>M (SD)</i>	95% CI	<i>n</i>	<i>M (SD)</i>	95% CI	<i>n</i>	<i>M (SD)</i>	95% CI		
PCL:SV total	214	17.7 (4.6)	[17.1, 18.4]	45	19.8 (3.5)	[18.7, 20.8]	18	17 (4.3)	[14.9, 19.2]	6.11** ^W	.031
PCL:SV Part 1	214	8.4 (3.2)	[7.9, 8.8]	45	9.7 (2.2)	[9.0, 10.3]	18	7.4 (3.1)	[5.8, 8.9]	7.28** ^W	.035
PCL:SV Part 2	214	9.4 (2.2)	[9.1, 9.7]	45	10.1 (1.8)	[9.5, 10.6]	18	9.6 (1.8)	[8.8, 10.5]	2.14	.015
Interpersonal	209	3.7 (1.9)	[3.5, 4.0]	41	4.6 (1.2)	[4.2, 4.9]	18	3.4 (1.4)	[2.7, 4.1]	8.79** ^W	.034
Affective	209	4.7 (1.5)	[4.5, 4.9]	42	5.3 (1.0)	[5.0, 5.6]	18	4.0 (1.9)	[3.1, 5.0]	7.18** ^W	.039
Lifestyle	206	4.2 (1.3)	[4.1, 4.4]	42	4.8 (1.1)	[4.4, 5.1]	18	4.5 (1.2)	[3.9, 5.1]	2.69	.02
Antisocial	208	5.1 (1.1)	[4.9, 5.3]	42	5.5 (0.9)	[5.2, 5.8]	18	5.2 (0.9)	[4.7, 5.6]	2.19	.016

Note. CI = confidence interval. ^W = Welch's *F*, used for violations of Levene's test of homogeneity of variance. η^2 = eta squared. ***p* < .01.

Table 9

Mean Differences and Post-hoc Comparison Tests between Treatment Completers, Withdrawers and Removed Men on PCL:SV Variables

PCL variable	Removed vs Completed			Removed vs Withdrew			Completed vs Withdrew		
	Mean difference	95% CI	<i>d</i>	Mean difference	95% CI	<i>d</i>	Mean difference	95% CI	<i>d</i>
PCL:SV total	2.01**	[0.56, 3.46]	0.49	2.72	[-0.08, 5.53]	0.70	0.71	[-1.94, 3.37]	0.16
PCL:SV Part 1	1.32**	[0.39, 2.25]	0.48	2.29*	[0.29, 4.30]	0.85	0.98	[-0.96, 2.91]	0.31
Interpersonal	0.85**	[0.32, 1.39]	0.54	1.20**	[0.25, 2.15]	0.94	0.35	[-0.55, 1.25]	0.21
Affective	0.60**	[0.16, 1.04]	0.47	1.29*	[0.11, 2.47]	0.86	0.69	[-0.47, 1.85]	0.40

Note. CI = confidence interval; *d* = Cohen's *d* effect size; **p* < .05.

Finally, two post-hoc discriminant function analyses (DFA) were performed to examine the relative contributions of PCL:SV part and facet scores to predicting treatment completion versus removal and withdrawal. The first DFA with PCL:SV part scores revealed two discriminant functions. The first function explained 80.8% of the variance within the functions, canonical $R^2 = .035$, whereas the second function explained only 19.2%, canonical $R^2 = .008$. In combination these functions significantly discriminated completers, withdrawers and removed men: $\Lambda = 0.96$, $\chi^2(4, N = 277) = 11.94$, $p < 0.05$, but removing the first function indicated that the second function alone did not significantly differentiate completion groups $\Lambda = 0.99$, $\chi^2(1, N = 277) = 2.32$, $p = 0.13$. The second DFA on facet scores found the same pattern of results, identifying two functions. The first function explained more variance (67.9%, canonical $R^2 = .043$) than the second function (32.1%, canonical $R^2 = .021$) and the combined functions significantly discriminated completion groups $\Lambda = 0.94$, $\chi^2(8, N = 264) = 16.85$, $p < 0.05$, when the second function alone could not $\Lambda = 0.98$, $\chi^2(3, N = 264) = 5.45$, $p = 0.14$.

Group centroids and discriminant function plots from both analyses revealed that the first function best discriminated all three completion groups from one another with similar sized differences between completers and removed men as well as completers and men who withdrew; however, the largest differences on the first functions were between removed men and men who withdrew in both analyses. Standardized canonical discriminant function coefficients and discriminant loadings also revealed that PCL:SV Part 1 contributed more to the first function than PCL:SV Part 2 in the first analysis, and similarly the Interpersonal and Affective facets contributed more to the first function than the Lifestyle and Antisocial facets in

the second analysis (see Table 10). This pattern was further supported when both DFA analyses were repeated using a stepwise method (F -value significant at 0.05 for entry and 0.10 for removal) to retain the strongest variables contributing to the correct classification of completion/withdrawal/removal. In the first re-analysis with PCL:SV Part scores, Part 1 remained in the function and correctly classified 77.3% of cases $\Lambda = 0.97$, $\chi^2(2, N = 277) = 9.63$, $p < 0.01$. In the second re-analysis with PCL:SV facet scores, the Affective facet remained in the function which correctly classified 77.7% of cases, $\Lambda = 0.96$, $\chi^2(2, N = 264) = 10.37$, $p < 0.01$. In sum the results of both DFAs suggested that the PCL:SV Part 1 and its underlying facets—especially the Affective facet—were the strongest predictors of treatment completion status.

Table 10

PCL Variable Loadings on the First Discriminant Function from Two Separate DFA Analyses

PCL variable	Standardized canonical discriminant function	
	coefficients	Discriminant loadings
PCL:SV Part 1	0.99	1.00
PCL:SV Part 2	0.02	0.51
Affective	0.58	0.93
Interpersonal	0.44	0.88
Antisocial	0.08	0.52
Lifestyle	0.06	0.51

Note. $n = 264$ (Completers $n = 205$; Removed men $n = 41$; Withdrawers $n = 18$).

6.4 Discussion

Altogether the analyses supported our hypothesis that men who were removed from treatment had significantly higher scores on the PCL:SV Part 1 and its facets, the Interpersonal and Affective facets, than men who completed treatment or men who withdrew from

treatment. In contrast to the ideas of Thornton and Blud (2007), there were no significant differences between completers, removed men or withdrawers on the PCL:SV Part 2 or the Lifestyle or Antisocial facets. This pattern of results using the PCL:SV with adults convicted of violent offences is similar to previous findings using the PCL-R with adults convicted of sex offences and incarcerated females (Olver & Wong, 2011; Richards et al., 2003), providing good generalised support for the 2-C model across a range of different samples and PCL instruments (Wong, Gordon, Gu, Lewis, & Olver, 2012; Wong & Hare, 2005; Wong & Olver, 2015).

Similar to the study by Olver and Wong (2011), discriminant function analysis (DFA) revealed the Affective facet was the strongest predictor of completion status among the four facets. As we previously speculated, this finding could suggest that the emotional deficits represented by the Affective facet may result in a worse bond with therapists, a lack of emotion-based motivation to change or even poor progress in emotion based modules that ultimately result in removal from treatment (Olver & Wong, 2011; Thornton & Blud, 2007; Wong & Hare, 2005). However, in contrast to Olver and Wong (2011) who found that the Interpersonal facet was the weakest of the four facets in terms of predicting completion status, we found it was almost as strong a predictor as the Affective facet. This difference in findings could be due to differences in the number of non-completion groups used in the two studies. That is, in the current study, we looked at two non-completion groups (withdrawers and removed men) whereas Olver and Wong collapsed all treatment non-completers into one treatment dropout group. Alternatively, this difference in findings could suggest that the socially dominant and deceptive traits, represented by Interpersonal facet of PCL psychopathy,

could be more problematic in treatment programmes for violent offending compared to programmes for sexual offending.

Anecdotally, in the current violence treatment programme some more dominant treatment members would often be involved in fights or serious intimidation tactics against other treatment members around the treatment unit. These men would often conduct these kinds of acts behind the scenes while presenting to therapists during treatment sessions as engaged or earnestly trying to change. However, if staff were provided with any solid evidence of these violent or antisocial acts in the unit they would often remove the perpetrators in line with rules of the treatment programme. These types of conduct may be less common in programmes for sexual offending due to the lower prevalence of violent behaviours in samples convicted of sexual offences (Nadesu, 2009).

Contrary to our hypothesis based on the ideas of Thornton and Blud (2007), men who withdrew from treatment did not have significantly higher Lifestyle facet scores than completers or men who were removed from treatment. Unexpectedly however, scores on PCL:SV Part 1, and the Interpersonal and Affective facets did differentiate between the two types of non-completers, with significantly higher mean scores for removed men over men who withdrew. Withdrawers' mean PCL:SV scale scores were also closer to mean scores for completers, and although confidence intervals for withdrawers were large due to small group size, no significant differences were found between withdrawers and completers on any PCL:SV total, factor or facet scores. Considering some of the common reasons for withdrawing from treatment (e.g., to move to a prison closer to family) there are few reasons to expect that they would differ substantially from completers on personality characteristics, although, because of

their similarity to completers on PCL scale scores, any efforts to retain clients who wish to withdraw from treatment could be particularly effective for increasing rates of treatment completion.

In line with previous research using the PCL-R or PCL:YV, higher total scores on the PCL:SV were associated with a higher likelihood of treatment non-completion, specifically removal from treatment (Ogloff et al., 1990; O'Neill et al., 2003; Richards et al., 2003). Higher PCL:SV total scores were not, however, more highly associated with withdrawing from treatment, nor did they significantly differentiate withdrawers from removed men like PCL:SV Part 1 and its facets. Evidence of more differences found between the three completion groups on the PCL:SV Part 1 and its facets compared with PCL:SV total scores is further support for the idea that the PCL represents a multifaceted as opposed to unitary construct (Hicks & Patrick, 2006). That is, because separate components of the PCL are able to reveal more about differences in behaviour than total scores, there is less support for the idea that PCL total scores represent a special unitary construct that can provide unique information above and beyond that of the separate factors and facets of the PCL.

Chapter 7

Psychopathic Traits, Therapeutic Change and Reconviction

7.1 Introduction

7.1.1 Psychopathic Traits and Therapeutic Change

In the previous chapter we found that the Factor 1 (F1) personality traits of PCL psychopathy were associated with higher rates of removal from treatment. Based on the Two-Component model (2-C), one explanation for this finding is that the PCL F1 personality traits result in a lack of motivation to change during treatment which therapy staff view as valid grounds for removal. According to the 2-C model this lack of motivation, caused by PCL F1 personality traits, will also result in less *therapeutic change* over treatment (Wong & Hare, 2005). Following the Risk Need Responsivity (RNR) model of correctional rehabilitation we define therapeutic change as changes during treatment on factors that maintain criminal behaviour, also referred to as dynamic risk factors (Andrews & Bonta, 2010). Theoretically, changes or reductions in dynamic risk factors over treatment should be linked to reductions in recidivism and some studies have empirically supported these links (Beggs & Grace, 2011; Lewis, Olver & Wong, 2012; Olver, Wong, Nicholaichuk, & Gordon, 2007). These links have also been identified for those high on PCL psychopathy (Olver, Lewis, & Wong, 2013; Olver & Wong, 2009); however, in line with the 2-C model there is evidence to suggest that therapeutic changes are slowed or inhibited by PCL psychopathy and in particular the F1 personality traits. Specifically, Olver, Lewis and Wong (2013) found that although higher scores on each of the factors and facets of PCL were associated with less change on dynamic risk, PCL-R F1 and the

Affective facet in particular were the strongest predictors of less therapeutic change. Furthermore, the Affective facet weakened the link between change on dynamic risk and violent reconviction. From these results, the authors speculated that deficits in normal emotions such as guilt and empathy may inhibit bonding with the therapist and prevent any emotion-based motivation, thus slowing change during treatment (Olver et al., 2013).

Interestingly, the 2-C model also suggests that although the PCL F1 personality traits of psychopathy are more likely to inhibit reductions in dynamic risk over treatment, dynamic risk itself is actually more highly associated with the impulsive lifestyle and antisocial behaviour traits of psychopathy represented by PCL Factor 2 (F2). In support of this claim Wong and colleagues have cited large correlations between Violence Risk Scale (VRS; Wong & Gordon, 2000) dynamic risk and PCL F2 ($r = .80$; Wong, Gordon, Gu, Lewis, & Olver, 2012; Wong & Olver, 2015). Furthermore, in research with men convicted of sexual offences, Olver and Wong have found similar sized correlations between PCL-R F2 and the Criminality Factor of the Violence Risk Scale—Sexual Offender Version (VRS-SO; Wong, Olver, Nicholaichuk, & Gordon, 2003) which is made up of dynamic risk items relating to general criminality and an antisocial lifestyle (Olver & Wong, 2009, 2011).

Therefore in keeping with testing the assumptions of the 2-C model for the current sample, our second set of analyses examined the relationships between the parts and facets of the PCL:SV, dynamic risk, and change on dynamic risk. Based on the 2-C model we expected that dynamic risk scores will be more highly and positively associated with PCL:SV Part 2 and the Lifestyle and Antisocial facets but that change on dynamic risk will be more highly and negatively associated with PCL:SV Part 1 and the Interpersonal and Affective facets.

7.2 Method

7.2.1 Violence Risk Scale (VRS; Wong & Gordon, 2000)

The Violence Risk Scale (VRS) is a staff-rated violence risk instrument designed to evaluate the risk of violent reconviction in forensic samples and track changes in risk over time. The scale contains 26 items, including 6 static risk items (e.g. current age and age at first violent conviction) and 20 dynamic risk items (e.g. interpersonal aggression, insight into violence and substance abuse). Each item is rated by staff using a combination of file information, interviews with the client and staff observational data. Items are scored on a 4-point scale from 0 to 3, with 3 indicating the item is strongly related to violence and 0 indicating the item is unrelated to violence. Items can be summed to produce a static risk score out of 18, a dynamic risk score out of 60 and a total score out of 78, with higher scores representing higher risk.

Dynamic risk items with scores of 2 or 3 are considered treatment targets and can be given a second rating from 1 of 5 stages of change adapted from the Transtheoretical Model (TM) of change (i.e. pre-contemplation, contemplation, preparation, action and maintenance; Prochaska, DiClemente, & Norcross, 1992), indicating what stage a person is in with regards to changing that risk factor. Post-treatment scores can then be calculated by re-rating stage of change for each dynamic risk item that originally scored 2 or 3, subtracting 0.5 points for each progression through a stage of change during treatment⁵. For example if a man scored 3 on insight into violence pre-treatment and was in the contemplation stage of change, then during

⁵ No points are subtracted for a progression from pre-contemplation to contemplation due to the absence of behavioural change.

treatment progressed through stages preparation and action, their post-treatment score on insight into violence would be 2. Following re-ratings, items are summed again to produce post-treatment scores and post-treatment scores can be subtracted from pre-treatment scores to produce change scores.

Pre and post VRSs used in the current study were completed by trained researchers or therapy staff at Te Whare Manaakitanga. Although no inter-rater reliability data were available for the current research, all VRSs were subject to quality control including scrutiny from clinical supervisors where scoring differences were resolved by consensus. Previous research with the VRS has found good inter-rater reliability, internal consistency and predictive validity for general and violent reconvictions (Wong & Gordon, 2006; Polaschek et al., 2016; Yesberg & Polaschek, 2014).

7.2.2 Data Analytic Strategy

Bivariate correlations were computed in order to investigate the strength of relationships between PCL:SV scale scores and pre-treatment VRS dynamic risk scores as well as change on dynamic risk. Bivariate correlations of .1 to .29 can be interpreted as weak, .3 to .49 moderate and .5 or above as strong (Cohen, 2013). Paired samples t-tests were then conducted between PCL:SV part/facet correlations with dynamic risk to identify any meaningful differences in correlation strengths. Multiple regression analyses were used to identify which PCL:SV part or facet scores made the strongest contribution to the prediction of change.

7.3 Results

7.3.1 Psychopathic Traits and Pre-treatment Dynamic Risk

Correlation analyses between pre-treatment VRS dynamic risk scores and PCL:SV scale scores revealed that the PCL:SV total score was strongly and positively correlated with dynamic risk $r(129) = .61, p < .01$ and the PCL:SV Part 2 and its underlying facets, the Lifestyle and Antisocial facets were more highly correlated with dynamic risk than the PCL:SV Part 1 and its underlying facets, the Interpersonal and Affective facets as hypothesised (see Table 12). Paired-samples t-tests between correlations of PCL:SV variables with dynamic risk revealed that the correlation between PCL:SV Part 2 and dynamic risk was significantly higher than the correlation between PCL:SV Part 1 and dynamic risk ($t(130) = 2.24, p < .05$) as expected. When broken down by facet, the correlation between the Antisocial facet and dynamic risk was also significantly higher than the correlations between the Interpersonal facet and dynamic risk ($t(128) = 2.42, p < .05$) as well as the Affective facet and dynamic risk ($t(129) = 2.14, p < .05$). Unexpectedly however, the correlation between the Lifestyle facet and dynamic risk was not significantly higher than the correlations between the Interpersonal facet and dynamic risk ($t(127) = 1.56, p = .06$) or the Affective facet and dynamic risk ($t(128) = 1.25, p = .11$). The correlation between the Interpersonal facet and dynamic risk was not significantly different from the correlation between the Affective facet and dynamic risk ($t(129) = 0.48, p = .32$), nor was the correlation between the Lifestyle facet and dynamic risk significantly different from the correlation between the Antisocial facet and dynamic risk ($t(127) = 0.98, p = .17$).

7.3.2 Psychopathic Traits and Change on Dynamic Risk

Our analyses found no correlations between any PCL:SV variable score and change on dynamic risk (see Table 12) with the exception of a small positive non-significant correlation between the Antisocial facet and change $r(112) = .13, p = .09$ indicating higher scores on the Antisocial facet were associated with more change. Follow-up multiple regression analyses with PCL:SV parts 1 and 2 entered simultaneously did not predict change on dynamic risk $R^2 = .01, F(1, 115) = .45, p = .64$, nor did a model with the four PCL:SV facets entered simultaneously $R^2 = .03, F(4, 111) = .73, p = .57$.

7.4 Discussion

7.4.1 Psychopathic Traits and Dynamic Risk

Although each PCL:SV scale score demonstrated a positive relationship with dynamic risk, in line with our hypothesis the PCL:SV Part 2 and in particular one of its underlying facets, the Antisocial facet, was more positively associated with dynamic risk than the PCL:SV Part 1 and its underlying facets: the Interpersonal and Affective facets. Although the correlation between PCL:SV Part 2 and pre-treatment VRS dynamic risk was smaller ($r = .58$) than that previously cited for PCL-R F2 ($r = .80$; Wong et al., 2012; Wong & Olver, 2015) the pattern of correlations between the factors and facets of the PCL:SV was similar to those reported between the factors and facets of the PCL-R and the Criminogenic Factor of the VRS-SO (Olver & Wong, 2009, 2011). Together these results provide additional support for the 2-C model which states that the PCL F2 is more representative of dynamic risk than PCL F1 and thus should be a focus of change during treatment (Wong et al., 2012; Wong & Olver, 2015). There were

still, however, moderate positive correlations between PCL:SV Part 1/the Interpersonal and Affective facets and dynamic risk, suggesting there are still risk factors associated with PCL F1 that could be targeted for change during treatment.

7.4.2 Psychopathic Traits and Change on Dynamic Risk

In contrast with our predictions, the PCL:SV Part 1 and its underlying facets did not predict change on dynamic risk in any direction and there were in fact no substantial relationships found between any PCL:SV part or facet scores and change on dynamic risk. These results are not consistent with the previous research by Olver et al. (2013), who found that all total factor and facet scores of the PCL-R were negatively related to change, and that the Affective facet was the strongest predictor of less change during treatment. It is unclear why no relationships with change in dynamic risk were identified in the current study, especially when relationships with dynamic risk itself were in line with what was expected. One major difference between Olver et al., (2013) and the current research was the method by which pre and post treatment dynamic risk data—and thus change data—were collected. In the current study dynamic risk data were collected prospectively by multiple therapists using interview and file information, whereas in Olver et al., (2013), dynamic risk data were collected retrospectively mainly by one author using file information only. Even under the more constrained methods used by Olver et al. (2013), inter-rater reliability for change data was lower than that for pre and post dynamic risk ($ICC = .68$ for change, $ICC = .82, .84$ for pre and post dynamic risk), possibly because separate statistical error from pre and post dynamic risk scores are combined in the change score. Therefore, due to the higher number of error sources

in the current study (e.g., multiple raters, interview + file information), change data may have been too unreliable for detecting relationships.

Alternatively, PCL:SV scale scores were not found to be related to change on dynamic risk in the current sample because they did not influence change during treatment. This does not imply that men scoring highly on the PCL:SV did not change—mean change for the sub-sample analysed was positive ($M = 3.77$, $SD = 2.56$)—but it appears that change was simply not influenced by any PCL:SV variables. Given this interpretation, changing treatment strategies based on total, factor or facet scores of the PCL would not bring about any discernible differences in therapeutic change.

7.5 Introduction to Psychopathic Traits and Reconviction

In further support of the 2-C model assumption that PCL F2 traits are proxies for dynamic risk factors, Wong and colleagues state that PCL F2 behavioural traits will also be stronger predictors of reconviction than PCL F1 personality traits (Wong et al., 2012; Wong & Olver, 2015). This statement is generally supported by meta-analyses demonstrating that PCL F2 and in particular the Antisocial facet are stronger predictors of violent and general recidivism over PCL F1 and its underlying facets (Hawes, Boccaccini, & Murrie, 2013; Walters & Heilbrun, 2010; Walters, Knight, Grann, & Dahle, 2008; Walters, Wilson, & Glover, 2011; Yang, Wong, & Coid, 2010). However in the only two studies that examined the relative impacts of PCL factors/facets on recidivism in effective treatment programmes for those high on PCL psychopathy, PCL F1 and its underlying facets were stronger predictors of violent recidivism than PCL F2 and its facets (Caldwell, 2011; Olver et al., 2013).

Because our sample also consists of men high on PCL psychopathy who attended an effective treatment programme we decided to further test the assumptions of the 2-C model in the current sample by assessing whether PCL F2 traits were stronger predictors of reconviction than PCL F1 traits. Specifically, for our next analyses we examined the relationships between the parts and facets of the PCL:SV and several indices of reconviction. In addition to general and violent reconvictions, the current analyses also examined violations of parole conditions (breaches) and more serious forms of reconviction (reimprisonment and serious reimprisonment), to assess whether any identified patterns were consistent across different indices of reconviction. Based on the 2-C model and the majority of previous research we expected that PCL:SV Part 2 and in particular the Antisocial facet would be stronger predictors of reconviction than PCL:SV Part 1 and its underlying facets.

7.6 Method

7.6.1 Data Analytic Strategy

Area Under the receiver operating Curve (AUC) analyses were conducted to measure each PCL:SV scale's predictive accuracy on each reconviction outcome at a 2-year follow-up, and point-biserial correlations were computed to examine the strength of the relationships at 2 years. Point-biserial correlations of .1 to .24 can be interpreted weak, .24 to .37 as moderate and .37 or above as strong (Cohen, 2013). AUC values between .56 and .63 can be assessed as providing a low level of predictive accuracy, values between .64 and .71 a moderate level and values above .71 a high level (Rice & Harris, 2005). All correlation and AUC analyses were also conducted with the RoC*RoI in order to provide a validated comparison with an actuarial risk scale currently used by the New Zealand Department of Corrections.

Finally, multivariate Cox regression survival analyses were performed to examine the relative contributions of each PCL:SV part and facet score in the prediction of each reconviction outcome over longer follow-up periods. Unlike AUC and correlation analyses Cox regression can take into account differences in the amount of time each person spends in the community before a reconviction otherwise referred to as survival time. Multivariate Cox regression can also better account for the unique contribution of each predictor while accounting for the contributions made by all other predictors in the model (Garson, 2013). AUC analyses were also conducted using the X^*Beta value generated from each Cox regression to compare the predictive accuracy of multivariate analyses that account for the variance of multiple PCL:SV part or facet scores with univariate analyses that use singular PCL:SV total, part or facet scores. For these analyses X^*Beta is a standardised predictor variable that represents the best linear combination of time-dependent variables and either the two PCL:SV part scores or the four PCL:SV facet scores (Brown, Amand, & Zamble, 2009).

7.6.2 Descriptive Statistics of Reconviction

Of the 277 men in the sample, 245 (88%) were released into the community following treatment. Reconviction data were extracted from the national database between December 10 and 31, 2014. Released men were followed for an average 8.3 years ($M = 3018$ days; $SD = 1444$ days; Range = 114 – 5868 days) up to the data extraction date. Five dichotomous (1 = yes, 0 = no) indices of reconviction were recorded for the length of the follow-up period: (1) Breaches (breach of parole conditions), (2) General reconvictions (any reconviction excluding

breaches), (3) Violent reconvictions⁶, (4) Reimprisonment (any reconviction including breaches that leads to reimprisonment), (5) Serious reimprisonment (any serious violent⁷ or sexual offence that leads to reimprisonment). Survival times were also calculated for each released man on each of the five reconviction outcomes. For men who were reconvicted on a given outcome, survival time was the number of days from release until the first offence date (i.e., the day on which the first offence was actually committed). For men who were not reconvicted on a given outcome, survival time was the number of days from release until the data extraction date, or the parole end date in the case of breaches. Survival times were corrected for any time back in prison. For example if a man went back to prison for a breach of parole and was then re-released and committed his first violent offence, his time in prison for the breach was subtracted from the time to the first violent offence. The numbers and proportions of men who were reconvicted for each reconviction outcome at 2 years, and overall, are displayed in Table 11 along with the average number of survival days until that outcome.

⁶ Violent reconviction included all assaults, fighting in public, speaks or behaves threateningly, kidnaps, robbery, murder, demands to steal, intimidation, use of a firearm in the commission of a crime and excluded burglary, resisting police, possessing or carrying weapons and all sexual reconvictions including rape.

⁷ Serious violence included robbery, murder, kidnapping, assault with a weapon, assault causing injury and excluded threatens to kill, common assault and male assaults female.

Table 11

Descriptive Statistics for Reconviction Outcomes and Survival Days at 2 Years and Overall

Reconviction outcome	N Reconvicted	% Reconvicted	Survival time (days)		
			M (SD)	95% CI	Range
Breaches 2 years	61	26%	158 (160)	[117, 199]	2 – 660
Breaches	66	27%	260 (566)	[121, 399]	2 – 3581
General 2 years	164	69%	244 (191)	[214, 273]	0 – 701
General	196	80%	416 (482)	[348, 484]	0 – 2738
Violent 2 years	96	41%	303 (207)	[262, 345]	0 – 723
Violent	147	60%	692 (714)	[576, 809]	0 – 4074
Reimprisonment 2 years	94	40%	242 (203)	[200, 283]	0 – 723
Reimprisonment	134	55%	589 (691)	[471, 708]	0 – 3459
Serious 2 years	54	23%	315 (228)	[253, 377]	0 – 723
Serious	74	30%	680 (808)	[493, 867]	0 – 4554

Note. Mean survival days are based on men reconvicted for a given offence only. *N* = 245 for overall reconviction outcomes including all follow-up times; *n* = 237 for all reconviction statistics at the 2-year follow-up period.

7.7 Results

7.7.1 Psychopathic Traits and Reconviction

Point-biserial correlations and AUC analyses revealed that out of the five reconviction outcomes PCL:SV total scores only predicted breaches and reimprisonment, with weak to moderate strength and accuracy (see Table 12 and Table 13). In comparison, the actuarial risk measurement, RoC*RoI, predicted all five reconviction outcomes with low to moderate strength and accuracy. Analyses of the separate PCL:SV part and facet scores revealed that PCL:SV Part 2 predicted four of the five reconviction outcomes with low to moderate strength and accuracy, failing only to predict general reconviction. Of the facets within PCL:SV Part 2, the Lifestyle facet also predicted all reconviction outcomes apart from general and the Antisocial facet

predicted all but general and serious reimprisonment. The PCL:SV Part 1 also predicted a greater likelihood of breaching parole, but conversely predicted a lower likelihood of general reconviction at 2 years and failed to predict violent reconviction, reimprisonment or serious reimprisonment (all significant relationships were within the weak strength/low accuracy range). Of the facets within PCL:SV Part 1 both the Interpersonal and Affective facets predicted breaches, and both facets demonstrated negative, though non-significant, associations with general reconviction. The Affective facet also predicted reimprisonment at 2 years whereas the Interpersonal facet was not predictive of any other reconviction outcome.

Table 12

*Relationships between PCL:SV Variables/RoC*RoI and VRS Dynamic Risk, Change on VRS Dynamic Risk as well as Breaches, General Reconvictions and Violent Reconvictions at 2-years Follow-up*

Variable	Pre-treatment dynamic risk		Change on dynamic risk		Breach			General reconviction			Violent reconviction		
	<i>r</i>	95% CI	<i>r</i>	95% CI	<i>r_{pb}</i>	AUC	95% CI	<i>r_{pb}</i>	AUC	95% CI	<i>r_{pb}</i>	AUC	95% CI
RoC*RoI	.40**	[.24, .54]	.02	[-.16, .22]	.23**	.66**	[.56, .74]	.19**	.62**	[.54, .70]	.19**	.60**	[.53, .68]
PCL:SV total	.61**	[.48, .71]	.02	[-.18, .20]	.28**	.70**	[.62, .77]	-.06	.51	[.43, .58]	.10	.57	[.49, .64]
PCL:SV Part 1	.39**	[.18, .53]	-.04	[-.20, .13]	.20**	.62**	[.54, .69]	-.13*	.58*	[.50, .66]	.04	.51	[.44, .59]
PCL:SV Part 2	.58**	[.44, .67]	.07	[-.13, .26]	.31**	.71**	[.63, .78]	.07	.57	[.49, .65]	.15*	.60*	[.53, .67]
Interpersonal	.31**	[.11, .48]	-.06	[-.23, .11]	.14*	.57	[.50, .65]	-.11	.56	[.48, .64]	.05	.53	[.45, .60]
Affective	.35**	[.17, .49]	.02	[-.17, .20]	.23**	.66**	[.58, .73]	-.11	.57	[.49, .65]	.09	.53	[.46, .61]
Lifestyle	.47**	[.32, .59]	-.02	[-.20, .15]	.29**	.69**	[.61, .77]	.10	.57	[.49, .65]	.15*	.59*	[.52, .67]
Antisocial	.54**	[.40, .66]	.13	[-.07, .32]	.23**	.64**	[.56, .71]	.04	.55	[.47, .63]	.15*	.59*	[.52, .67]
PCL:SV Part 1 and 2 Cox regression model						.69**	[.62, .77]		.68**	[.59, .77]		.60**	[.53, .68]
PCL:SV four facet Cox regression model						.70**	[.63, .78]		.67**	[.58, .76]		.60*	[.52, .67]

Note. r_{pb} = point-biserial correlation coefficient; CI = confidence interval; AUC = area under the receiver operating curve. Bias corrected and accelerated (BCa) bootstrap 95% confidence intervals are reported for dynamic risk and change correlation coefficients. Dynamic risk: RoC*RoI, PCL:SV total, Part 1, Part 2 and Affective facet $n = 131$; Interpersonal and Antisocial facet $n = 130$; Lifestyle facet $n = 129$. Change: RoC*RoI, PCL:SV total, Part 1, Part 2 and Affective facet $n = 115$; Interpersonal and Antisocial facet $n = 114$; Lifestyle facet $n = 113$. Any reconviction: RoC*RoI, PCL:SV total, Part 1 and Part 2 $n = 237$; Affective and Antisocial facet $n = 230$; Interpersonal facet $n = 229$; Lifestyle facet $n = 228$. PCL:SV Parts 1 and 2 Cox regression model: $n = 245$; four facet Cox regression model $n = 234$.

* $p < .05$, ** $p < .01$.

Table 13

*Relationships between PCL:SV Variables/RoC*RoI and Reimprisonment Outcomes at 2-year Follow-up*

Variable	Reimprisonment			Serious reimprisonment		
	r_{pb}	AUC	95% CI	r_{pb}	AUC	95% CI
RoC*RoI	.28**	.67**	[.60, .73]	.17**	.62**	[.54, .71]
PCL:SV total	.17*	.59*	[.52, .66]	.10	.55	[.47, .64]
PCL:SV Part 1	.12	.55	[.48, .62]	.06	.51	[.43, .59]
PCL:SV Part 2	.17**	.60**	[.53, .68]	.14*	.59**	[.51, .68]
Interpersonal	.10	.55	[.47, .62]	.07	.53	[.45, .62]
Affective	.18**	.58*	[.51, .65]	.06	.51	[.42, .59]
Lifestyle	.15*	.59*	[.52, .67]	.14*	.59*	[.51, .68]
Antisocial	.15*	.59*	[.52, .67]	.10	.58	[.49, .67]
PCL:SV Part 1 and 2 Cox regression model		.58*	[.51, .65]		.62**	[.55, .69]
PCL:SV four facets Cox regression model		.62**	[.55, .69]		.62**	[.54, .70]

Note. r_{pb} = point-biserial correlation coefficient; CI = confidence interval; AUC = area under the receiver operating curve. Reimprisonment and serious reconviction outcomes: RoC*RoI, PCL:SV total, Part 1 and Part 2 $n = 237$; Affective and Antisocial facet $n = 230$; Interpersonal facet $n = 229$; Lifestyle facet $n = 228$. PCL:SV Parts 1 and 2 Cox regression model: $n = 245$; four facet Cox regression model $n = 234$.

* $p < .05$, ** $p < .01$.

Multivariate Cox regression analyses for the five types of reconviction outcomes with PCL:SV Parts 1 and 2 entered simultaneously revealed that all models predicted the five reconviction outcomes, with Part 2 remaining a unique contributor in all five models and Part 1 remaining a unique contributor in two (general and violent) of the five models (see Table 14, Table 15 and Table 16). As illustrated by a comparison of the Hazard ratios in Figure 4 the PCL:SV Part 2 was the strongest contributor to the prediction of reconviction for all six reconviction outcomes (ranging from HR = 1.14 - 1.44) indicating a 14% to 44% increase in the likelihood of reconviction for every one point increase in PCL:SV Part 2 scores. In contrast PCL:SV Part 1 predominantly predicted a lower likelihood of reconviction, especially for general and violent reconviction (HR = .94 and .92 respectively) indicating a 6% to 8% lower likelihood of general or violent reconviction for every one point increase in PCL:SV Part 1 scores.

Multivariate Cox regressions on the five reconviction outcomes with all four PCL:SV facets entered simultaneously also revealed all models to predict reconviction, with the Lifestyle facet making the strongest and only unique contribution to all models (aside from the reimprisonment model). Hazard ratios between 1.20 and 1.62 indicated a 20% to 62% greater likelihood in reconviction for every one point increase in the Lifestyle facet (see Table 14, Table 15, Table 16 and Figure 5). As can also be seen in Figure 5, the Antisocial facet made the second strongest contribution to predicting a greater likelihood of reconviction on all outcomes aside from reimprisonment with Hazard ratios between 1.01 and 1.24; however the confidence intervals all crossed 1.0 (see Table 14, Table 15 and Table 16). With regards to reimprisonment, only the Interpersonal and Affective facets made unique contributions to the model, with the Affective facet making the strongest contribution to the prediction of reimprisonment (HR = 1.24, 95% CI [1.05, 1.47]) and the Interpersonal facet making the next strongest contribution but in the opposite direction (HR = 0.85, 95% CI [0.75, 0.97]), indicating a 15% lower likelihood of reimprisonment for every one point increase in the Interpersonal facet. The Interpersonal facet's protective contribution—predicting less likelihood of reconviction—was a consistent trend across all reconviction outcomes, and was similarly true of for the Affective facet with general reconvictions (see Figure 5). AUCs produced by the Cox regression models (X*Beta) that were based on standardised predictor variables also revealed predictive accuracies that were generally equal to or higher than AUCs with separate PCL:SV total, part or facet scores at 2-years follow-up (see Table 12 and Table 13). Predictive accuracies for these models were also equal to or higher than AUCs for the RoC*RoI at 2-years follow-up on all reconviction outcomes except for reimprisonment.

Table 14

Multivariate Cox Regressions with either the Two PCL:SV Parts or Four PCL:SV Facets Predicting Breaches and General Reconviction

Variable	Breach					General reconviction				
	χ^2 (df)	B(SE)	Wald	HR	95% CI	χ^2 (df)	B(SE)	Wald	HR	95% CI
PCL:SV Part 1	25.72(2)**	.04(.06)	0.46	1.04	[.93, 1.16]	16.76(2)**	-.08(.03)	9.78**	.92	[.88, .97]
PCL:SV Part 2		.36(.09)	15.95**	1.44	[1.20, 1.72]		.15(.04)	12.67**	1.16	[1.07, 1.26]
Interpersonal	27.10(4)**	-.05(.10)	0.23	.96	[.79, 1.15]	18.18(4)**	-.09(.06)	2.46	.92	[.82, 1.02]
Affective		.13(.14)	0.93	1.14	[.87, 1.49]		-.07(.07)	1.19	.93	[.82, 1.06]
Lifestyle		.48(.14)	11.63**	1.62	[1.23, 2.14]		.24(.07)	10.41**	1.27	[1.10, 1.47]
Antisocial		.17(.18)	0.95	1.19	[.84, 1.68]		.06(.08)	0.63	1.07	[.91, 1.25]

Note. χ^2 = Chi-squared difference from null time-only model; CI = confidence interval; HR = hazard ratio. PCL:SV Part 1 and 2 model $n = 245$; four facets model $n = 234$.

* $p < .05$, ** $p < .01$.

Table 15

Multivariate Cox Regressions with either the Two PCL:SV Parts or Four PCL:SV Facets Predicting Violent Reconviction and Reimprisonment

PCL variable	Violent reconviction					Reimprisonment				
	χ^2 (df)	B(SE)	Wald	HR	95% CI	χ^2 (df)	B(SE)	Wald	HR	95% CI
PCL:SV Part 1	9.50(2)**	-.06(.03)	4.27*	.94	[.89, 1.00]	8.66(2)**	-.01(.03)	.02	1.00	[.94, 1.06]
PCL:SV Part 2		.14(.05)	8.43**	1.15	[1.05, 1.27]		.13(.05)	6.44*	1.14	[1.03, 1.26]
Interpersonal	11.31(4)*	-.11(.07)	3.07	.89	[.79, 1.01]	17.56(4)**	-.17(.07)	6.21*	.85	[.75, .97]
Affective		.02(.08)	0.04	1.02	[.87, 1.18]		.22(.09)	6.57*	1.24	[1.05, 1.47]
Lifestyle		.18(.08)	4.56*	1.20	[1.02, 1.41]		.11(.09)	1.58	1.12	[.94, 1.33]
Antisocial		.12(.10)	1.52	1.12	[.93, 1.35]		.13(.10)	1.56	1.14	[.93, 1.40]

Note. χ^2 = Chi-squared difference from null time-only model; CI = confidence interval; HR = hazard ratio. PCL:SV Part 1 and 2 model $n = 245$; four facets model $n = 234$.

* $p < .05$, ** $p < .01$.

Table 16

Multivariate Cox Regressions with either the Two PCL:SV Parts or Four PCL:SV Facets Predicting Serious Reimprisonment

PCL variable	Serious reimprisonment				
	χ^2 (df)	B(SE)	Wald	HR	95% CI
PCL:SV Part 1	11.06(2)**	-.04(.05)	0.83	.96	[.88, 1.05]
PCL:SV Part 2		.23(.08)	9.12**	1.26	[1.08, 1.46]
Interpersonal	11.18(4)*	-.08(.09)	0.67	.92	[.77, 1.11]
Affective		.05(.12)	0.18	1.05	[.84, 1.32]
Lifestyle		.31(.13)	6.07*	1.36	[1.07, 1.74]
Antisocial		.08(.15)	0.25	1.08	[.80, 1.45]

Note. χ^2 = Chi-squared difference from null time-only model; CI = confidence interval; HR = hazard ratio. PCL:SV Part 1 and 2 model $n = 245$; four facets model $n = 234$.

* $p < .05$, ** $p < .01$.

Figure 4. Hazard ratios for five indices of reconviction plotted against PCL:SV Part 1 and 2⁸

⁸ Note that confidence intervals have not been plotted for Figures 3 or 4 because the bars plotted for each PCL:SV component in these figures represent hazard ratios from five separate Cox regression models for which confidence intervals should not be compared. The figures have been plotted this way to best illustrate the trends of the hazard ratios for each PCL:SV part and facet.

Figure 5. Hazard ratios for five indices of reconviction plotted against the four PCL:SV facets

7.8 Discussion

7.8.1 Psychopathic Traits and Reconviction

As predicted the PCL:SV Part 2 and its underlying facets, the Lifestyle and Antisocial facets, were found to be stronger predictors of reconviction than the PCL:SV Part 1 and its facets, the Interpersonal and Affective facets, with PCL:SV Part 2 and the Lifestyle facet making the strongest contributions to predicting reconviction overall. These results which include violent reconviction are consistent with previous meta-analyses that found PCL-R F2 and PCL:SV Part 2 were stronger predictors of violent and sexually violent recidivism than PCL-R F1 and PCL:SV Part 1 (Hawes et al., 2013; Yang et al., 2010). These findings also provide additional support to the second component of the 2-C model which states that PCL F2 is more highly

associated with dynamic risk and thus will be a stronger predictor of reconviction (Wong et al., 2012; Wong & Olver, 2015).

Unlike previous research showing the Antisocial facet of the PCL-R and PCL:SV to be the strongest predictor of general and violent recidivism (Walters & Heilbrun, 2010; Walters et al., 2008; Walters et al., 2011), the current analyses revealed that the Lifestyle facet was the strongest predictor of all reconviction outcomes aside from reimprisonment. One explanation for this result could be that treatment was more effective at reducing dynamic risk factors associated with the Antisocial facet (e.g., antisocial cognitions and behaviours) than those associated with the Lifestyle facet (e.g., impulsivity) thus weakening the relationship between the Antisocial facet and reconviction, leaving the Lifestyle facet to emerge as the strongest predictor. Research that is able to track changes in the Lifestyle and Antisocial facets or the specific dynamic risk factors associated with each facet could help to clarify this position.

Unexpectedly, the Affective facet emerged as the strongest predictor of reimprisonment, with higher scores indicating a higher likelihood of reimprisonment. Although Olver et al. (2013) found the Affective facet was the strongest predictor of violent reconviction, we did not find the same result for violent reconviction. This finding also does not fit with the idea that the Affective facet is a better predictor of more serious reconviction because the same result was not found for the serious reimprisonment outcome. What this result could suggest is that men high on the Affective facet were more likely to be given new prison sentences over community sentences because they displayed less remorse regarding their re-offenses. In New Zealand remorse is a mitigating factor for Judges to consider when formulating sentences, meaning not showing remorse can potentially increase the severity of

the sentence received (Sentencing Act 2002). This effect may not have been replicated for the serious reimprisonment outcome due to the mitigating effect of remorse being overshadowed by the effect of crime seriousness, which is the main determinant of sentence severity in New Zealand (Sentencing Act 2002).

Another unexpected result of the current analyses was that higher scores on PCL:SV Part 1 and, in particular the Interpersonal facet, predicted a lower likelihood of reconviction on some outcomes. That is, in the multivariate analyses higher scores on PCL:SV Part 1 made a unique contribution to predicting a lower likelihood of general and violent reconviction, and when analysed by facet scores, this effect appeared to be driven by the Interpersonal facet which trended towards a lower likelihood of reconviction for every reconviction outcome (see Figure 5). Although this effect displayed by the Interpersonal facet was only significant for the reimprisonment outcome, p values for general and violent reconviction outcomes were also relatively low ($p = .12$ and $.08$ respectively). Previous research has identified a positive link between the Interpersonal facet and various indices of intelligence, with higher scores on the Interpersonal facet associated with higher levels of verbal and analytic intelligence, as well as higher cognitive functioning and working memory performance (Hansen, Johnsen, Thornton, Waage, & Thayer, 2007; Salekin, Neumann, Leistico, & Zalot, 2004; Vitacco, Neumann, & Jackson, 2005). This could suggest that those high on the Interpersonal facet are more likely to benefit from treatment due to their advantage in understanding and applying the skills taught in treatment. In support of this idea, Caldwell (2011) found that treatment was most effective for adolescents with high scores on the Interpersonal facet in terms of behavioural change and violent recidivism post treatment. Therefore, the current finding may arise from an interaction

between the Interpersonal facet and treatment, where high scores on the Interpersonal facet increases treatment effectiveness, and thus becomes associated with a lower likelihood of reconviction. Research comparing this sample to a similar untreated sample would be required to support this proposition.

Some relationships between PCL:SV Part 1/the Interpersonal facet and a lower likelihood of reconviction were not revealed until the shared variance with other part and facet scores were controlled for in multivariate analyses, demonstrating evidence of suppressor effects (Hicks & Patrick, 2006). That is, the shared variance between the Part/facet scores suppressed relationships between PCL:SV Part1/the Interpersonal facet and the reconviction outcomes until that shared variance was controlled for in the multivariate analyses. For example, when analysed in isolation, the Interpersonal facet appeared to have a small positive non-significant association with reimprisonment (see Table 13)⁹; however, when analysed simultaneously with the other three facets, it demonstrated a significant negative relationship with reimprisonment (see Table 15). Furthermore, the effect size of the Affective facet for predicting reimprisonment was larger when analysed simultaneously with the other facets, compared to analysing it alone in a Cox regression model ($HR = 1.24 > 1.17$). A similar pattern of effects was observed with regards to PCL:SV Part 1 and 2 and violent reconviction, with a change to a negative relationship for PCL:SV Part 1 and an increased effect size for PCL:SV Part 2. This particular version of suppression where the coefficient or effect size of one variable

⁹ For a more accurate comparison a Cox regression analysis with only the Interpersonal facet entered as a predictor of reimprisonment returned the same result.

increases while the other changes direction (i.e., from positive to negative) is known as *crossover* or *net suppression* (Cohen & Cohen, 1975; Paulhus, Robins, Trzesniewski, & Tracy, 2004).

Suppression effects have previously been identified with the two factors of the PCL-R on external measures including negative emotionality, suicidal behaviour, drug dependence and disinhibitory syndromes (Hicks & Patrick, 2006; Patrick, Hicks, Krueger, & Lang, 2005; Smith & Newman, 1990; Verona, Hicks, & Patrick, 2005). In combination with these previous findings, the current results provide further evidence against the notion that the PCL measures a unified construct, with the total score representing a unique latent construct that is more informative than the sum of its parts (Hare & Neumann, 2006, 2008; Neumann, Hare, & Newman, 2007). In the current analyses the separate part and facet scores of the PCL:SV were stronger predictors of reconviction and predicted a greater number of reconviction outcomes than the PCL:SV total scores, especially when they were used simultaneously in Cox regression analyses¹⁰.

Furthermore, in some cases the facet scores of the PCL:SV were more informative than the part scores, revealing relationships that would have been concealed otherwise (i.e., the opposing relationships with reimprisonment demonstrated by the Interpersonal and Affective facets, showed no relationship when the facet scores were combined in PCL:SV Part 1; see Table 15). Therefore, this evidence suggests that the PCL may be underpinned by more than one or even two separate, but related, underlying constructs, which lose visibility and validity when combined in PCL total scores.

¹⁰ Similar to the correlation and AUC analyses, when PCL:SV total scores were entered as the lone predictor in Cox regression models they only significantly predicted outcomes of breaches and reimprisonment.

Chapter 8

Psychopathic Traits and the Therapeutic Alliance

8.1 Introduction

The therapeutic alliance is “a collaborative relationship between therapist and client that can facilitate positive change” (Ross, 2008, p. 27). Bordin’s (1979) highly influential concept of the therapeutic alliance— the *working alliance*—proposed that the relationship between a therapist and client consists of three parts: goals, tasks and bond. That is, in order to form a strong therapeutic alliance the therapist and client must agree on the goals that need to be met, agree on the tasks required to meet those goals, and form a bond to facilitate the process (Bordin, 1979). The alliance between the client and therapist has long been regarded as important for therapeutic success, and meta-analytic research has revealed that stronger therapeutic alliances are generally associated with better treatment outcomes (Horvath & Luborsky, 1993; Horvath & Symonds, 1991).

As suggested by Wong and Hare (2005), one of the main reasons those high on PCL psychopathy display poorer treatment outcomes is because in-treatment manifestations of the interpersonal and affective traits represented by PCL Factor 1 (F1) disrupt the formation of a therapeutic alliance (Wong, Gordon, Gu, Lewis, & Olver, 2012; Wong & Olver, 2015). Specifically, they argue that the traits associated with the Interpersonal facet can disrupt the therapeutic alliance through charming therapists into compromising situations, manipulating staff to pit them against each other, and lying about treatment relevant thoughts, feelings and offences that make it difficult to formulate goals and tasks to work towards (Wong & Hare, 2005). Conversely, they speculate that the traits associated with the Affective facet disrupt the

therapeutic alliance through a lack of normal emotions (e.g., empathy and remorse), making it difficult for the therapist to form an affective bond (Wong & Hare, 2005). Wong and Hare (2005) suggest that therapists may not realistically be able to form an affective bond with those high in affective deficits, but with appropriate training should be able manage interpersonal features and focus on the goals and tasks of the therapeutic alliance.

We found only two studies that examined the relationship between psychopathy and the therapeutic alliance. In a group of partner-violent men attending community based cognitive-behavioural treatment, Taft, Murphy, Musser, and Remington (2004) found a negative relationship between scores on a self-report version of the PCL-R (the Self-Report Psychopathy Scale-II; Hare, Harpur, & Hemphill, 1989) and both client and therapist rated total scores on the Working Alliance Inventory (WAI: Horvath & Greenberg, 1989) in both the early and late stages of treatment. That is, higher degrees of self-reported psychopathy were associated with a poorer therapeutic alliance throughout the course of treatment (Taft et al., 2004). Similarly, using a sample from Te Whare Manaakitanga Ross (2008) found a negative association between PCL:SV total scores and total scores on the Working Alliance Inventory-Short form at two weeks into the treatment programme (WAI-S; Horvath & Greenberg, 1989; Tracy & Kokotovic, 1989). Negative associations were also detected between PCL:SV total scores and each subscale of the WAI-S, which refer to the three parts of the therapeutic alliance: goals, tasks and bond (Ross, 2008). When broken down by scores on Parts 1 and 2 of the PCL:SV, the negative associations were stronger and more often significant for Part 1 scores over Part 2 scores, providing some support for the 2-C model (Ross, 2008). However in these analyses there was no examination of relationships between the therapeutic alliance and each

individual facet of the PCL:SV, nor was there an examination of the relative contributions of each part or facet score to the therapeutic alliance.

Therefore, our third set of analyses extended Ross's (2008) analyses to include relationships between the part and facet scores of the PCL:SV and the therapeutic alliance, to assess whether, as suggested by the 2-C model (Wong et al., 2012; Wong & Hare, 2005; Wong & Olver, 2015), PCL:SV Part 1 and its underlying facets are more detrimental to the therapeutic alliance than PCL:SV Part 2 and its underlying facets. The Ross dataset contained ratings at four time-points during treatment. In contrast to the individual time-point analyses presented by Ross (2008) we looked at the averaged WAI-S scores and subscale scores (Bond, Goals and Tasks) across the course of treatment. Using these mean scores, we examined relationships between each facet of the PCL:SV and the therapeutic alliance and looked at the relative contributions of part and facet scores. Based on previous research, we expected to find a negative association between PCL:SV total scores and the therapeutic alliance as measured by totals scores on the WAI-S. Furthermore, based on the 2-C model and previous research, we predicted that PCL:SV Part 1 and its underlying facets would have a stronger negative relationship with the therapeutic alliance than PCL:SV Part 2 and its underlying facets. Finally, based on statements by Wong and Hare (2005) regarding the different influences of the Interpersonal and Affective facets on the therapeutic alliance, we predicted that the Affective facet would be more strongly and negatively associated with scores on the Bond subscale of the WAI-S than any other facet of the PCL:SV, and that the Interpersonal facet would be more strongly and negatively associated with the goals and tasks subscales of the WAI-S compared with the other facets.

8.2 Method

8.2.1 The Working Alliance Inventory-Short Form (WAI-S; Horvath & Greenberg, 1989; Tracy & Kokotovic, 1989)

The Working Alliance Inventory (WAI) was created by Horvath and Greenberg (1989) to measure Bordin's (1979) concept of the therapeutic alliance. Tracy and Kokotovic (1989) subsequently shortened the scale from 36 items to 12, creating the Working Alliance Inventory-Short form (WAI-S). The WAI and WAI-S were originally developed to be measured from both the client and therapist perspectives. However, Tichenor and Hill (1989) adapted the WAI so that it also could be measured from a third observer's perspective and Ross (2008) made the same adaptation for the WAI-S.

For each perspective the WAI-S consists of three subscales (goal, task and bond) containing four items each and a total score containing all 12 items. Items in each subscale measure agreement between the client and their therapist on goals (e.g., *The therapist and client are working towards mutually agreed upon goals*), tasks (e.g. *What the client is doing in therapy gives him new ways of looking at his problems*) and bond (e.g. *The therapist and client have confidence in each other's ability*). Each item is rated on a 7-point Likert scale, with 1 signifying the item is not at all true and 7 signifying the item is very true. Subscale scores range from 4 to 28 and total scores range from 12 to 84, with higher scores indicating a better therapeutic alliance.

Research has demonstrated good internal consistency for client, therapist and observer ratings on the WAI and WAI-S (Brown & O'Leary, 2000; Horvath, 1994; Taft, Murphy, King, Musser, & DeDeyn, 2003). Good inter-rater reliability has also been demonstrated with

observer ratings of the WAI-S (Andrusyna, Tang, DeRubeis, & Lubrowski, 2001). The WAI has demonstrated good convergent and discriminant validity (Horvath, 1994), in addition to predictive validity with therapeutic success, drug use and spousal abuse (Fenton, Cecero, Nich, Frankforter, & Carroll, 2001, Safran & Wallner, 1991, Taft et al., 2003). The WAI-S has also demonstrated predictive validity in research with the current dataset, with change in WAI-S scores over treatment predicting change on VRS dynamic risk scores over treatment (Polaschek & Ross, 2010).

8.2.1.1 Ross (2008) Sample and Procedure. Ross collected data for a subsample of Te Whare Manaakitanga attendees used in the current thesis (see Section 5.1). Specifically, Ross collected data for 7 out of the 39 treatment groups used here: those who attended the programme between August 2005 and August 2007. Ross collected Working Alliance Inventory-Short Form (WAI-S; Horvath & Greenberg, 1989; Tracey & Kokotovic, 1989) data for relationships between each man and his two therapists, from three different perspectives (client, therapist and observer) and at four time points during treatment (weeks 2, 10, 18 and 26) for a subsample of 64 men¹¹. Clients and therapists completed WAI-S ratings at the end of relevant treatment sessions. Observer ratings were based on the same group treatment sessions, observed through a one-way window or from video recordings (see Ross [2008] for full details on the WAI-S data collection procedures). Scores were averaged across therapists for each man, at each time point for the three different perspectives, meaning each man had only

¹¹ I would like to thank Elizabeth Ross for providing me with her WAI-S data and allowing me to use it for the current analyses.

one set of WAI-S scores at each time point from each perspective instead of two (see Ross [2008], for full details on WAI-S data collection procedures).

8.2.2 Data Analytic Strategy

Observer ratings averaged over the four time-points were used for the current analysis because previous research with the same data found greater reliability with observer ratings and this reliability increased when scores were averaged over the four time-points¹² (Ross, 2008; Ross, Polaschek, & Wilson, 2011; Sissons, 2013). Observer ratings have also demonstrated the best reliability and predictive validity in previous research (Andrusyna et al., 2001; Brown & O’Leary, 2000; Fenton et al., 2001). Overall the WAI-S data selected for the current analyses represented the average alliance between each man and his two therapists across the treatment period as rated by outside observers.

Bivariate correlations were computed in order to investigate the strength and direction of the relationships between PCL:SV variable scores and WAI-S total and subscale scores. Multiple regressions analyses were then performed to identify which PCL:SV part or facet scores made the strongest contribution to the prediction of the therapeutic alliance while accounting for the influence of the other part/facet scores.

8.3 Results

Correlation analyses revealed moderately sized negative relationships between PCL:SV total scores and each subscale of the working alliance including the WAI-S total score, indicating

¹² Eight men were removed from the subsample because they were missing WAI-S data from at least one time-point reducing the final subsample to 56 men.

higher PCL:SV scores were associated with a poorer therapeutic alliance (see Table 17). When broken down by the separate parts and facets of the PCL:SV, the negative correlations were larger for PCL:SV Part 1 compared with Part 2; however, this difference appeared to be driven by a lack of relationship between the WAI-S and the Antisocial facet, because the Lifestyle, Affective and Interpersonal facets all had similar sized negative relationships with each WAI-S subscale and total score.

Table 17

Correlations with 95% Confidence Intervals between PCL:SV Total/Part/Facet Scores and Working Alliance Subscale and Total Scores

	Goal	Task	Bond	WAI-S total
PCL:SV total	-.33* [-.13, -.50]	-.34* [-.18, -.47]	-.32* [-.14, -.48]	-.38** [-.21, -.53]
PCL:SV Part 1	-.33* [-.09, -.53]	-.33* [-.14, -.52]	-.34* [-.15, -.52]	-.38** [-.19, -.55]
PCL:SV Part 2	-.18 [.04, -.38]	-.19 [-.00, -.39]	-.15 [.04, -.34]	-.21 [.00, -.40]
Interpersonal	-.27* [-.03, -.48]	-.28* [-.07, -.47]	-.31* [-.08, -.52]	-.32* [-.10, -.53]
Affective	-.29* [-.08, -.48]	-.28* [-.06, -.48]	-.24* [-.04, -.45]	-.32* [-.12, -.49]
Lifestyle	-.27* [-.04, -.48]	-.27* [-.08, -.47]	-.28* [-.05, -.47]	-.32* [-.10, -.52]
Antisocial	-.01 [-.22, .25]	-.02 [-.23, .19]	.07 [-.12, .25]	.02 [-.18, .23]

Note. $N = 56$. Reported confidence intervals are bias corrected and accelerated (BCa) bootstrap 95% confidence intervals.

* $p < .05$, ** $p < .01$.

Next, two multiple regression analyses were conducted to predict average WAI-S total scores, first with PCL:SV Parts 1 and 2 entered simultaneously as predictor variables and second with the four PCL:SV facets entered simultaneously as predictor variables. Total WAI-S scores

were selected because they demonstrated the same pattern of results as each subscale score in the correlation analyses but with the largest effect sizes¹³.

The regression model with PCL:SV Parts 1 and 2 entered simultaneously was a significant predictor of average WAI-S total scores, with scores on Parts 1 and 2 explaining 16% of the variance in the average working alliance scores. PCL:SV Part 1 was the larger and only significant contributor to the model, with higher Part 1 scores predicting a poorer working alliance as hypothesised (see Table 18). The regression model with the four PCL:SV facets entered simultaneously was also a significant predictor of WAI-S scores, with scores on the four facets explaining 23% of the variance in the average working alliance scores. Contrary to our predictions however, the Lifestyle facet was the largest and only significant contributor to the model, with higher Lifestyle facet scores predicting a poorer working alliance. Although individually non-significant, the Interpersonal and Affective facets were predicting in the hypothesised direction, with higher scores on either facet predicting a poorer working alliance. Higher scores on the Antisocial facet predicted a better working alliance: the opposite of what we expected. The four facet regression model outperformed the model using PCL:SV Parts 1 and 2, explaining more variance in WAI-S total scores. AIC values confirmed the four facet model was a better fit for the data with smaller AIC values for the four facet model ($AIC = 683.16 < 740.72$).

¹³ The same regression analyses using the goal task and bond subscale scores as outcome variables showed the same pattern of results as the WAI-S total scores, though the four facet regression models predicting goal and task scores were non-significant.

Table 18

Multiple Regression Analyses Predicting Average WAI-S Total Scores with either PCL:SV Part 1 and 2 Entered Simultaneously or the Four PCL:SV Facets Entered Simultaneously as Predictor Variables

	<i>F</i>	<i>R</i> ²	<i>B</i>	<i>SE</i>	<i>β</i>	<i>B</i> 95% CI
PCL:SV Part 1	5.06*	.16	-3.60**	1.22	-.35**	[-1.51, -6.02]
PCL:SV Part 2			-1.35	1.27	-.12	[1.15, -3.78]
Interpersonal	3.82**	.23	-2.53	1.97	-.17	[0.93, -6.11]
Affective			-3.91	2.49	-.19	[0.64, -8.64]
Lifestyle			-5.70*	2.39	-.34*	[-2.05, -10.75]
Antisocial			4.75	2.75	.21	[-0.63, 11.63]

Note. *N* = 56. PCL:SV Part 1 and 2 model *df* = (2, 53). Four facet model *df* = (4, 51). Bias corrected and accelerated (BCa) bootstrap standard error and 95% confidence intervals reported.

p* < .05, *p* < .01.

8.4 Discussion

In line with our hypothesis there was a negative association between PCL:SV total scores and the therapeutic alliance: meaning that those who scored higher on the PCL:SV had a weaker therapeutic alliance over the course of treatment. This result is consistent with previous research on partner-violent men in community-based treatment using self-report PCL psychopathy (Taft et al., 2004), and research with this sample looking at the therapeutic alliance at the beginning of treatment (Ross, 2008). More generally the negative relationship between PCL psychopathy and the therapeutic alliance provides more evidence for the argument that those high in PCL psychopathy are more difficult to treat (Polaschek & Daly, 2013; Skeem, Polaschek, Patrick, & Lilienfeld, 2011; Wong et al., 2012). When examined using only PCL:SV Parts 1 and 2, our hypothesis that Part 1 would be a stronger predictor than Part 2 of a poorer therapeutic alliance throughout treatment was supported, providing further support for the 2-C model. This result was largely consistent with the previous analysis on this

sample, looking at the therapeutic alliance early in treatment, but provided further support because we examined the relative contributions of each PCL:SV part in multiple regression analysis (Ross, 2008).

When examined using the four facets of the PCL:SV, however a different result was found. First, correlation analyses revealed that the Lifestyle facet of the PCL:SV had an equal sized negative relationship with the therapeutic alliance as the Interpersonal and Affective facets that underlie the PCL:SV Part 1, whereas no relationship was found with the Antisocial facet, meaning the Antisocial facet was most likely responsible for the weaker relationship found between PCL:SV Part 2 and the therapeutic alliance. Second, when looking at the relative contributions of each facet, multiple regression analyses revealed that the Lifestyle facet was the strongest and only significant predictor of a poorer therapeutic alliance, followed by the Antisocial facet predicting in the opposite direction with higher scores indicating a better therapeutic alliance. These results run contrary to the 2-C model and our prediction that the Interpersonal and Affective facets would be stronger predictors of a weaker therapeutic alliance (Wong et al., 2012; Wong & Hare, 2005; Wong & Olver, 2015). Furthermore, against our predictions, the Affective facet did not have the strongest negative relationship with the bond subscale of the WAI-S, nor did the Interpersonal facet have the strongest negative relationships with the goals and tasks subscales of the WAI-S.

Considering that the Lifestyle facet is representative of a deficit in goal making abilities and the therapeutic alliance measures the setting and implementation of goals with a therapist, it is not necessarily surprising that the Lifestyle facet was a stronger predictor of a poorer therapeutic alliance than the Interpersonal and Affective facets. The ability to form and

implement goals also falls under the volitional readiness conditions of the Multifactor Offender Readiness Model (MORM; Ward, Day, Howells, & Birgden, 2004), which suggests that deficits in the ability to form and implement goals will affect indices of treatment engagement such as the therapeutic alliance. In support of the 2-C model the Interpersonal and Affective facets were predicting in the expected direction, with higher scores on either facet predicting a poorer therapeutic alliance; however, the relatively weaker predictive strengths displayed by Interpersonal and Affective facets compared to the Lifestyle facet suggests that the Interpersonal and Affective facets may not be the main cause of responsivity issues during treatment as proposed by the 2-C model (Wong et al., 2012; Wong & Hare, 2005; Wong & Olver, 2015).

Finally, as mentioned above, the pattern of results changed when analyses were done with PCL:SV Parts 1 and 2 versus the four facets of the PCL:SV. Specifically, the Lifestyle and Antisocial facets appeared to have opposing (negative versus positive) relationships with the therapeutic alliance, thus, when they were combined in PCL:SV Part 2, they nullified each other's predictive power, making for a weaker predictor of the therapeutic alliance. The opposing relationships were also not revealed until the four facets were entered simultaneously into a regression analysis, demonstrating another instance of crossover suppression (see Section 7.8.1). Evidence of crossover suppression suggests that the Lifestyle and Antisocial facets may be better conceptualised as separate constructs as opposed to different parts of one overarching construct: that is, PCL:SV Part 2 (Hicks & Patrick, 2006). This idea that the PCL:SV represents more than just two underlying constructs is also supported by the result that the four facet regression model was a better fit for the data and explained more variance in therapeutic alliance scores than the model using PCL:SV Parts 1 and 2.

Chapter 9

Psychopathic Traits and Behaviour in Treatment

9.1 Introduction

The Two-Component model (2-C) for the treatment of psychopathy suggests that the interpersonal and affective features of PCL psychopathy—represented by PCL Factor 1 (F1)—lead to treatment interfering behaviours that result in poorer relationships such as the therapeutic alliance, and poorer outcomes such as removal from treatment (Wong, Gordon, Gu, Lewis, & Olver, 2012; Wong & Hare, 2005; Wong & Olver, 2015). Based on this idea, Wong and colleagues suggest that therapists manage or work around these interfering responsivity-based behaviours and focus on changing risk-relevant behaviours that are associated with PCL Factor 2 (F2). Consequently, the 2-C model assumes that there are different types of behaviour during treatment that can be categorised as either risk or responsivity type behaviours based on their association with the two factors of the PCL.

Higher PCL scores are associated with poorer behaviour during treatment (Caldwell, McCormick, Umstead, & Van Rybroek, 2007; Langton, Barbaree, Harkins, & Peacock, 2006; Ogloff, Wong, & Greenwood, 1990; O'Neill, Lidz, & Heilbrun, 2003; Richards, Casey, & Lucente, 2003) and in two studies, poorer behaviours during treatment were more highly associated with PCL F1 or the Interpersonal facet (Hobson, Shine, & Roberts, 2000; Caldwell, 2011). However, no research has identified whether the different factors and facets of the PCL predict different types of behaviour during treatment, meaning therapists that follow the 2-C model are currently left to guess which behaviours they should manage versus those they should change. Therefore, for the next set of analyses, we sought to examine whether the separate

parts and facets of the PCL:SV were associated with different types of behaviour during treatment.

9.1.1 Reviewing Behaviours Related to Psychopathic Traits

In order to examine whether the different parts and facets of the PCL predict different types of behaviour during treatment we first conducted a review of the relevant literature to identify behaviours that we might expect to have unique relationships with specific PCL factors or facets. According to Wong and Hare (2005) the Interpersonal facet will be responsible for a number of deceitful and manipulative behaviours during treatment, including lying or failing to disclose information about relevant thoughts feelings and behaviours. Thornton and Blud (2007) similarly suggested that those high on the Interpersonal facet will fail to disclose accurate information, or will display bogus intentions to change by talking about change but failing to demonstrate changes behaviourally. Alternatively, Thornton and Blud suggested that the grandiosity represented in the Interpersonal facet will make people resist change altogether because they won't believe that any changes are necessary. Together, these behaviours could be described as indicating a lack of motivation to change. Motivation to change is often cited in models of specific responsivity as an important prerequisite for engagement and performance during treatment (Ward, Day, Howells, & Birgden, 2004).

In psychopathy treatment research, motivation has been measured in combination with other behaviours to create conglomerate measures of behaviour during treatment (Barbaree, 2005; Seto & Barbaree, 1999) and in one study that measured motivation alone, those with higher PCL total scores were found to have less motivation during treatment (Ogloff, Wong, &

Greenwood, 1990). However, no research yet has examined relationships between the different factors and facets of the PCL and the motivation to change during treatment.

Thornton and Blud (2007) propose that those high on the Interpersonal facet will be more socially dominant towards therapists and other group members during treatment. These dominant tendencies will lead them to disrupt and take over group treatment sessions, or intimidate or control others on an individual basis, both inside and outside of group sessions (Thornton & Blud, 2007). Social dominance was included as a key trait in early conceptualisations of psychopathy (Kraepelin, 1904/1915; Schneider, 1950/1958) and research has identified links between PCL total scores/F1 scores and self-reported indices of dominance on personality scales and interpersonal behaviour scales (Harpur, Hare, & Hakstian, 1989; Verona, Patrick, & Joiner, 2001). Psychopathy treatment research may have captured elements of social dominance by including disruptiveness in conglomerate measures of behaviour during treatment (Barbaree, 2005; Seto & Barbaree, 1999), but no research has specifically looked at the relationships between the factors and facets of the PCL and socially dominant behaviours in treatment.

Based on the literature the Affective facet of the PCL may also lead to a number of problematic behaviours during treatment (Olver & Wong, 2011; Thornton & Blud, 2007; Wong & Hare, 2005). First, the callous lack of empathy represented within the Affective facet is presumed to be present during treatment and is thought to cause disturbances in the bond with the therapist and in modules that seek to develop victim empathy (Thornton & Blud, 2007; Wong & Hare, 2005). This empathy deficit may then be misinterpreted as a lack of willingness to engage in treatment leading to a higher likelihood of treatment removal (Olver & Wong,

2011). Research has found stronger negative associations between self-reported empathy and both factors of the PCL; however, reported negative relationships are stronger for PCL F1 over F2 (Hare, 2003). Empathy during treatment has also been measured in combination with other behaviours in psychopathy treatment research to create conglomerate measures of treatment behaviour (Barbaree, 2005; Langton, Barbaree, Harkins, & Peacock, 2006; Looman, Abracen, Serin, & Marquis, 2005; Seto & Barbaree, 1999), though no research has looked at the relationships between PCL factors, facets or total scores and empathic behaviours during treatment.

The Affective facet is also presumed to be associated with a lack of intense negative emotions in general, during treatment. Intense negative emotions such as anxiety, frustration, anger and depression were key to Cleckley's (1941/1988) psychopathy concept (i.e., absence of nervousness or psychoneurotic manifestations, poverty in major affective reactions and suicide rarely carried out). Cleckley suggested that these emotional deficits make psychopaths unresponsive to treatment because they are not subject to underlying feelings of discomfort which provide an incentive to change. The idea that negative emotions may fuel treatment engagement and the motivation to change are also conceptualised in the affective readiness conditions of specific responsivity models (Serin, 1998; Ward et al., 2004). Research has identified unique links between different factors of the PCL and self-reported measures of anxiety, anger-hostility and depression, with high PCL F1 scores generally associated with less negative emotionality and high PCL F2 scores generally associated with more (Harpur et al., 1989; Shine & Hobson, 1997; Vitale, Smith, Brinkley, & Newman, 2002). These relationships are particularly evident when the shared variance between the two PCL factors is controlled for in

regression analyses (Hicks & Patrick, 2006; Patrick, 1994; Verona et al., 2001). No research, however, has examined whether the factors or facets of the PCL might demonstrate similar relationships to behavioural manifestations of these negative emotions during treatment, or how these emotions or lack thereof might influence treatment response.

The emotional deficits represented by the Affective facet may also be evidenced in problems with conceptual understanding during treatment. Thornton and Blud (2007) indicated that those high on the Affective facet will have problems with treatment content that is based on tapping into empathy or controlling anger because they do not experience those emotions or experience them differently than most people¹⁴. For example, learning to control negative biases towards perceiving others' behaviour as hostile, which leads to hostile ruminations and sustained feelings of anger, may be meaningless for those who don't experience any hostile ruminations or sustained feelings of anger (Thornton & Blud, 2007). Laboratory research has found that those high in PCL psychopathy have difficulties in processing and understanding the affective tones and connotations in words, metaphors and stories (Blair et al., 1995; Blair et al., 2002; Hervé, Hayes, & Hare, 2003; Kiehl, Hare, McDonald, & Brink, 1999; Williamson, Harpur, & Hare, 1991). Lab research has also demonstrated that PCL F1 is more highly associated with information processing deficits for affective stimuli than PCL F2 (Patrick, Bradley, & Yang, 1993; Vaidyanathan, Hall, Patrick, & Bernat, 2011; Vanman, Mejia, Dawson, Schnell, & Raine, 2003). Although understanding of specific treatment content (i.e., understanding offence cycles) has

¹⁴ Both victim empathy and mood management were core modules of the treatment programme analysed (see Section 5.2.5).

been measured in combination with other behaviours to create aggregate forms of treatment behaviour in treatment research with those high on PCL psychopathy (Barbaree, 2005; Seto & Barbaree, 1999), no research has investigated whether the different factors or facets of the PCL have unique influences over the understanding of treatment content during treatment.

Although most of the treatment behaviours mentioned thus far are thought to be more highly associated with the traits measured in PCL F1, Thornton and Blud (2007) also proposed two types of behaviours that they believed the Lifestyle and Antisocial facets or PCL F2 would be more predictive of during treatment. First, they suggested that the Lifestyle and Antisocial facets would lead to a number of uncooperative behaviours during treatment including failing to do homework, missing treatment sessions and a general lack of compliance with any treatment rules or instructions given during treatment sessions (Thornton & Blud, 2007). In contrast with this idea Wong and Hare (2005) proposed that the Interpersonal and Affective facets or PCL F1 would be more likely to lead to uncooperative behaviours during treatment because of the proposed effects of these traits on the therapeutic alliance, which involves substantial cooperation (see Chapter 8).

Research has consistently found that higher PCL total scores are associated with less cooperative behaviours during treatment (Caldwell et al., 2007; Caldwell, McCormick, Wolfe, & Umstead, 2012; Hobson et al., 2000; Ogloff et al., 1990; O'Neill et al., 2003; Richards et al., 2003). However, in the few studies that examined cooperation in relation to the factors and facets of the PCL, the results were mixed, with one study finding uncooperative behaviour more highly associated with PCL F1 and another study finding it more highly associated with PCL F2 (Hobson et al., 2000; Richards et al., 2003). Another study found that the Interpersonal facet

was more highly associated with uncooperative behaviour at the beginning of treatment but was also associated with the greatest improvement in behaviour over the course of treatment (Caldwell, 2011). None of these studies attempted to control for the shared variance between the factors or facets of the PCL in relation to cooperation, which has helped to clarify mixed results with other external correlates to the PCL factors in previous research (Hicks & Patrick, 2006).

Finally, the other type of treatment behaviour that Thornton and Blud (2007) attributed to PCL F2, and more specifically the Lifestyle facet, was boredom or inattention caused by traits of underlying impulsivity. Laboratory research has identified that those with higher scores on the PCL display deficits in the ability to distribute attention across multiple tasks, or to modulate attention based on secondary information (Bernstein, Newman, & Wallace, 2000; Christianson et al., 1996; Hiatt, Schmitt, & Newman, 2004; Jutai & Hare, 1983; Kosson, 1996; Newman, Schmitt, & Voss, 1997; Smith, Arnett, & Newman, 1992). Research has also identified positive associations between PCL psychopathy and Attention Deficit Hyperactivity Disorder (ADHD) in both adults and adolescent, with generally higher associations for PCL F2 than PCL F1 (Abramowitz, Kosson, & Seidenberg, 2004; Kaplan & Cornell, 2004; Soderstrom, Nilsson, Sjodin, Carlstedt, & Forsman, 2005). In psychopathy treatment research inattention or distracted behaviour may have been captured in ratings of disruptiveness included in conglomerate measures of treatment behaviour (Barbaree, 2005; Seto & Barbaree, 1999). However, no research yet has examined the relationships between the factors or facets of the PCL and any form of inattention during treatment.

9.1.2 Behaviour Selection and Hypotheses

Based on the above literature and content of the archival information on behaviour in treatment available to us (see Section 9.2.1.2), we selected eight broad classes of behaviour that could potentially demonstrate unique relationships with the factors or facets of the PCL:SV. The final behaviours selected for coding were cooperation, motivation to change, conceptual understanding, distracted, empathy, anxiety, negative emotionality and social dominance. In order to analyse these behaviours we first developed a coding scheme that would measure these behaviours as captured archivally (see Appendix A). Once measured, behaviours were aggregated using Principal Components Analysis (PCA), in order to make our findings easier to analyse and compare with previous research (see Section 9.2.1.4).

Once behaviour data were coded, we examined the 2-C model assumption that different parts and facets of the PCL:SV would be related to different types of behaviour during treatment. Based on the 2-C model and previous research we expected that Part 1 of the PCL:SV would be negatively associated with treatment behaviours indicative of motivation to change, empathy, anxiety, negative emotionality and conceptual understanding, and positively associated with socially dominant behaviour during treatment. More specifically we expected that the Interpersonal facet would be positively associated with socially dominant behaviours during treatment and negatively associated with behaviours indicative of the motivation to change. The Affective facet would also be negatively associated with the motivation to change and treatment behaviours indicative of empathy, anxiety, negative emotionality and conceptual understanding. Because Thornton and Blud (2007) proposed that cooperative behaviour would be negatively associated with PCL F2 but Wong and Hare (2005) suggest that it will be

negatively associated with PCL F1, and because research investigating the issue thus far has been mixed (Hobson et al., 2000; Richards et al., 2003), we expected that cooperative behaviour would be negatively associated with both parts of the PCL:SV, and we made no predictions regarding which part would be more highly associated. Also based on the ideas of Thornton and Blud we expected that PCL:SV Part 2, and more specifically the Lifestyle facet would be positively associated with distracted behaviours during treatment. Finally, based on previous research (Harpur et al., 1989; Shine & Hobson, 1997; Vitale et al., 2002) we expected that Part 2 of the PCL:SV would demonstrate positive associations with behaviours indicative of anxiety and negative emotionality, especially when shared variance with PCL:SV Part 1 was controlled for in regression analyses (Hicks & Patrick, 2006; Patrick, 1994; Verona et al., 2001).

9.2 Method

9.2.1 The Behaviour in Treatment Scale

In line with the aims of the current analyses we developed the Behaviour in Treatment Scale (BTS; see Appendix A) for the purposes of measuring behaviours that may have unique associations with the separate factors and facets of the Psychopathy Checklist. The following sections describe how we defined each behaviour variable, the applied development and scoring of the scale, descriptive statistics on raw behaviour data for the current sample, the transformation of raw behaviour data for analyses, reliability of the behaviour data, and the results of a Principal Components Analysis (PCA).

9.2.1.1 Definitions of behaviour variables. Behaviour variables were selected based on psychopathy treatment and broader PCL literature (see above) and each variable was defined in

the context of behaviours displayed during treatment, but with reference to definitions in broader psychology and rehabilitation literature. Example behaviours were provided for each variable and were used in the BTS to guide coders towards the behaviours of interest. Examples of opposing behaviours were also provided for six behaviour variables (e.g., examples of uncooperative behaviours for the cooperation variable) because we intended to capture the full spectrum of each type of behaviour when possible.

Cooperation. Cooperation can be defined as “the wilful contribution of personal effort to the completion of interdependent jobs” (Wagner, 1994, p. 2). For this scale we defined cooperation as acts or instances of working with staff and group members to reach common goals (e.g., treatment task completion). Cooperative behaviours in treatment included completing homework, following instructions, contributing to group tasks and discussions, and providing to and accepting help from others. Uncooperative behaviours included refusing to contribute or participate, not following instructions, rejecting assistance, not completing homework, and failing to attend or showing up late to group.

Motivation to change. Motivation to change can be defined as “commitment to the goal of change” (McMurrin, 2003, p.5). For this scale we defined motivation to change as involvement and commitment to learning and understanding the goals of treatment tasks and treatment as a whole. For this variable we intended to capture behaviours that indicated an enthusiasm or commitment to treatment that went beyond simply cooperating. Examples of motivated behaviour included disclosure, asking follow-up questions, going above and beyond what is required, practicing new skills learnt in treatment, asking for extra treatment-related materials and behaving enthusiastically. Unmotivated behaviours included contributing the

'bare minimum', leaving or trying to leave group sessions early, statements about having already changed or not needing to change, statements about using treatment attendance to enhance applications for early release, repeated rule-breaking behaviour and acting uninterested during treatment sessions (e.g., making little contribution to group discussions or tasks).

Conceptual understanding. Conceptual understanding can be defined as the knowledge of basic concepts and the ability to use principles to apply or explain a theory, model or idea (Alao & Guthrie, 1999). For this scale we defined conceptual understanding as the ability to demonstrate understanding of key treatment tasks and concepts. Behaviours demonstrating conceptual understanding included displaying high levels of understanding in written work, performing well on tasks that require understanding, correctly describing or explaining concepts and identifying and applying concepts to personal situations. Behaviours demonstrating a lack of conceptual understanding included poor performance on tasks that require good understanding, misunderstanding or incorrectly describing concepts and obvious difficulty in grasping concepts.

Distractions. Distracted behaviour can be defined as a diversion of attention away from a primary activity towards a competing secondary activity (Klauer et al., 2014). For this scale we defined distracted behaviour as the extent of an inability to focus on the immediate objectives of treatment sessions without succumbing to outside distractions, mind wandering or switching to unrelated tasks. Distracted behaviours included distracting others, daydreaming, sleeping, participating in off-task activities and therapists' more general reports of poor concentration or acting as if bored. Behaviours demonstrating good attention included staying on task, not being

distracted by others and more general reports of good focus or concentration. Some of these behaviours overlap with cooperative behaviours, so coders were instructed on how to separate ambiguous cases (see Appendix A).

Empathy. Empathy can be defined as the capacity to take the perspective of another person's mental state or to respond emotionally to another person's emotional state (Dziobek, et al., 2008, p. 464). We defined empathy as the ability to understand, experience, and share in another person's emotional state. Empathic behaviours during treatment included supporting and encouraging other group members, comforting distressed group members, sharing and relating to others in group, demonstrations of understanding the feelings of others, and demonstrations of guilt over past or current events. Callous behaviours during treatment included laughing inappropriately at someone else's pain or distress, mocking others in distress, taking advantage of or perpetuating another group member's negative emotions for personal amusement, and minimisation or lack of concern regarding past or current antisocial incidents.

Anxiety. We separated anxiety from other forms of negative emotionality (see below) because low anxiety is a key conceptual and etiological construct in many psychopathy theories (Cleckley, 1941/1988; Karpman, 1941, 1948; Lykken, 1957, 1995). Anxiety can be defined as an emotional state that includes feelings of apprehension, tension and nervousness that results from the perception that negative consequences are inevitable (Spielberger, 2010; Tellegen, 1982). These feelings can be separated from fear on the basis of whether or not there is impending danger (Tellegen, 1982). Thus for this scale we defined anxiety as an unpleasant fear-like state that lacks an immediately identifiable external cause or is out of proportion with the external cause present. Anxious behaviours in treatment included shaky hands or voice

when presenting work, avoiding tasks due to tense or nervous feelings, statements of worry or concern over past, present or future events, statements indicating rumination, and increased participation that is associated with an increase in comfort with the group.

Negative emotionality. Negative emotionality can be defined as the propensity to experience unpleasant affective states such as anxiety, irritability, anger-hostility and sadness especially in reaction to specific events (Watson & Clark, 1984). Thus we defined negative emotionality as the tendency to experience negative emotions and react poorly to situations perceived as stressful. Because we decided to capture anxious behaviours separately (see above), the behaviours captured in this variable were restricted to reactions to treatment tasks, group discussions or unexpected events, comprising sadness, helplessness, annoyance, frustration, irritability or anger. General observations of sadness or frustration throughout treatment sessions were also captured in this variable.

Social dominance. Social dominance can be defined as the “relational, behavioural and interactional state that reflects the actual achievement of influence or control over another via communicative actions” (Burgon & Johnson, 1998, p.315). For this scale we defined social dominance as the level of interpersonal status and superiority a person displays in relation to others. Dominant behaviours during treatment included talking over others, controlling or re-directing group discussion, criticising others, voicing strong opinions, voicing complaints on behalf of the group, leading group tasks, intimidating others, being viewed as a leader, and indirect evidence of controlling others (e.g., others act on the person’s behalf). Submissive behaviours during treatment included letting other group members make personal decisions, looking to other group members for approval, following the lead of more dominant group

members, doing things for or acting on behalf of more dominant group members, and failing to voice personal complaints until someone else does.

9.2.1.2 Applied development and coding procedure. The information used to code behaviour in treatment included clinical notes, treatment reports and incident reports. Clinical notes consisted of both group and individual notes written by therapists after each group or individual treatment session. Clinical notes typically detailed the events of a session, as well as the mood, presentation and interactions of the prisoners involved. Treatment reports, written by therapists, provided a brief overall summary of the behaviour that occurred during treatment. Incident reports, usually written by prison officers, detailed the behaviour and interactions of prisoners during notable incidents that occurred around the unit¹⁵. Typical group session notes started by describing the mood and presentation of each man as well as whether he had completed his homework, was late to the session or failed to attend. Notes would then describe whether each man participated in each group activity and group discussion, and the nature of those contributions (e.g., whether he worked well, asked questions, understood the topics, became “emotional”, left the session prematurely, dominated others or was easily distracted). Certain group tasks that were difficult for the men—like presenting individual offence chains—provided good environments for displays of anxiety and empathy which were subsequently recorded in the notes. Group session notes would also often provide ongoing observations regarding the men’s motivation, emotional state or disruptive behaviour.

¹⁵ Although many incident reports reflect behavioural infractions that may go on to formal misconduct proceedings, they can also include information about emotional state, compliance, and whether there are inconsistencies with their motivation or behaviour during treatment sessions.

Individual session notes detailed issues regarding whether men were dealing with family and emotional issues, having problems with motivation or understanding during treatment, or having behavioural problems in treatment or the unit and how those issues were being resolved.

All notes, reports and incidents were collected from the New Zealand Department of Corrections national electronic database: the Integrated Offender Management System (IOMS), and paper-based file archives. Unlike previous behaviour scales developed to code smaller amounts of information (e.g., only from treatment reports; Langton et al., 2006) the Behaviour in Treatment Scale (BTS) was developed to capture and synthesise the large amount of behavioural information provided in the clinical notes available (up to 137 group and individual session notes per man). Two trained post-graduate students used the BTS to code behaviour in treatment for the entire sample by reading through each clinical session note, treatment report and incident report for each man and counting each instance of any of the eight behaviour variables in the BTS using evidence recording sheets (see Appendix B). For each behaviour variable, the BTS lists a number of behavioural examples which coders used as a template for the types of behaviour to identify and count for each variable (see Appendix A). In order to capture the full spectrum of each type of behaviour, coders counted both positive and negative instances of each behaviour, with the exception of anxiety and negative emotionality, because the archival notes rarely recorded the absence of those behaviours. Coders were instructed to count only one instance of each behaviour variable for each group or individual session note and only one of the positive or negative dimensions for that behaviour. If both positive and negative observations of behaviour were available in one session note, coders were instructed

to choose the more salient of the two so that those behaviours did not simply cancel one another out in the subsequent data transformation process (see Section 9.2.1.3). Coding for each case took between one and three hours depending on the amount of information available for that case. Final tallies for each behaviour variable were summed for each man, tallying the positive and negative totals for each variable type at the end. All cases were anonymised so that coders were blind to psychopathy scores and outcome data.

The BTS was initially developed and finalised using an iterative process of coding pilot cases that were then critiqued by a group of researchers who assessed whether each variable was capturing the desired information. Once finalised, the study's main coder trained the second coder using blind pilot cases until it appeared there was high agreement in the number of behaviour observations for each case. The main coder then coded 72% of the sample and the second coder 38%. To calculate inter-rater reliability 10% of cases were coded by both coders who were blind to each other's scores. Behaviour data were excluded for 5 cases due to a lack of information to code, or so little information that less than 10 counts of treatment behaviour could be coded. If a case had zero counts for an individual behaviour variable in both the positive and negative dimensions, the behaviour was excluded for that case due to a lack of information (i.e., treated as missing data). If there were behaviour counts on one dimension of a behaviour but not the other, the other dimension was counted as a zero for data transformation purposes (see Section 9.2.1.3). Table 19 displays the final number of cases coded for each behaviour type and descriptive statistics on the overall average number of counts on each dimension of each behaviour type for each person. Table 19 also displays the

percentage of behaviour counted out of behaviours of that type (e.g., the percentage of cooperative behaviour counted out of all cooperative and uncooperative behaviour counts).

As displayed in Table 19 cooperative behaviours were on average the most frequently recorded and empathic, callous and submissive behaviours were the least frequently recorded. There were overall high proportions of cooperative (88.5%) and dominant behaviours (80.9%) counted from the notes, relative to uncooperative and submissive behaviours respectively. There was also a reasonably high relative proportion of understanding during treatment (68.0%), and around equal proportions of motivated to unmotivated (45.1% - 54.9%) behaviour, and empathic to callous (54.5% - 45.5%) behaviour. The observed proportion of distracted behaviour during treatment (65.7%) is likely exaggerated due to a lack of good attention observations being recorded in the notes even when cooperation and motivation was high.

Table 19

Descriptive Statistics of Behaviours during Treatment

Behaviour	Sub-dimension	N	M (SD)	95% CI	Range	Behaviour %
Cooperation	Cooperative	272	49.1 (24.1)	[46.2, 51.9]	1–106	88.5%
	Uncooperative	272	6.4 (6.2)	[5.6, 7.1]	0–46	11.5%
Motivation to change	Motivated	271	8.1 (5.5)	[7.4, 8.7]	0–31	45.1%
	Unmotivated	271	9.8 (8.1)	[8.8, 10.8]	0–42	54.9%
Social dominance	Dominant	263	7.4 (7.6)	[6.4, 8.3]	0–52	80.9%
	Submissive	263	1.7 (2.8)	[1.4, 2.1]	0–16	19.1%
Empathy	Empathic	247	2.5 (2.3)	[2.2, 2.8]	0–11	54.5%
	Callous	247	2.1 (2.4)	[1.8, 2.4]	0–17	45.5%
Conceptual understanding	Good understanding	270	9.1 (6.9)	[8.3, 9.9]	0–37	68.0%
	Poor understanding	270	4.4 (5.0)	[3.8, 5.0]	0–32	32.0%
Distracted	Distracted	265	5.6 (5.4)	[5.0, 6.3]	0–25	65.7%
	Focused	265	2.9 (3.0)	[2.6, 3.3]	0–14	34.3%
Anxiety		272	4.7 (4.5)	[4.1, 5.2]	0–20	N/A
Negative emotionality		272	8.5 (7.7)	[7.6, 9.5]	0–42	N/A

9.2.1.3 Behaviour variable transformation and inter-rater reliability. The group and individual clinical notes were completed by several different therapists and did not follow a formal format, creating large variations in the number, length, content and quality of material recorded on each man. Due to concerns that statistical error would be introduced by this large amount of variation in number and quality of notes, six of the behaviour variables were transformed to account for differences in available information across cases. The six behaviour variables that had two dimensions (cooperation, motivation to change, social dominance, empathy, conceptual understanding and distractedness) were transformed into a percentage for each man by dividing the dimension of the behaviour we were interested in (e.g., cooperative behaviour) by the sum of that behaviour and its opposite dimension (e.g., cooperative + uncooperative). The result of this transformation can be described as the percentage of a given behaviour during treatment out of all recorded behaviours of that type (e.g., the percentage of cooperative behaviour out of all cooperative and uncooperative behaviours counted for one man). The opposite dimensions of the two remaining variables (anxiety and negative emotionality) were scarcely recorded in the notes and so could not be transformed into a percentage like the other variables.

Inter-rater reliability (IRR) was calculated for the six transformed and two raw count behaviour variables using the 10% subsample of cases rated by both coders. Other raw untransformed behaviour variables were not analysed for IRR because they were not used in any subsequent analyses. Due to the use of count and percentage data, IRR was calculated using two-way mixed, consistency, single-measure intra-class correlations (ICC) to evaluate the level of consistency in the coders' behaviour ratings across subjects (McGraw & Wong, 1996).

According to the ICC values displayed in Table 20, the IRR was within the excellent range (.75 – 1.0; Cicchetti, 1994) for all behaviour variables aside from distractedness which still fell within the good range (.60 – .74). The high ICCs suggest that the measurement error introduced by the two separate coders was minimal and would not greatly reduce statistical power in subsequent analyses. Of the 10% coded for reliability, the main coder's cases were selected for the final dataset to minimise the amount of error introduced by the second rater.

Table 20

Intra-class Correlations for Behaviour in Treatment Scale Variables

Behaviour variable	ICC	95% CI
Cooperation	.96	[.91, .98]
Motivation to change	.90	[.80, .95]
Social dominance	.83	[.66, .92]
Empathy	.90	[.78, .96]
Conceptual understanding	.79	[.60, .90]
Distracted	.68	[.42, .84]
Anxiety	.85	[.70, .93]
Negative emotionality	.89	[.77, .95]

9.2.1.4 Principal component analysis. Principal components analysis with oblique rotation (direct oblimin) was conducted using the six transformed and two raw count behaviour variables, with the aim of creating conglomerate behaviour variables that would be comparable to previous studies (Barbaree, 2005; Caldwell et al., 2007; Hobson et al., 2000; Langton et al., 2006; Looman et al., 2005; Seto & Barbaree, 1999). The Kaiser-Meyer-Olkin statistic was above the acceptable minimum limit, KMO = .63, and all individual KMOs were above the recommended value of .5, verifying the sampling adequacy for the analysis (Kaiser, 1970, 1974).

Correlations between behaviour variables were also large enough according to Bartlett's test of sphericity, $\chi^2(28) = 326.42, p < .001$.

An initial analysis returned three components with eigenvalues over Kaiser's criterion of 1, which explained 62.4% of the variance combined or 28.7%, 20.4% and 13.2% of the variance for each component respectively. However the inflexion point in the scree plot clearly suggested that only two components should be retained and this was further supported by parallel analysis (see Figure 6).

Figure 6. Scree plot for principal components analysis with oblique rotation.

Due to the results of the scree plot and parallel analysis, the principal components analysis was re-run with a forced two component solution. The two derived components from the second analysis explained 49.2% of the variance combined or 28.7% for Component 1 and 20.4% for Component 2. The rotated loadings for each component are displayed in Table 21. The behaviour variables cooperation and motivation to change loaded highly on Component 1 followed by a negative loading for distracted behaviour and a positive loading for conceptual

understanding. These behaviours are similar to those used in other conglomerate measures of treatment behaviour (Barbaree, 2005; Langton et al., 2006; Seto & Barbaree 1999) and fit well within categories of performance and engagement in models of specific responsivity (Serin, 1998; Ward et al., 2004). Based on these trends we named Component 1 the *Performance* factor. The behaviours anxiety and negative emotionality loaded highest on Component 2 followed by empathy and a negative loading for socially dominant behaviour (i.e., submissive behaviour) suggesting this component primarily represents emotional behaviour with a small element of submissive behaviour. We therefore named Component 2 the *Emotional-submissive* factor¹⁶.

Table 21

Factor Loadings for Principal Components Analysis with Oblique Rotation

Behaviour variable	Component 1 Performance	Component 2 Emotional-submissive
Cooperation	.78	-.17
Motivation to change	.77	.28
Distracted	-.59	.12
Conceptual understanding	.42	-.02
Anxiety	-.06	.83
Negative emotionality	-.35	.73
Empathy	.52	.55
Social dominance	-.26	-.34

Note. n = 235, 37 cases were removed from analyses due to missing data for at least one behaviour variable. Highest loadings for each variable are in bold.

¹⁶ Although we acknowledge that these composite behaviour variables represent components and not factors, we refer to them as factors throughout the rest of this thesis to minimize confusion with the lay term component which we use to describe some of our subsequent results.

9.2.1.5 Supplementary hypotheses for behaviour factors. Based on the behaviour variables within each factor, we expected that both PCL:SV Part 1 and 2 and their underlying facets would be negatively associated with the Performance factor, whereas only PCL:SV Part 1 and its underlying facets would be negatively associated with the Emotional-submissive factor.

9.2.2 Data Analytic Strategy

Bivariate correlations were calculated to identify the strength and direction of relationships between PCL:SV total/factor/facet scores and both behaviour factor scores from the principal components analysis as well as individual behaviour scores. Next, follow-up multiple regression analyses were performed to identify which PCL:SV part or facet scores made the strongest contribution to predicting specific types of behaviour while accounting for the influence of other part/facet scores.

9.3 Results

9.3.1 Correlation Results

Correlation analyses revealed small significant negative relationships between each PCL:SV variable (aside from the Interpersonal facet), and Performance factor scores, indicating higher PCL:SV total, factor and facet scores were associated with poorer performance during treatment (see Table 22). There were slightly larger negative correlations with the Performance factor for PCL:SV Part 2 and its facets the Lifestyle and Antisocial facets, compared with PCL:SV Part 1 and its facets the Interpersonal and Affective facets. This pattern of correlations was consistent, with relationships between all PCL:SV variables and each individual behaviour that constituted the Performance factor, with the largest negative correlations found between

PCL:SV Part 2 and its Lifestyle and Antisocial facets, with cooperation and motivation to change. Out of the behaviours within the Performance factor, motivation to change demonstrated the largest and only significant negative correlation with PCL:SV total scores.

There were small significant negative correlations between PCL:SV Part 1—and between its Interpersonal and Affective facets—and the Emotional-submissive factor, suggesting higher scores on PCL:SV Part 1 and its facets were associated with less emotional-submissive behaviour during treatment. Conversely there were small positive non-significant correlations between PCL:SV Part 2—and its Lifestyle and Antisocial facets—and the Emotional-submissive factor. The trends for these correlations indicated higher scores were associated with more emotional-submissive behaviour during treatment. A number of stronger and more significant correlations were detected between PCL:SV variables and individual behaviours within the Emotional-submissive factor. Specifically, PCL:SV Part 1 and its facets, the Interpersonal and Affective facets, were non-significantly associated with less anxiety during treatment and significantly associated with less empathy and more social dominance. Conversely PCL:SV Part 2 was significantly associated with more anxiety during treatment, as were the Lifestyle and Antisocial facets, though the correlations were non-significant. The Antisocial facet alone was also significantly associated with greater social dominance. Out of the behaviours within the Emotional-submissive factor, empathy demonstrated the largest negative and only significant correlation with PCL:SV total scores.

9.3.2 Multiple regression results.

Next, several multiple regression analyses were conducted to identify whether specific PCL:SV part or facet scores were predictive of behavioural factors or individual behaviours

during treatment while accounting for the influence of other PCL:SV part or facet scores on those behaviours. Multiple regressions were conducted for each behaviour factor and individual behaviour, first with PCL:SV Parts 1 and 2 entered simultaneously as predictor variables and second with the four PCL:SV facets entered simultaneously as predictor variables.

The regression model with PCL:SV Part 1 and 2 entered simultaneously was a significant predictor of scores on the Performance factor, with scores on Parts 1 and 2 explaining 4% of the variance in performance scores. PCL:SV Part 2 was the larger and only significant contributor to the model, with higher Part 2 scores predicting poorer performance in treatment (see Table 23). The regression model with the four PCL:SV facets entered simultaneously was also a significant predictor of performance, with scores on the four facets explaining 5% of the variance in Performance factor scores. The Affective and Antisocial facets were the largest contributors to this model with higher scores predicting poorer performance, though no contributions by individual predictors were statistically significant.

Table 22

Correlations with 95% Confidence Intervals between PCL:SV Variables and Individual as well as Factor Behaviour Scores

Behaviour	PCL:SV total	PCL:SV P1	PCL:SV P2	Interpersonal	Affective	Lifestyle	Antisocial
Cooperation	-.12 [.01, -.23]	-.06 [.04, -.17]	-.15* [-.05, -.25]	-.04 [.09, -.15]	-.13* [-.02, -.25]	-.13* [-.02, -.23]	-.17** [-.05, -.27]
Motivation to change	-.15* [-.02, -.26]	-.11 [.02, -.23]	-.15* [-.03, -.26]	-.09 [.05, -.20]	-.12 [.03, -.26]	-.19** [-.08, -.30]	-.10 [.04, -.23]
Conceptual understanding	-.10 [-.01, -.20]	-.06 [.04, -.17]	-.12 [-.01, -.22]	-.06 [.03, -.17]	-.09 [.01, -.20]	-.12 [-.01, -.23]	-.10 [-.00, -.195]
Distracted	.11 [-.02, .236]	.10 [-.02, .23]	.07 [-.05, .20]	.10 [-.04, .23]	.11 [-.02, .23]	.07 [-.05, .20]	.03 [-.08, .15]
Performance	-.18** [-.05, -.29]	-.13* [-.02, -.24]	-.19** [-.08, -.29]	-.11 [-.01, -.22]	-.17** [-.04, -.29]	-.19** [-.07, -.29]	-.15* [-.02, -.28]
Anxiety	.01 [-.11, .13]	-.09 [.04, -.22]	.15* [.04, .23]	-.08 [.05, -.22]	-.12 [.00, -.25]	.12 [.02, .20]	.12 [.01, .23]
Negative emotionality	.12 [-.01, .23]	.10 [-.01, .21]	.10 [-.02, .23]	.08 [-.04, .21]	.09 [-.02, .18]	.05 [-.06, .16]	.10 [.00, .20]
Empathy	-.18** [-.08, -.29]	-.27** [-.15, -.36]	-.01 [-.14, .14]	-.20** [-.07, -.31]	-.28** [-.18, -.38]	-.02 [.11, -.14]	-.01 [.13, -.14]
Social dominance	.12 [-.01, .24]	.15* [.01, .28]	.04 [-.09, .17]	.16* [.05, .28]	.15* [.00, .29]	-.04 [.09, -.15]	.13* [.02, .25]
Emotional-submissive	-.07 [.06, -.19]	-.16* [-.04, -.28]	.09 [-.03, .21]	-.15* [.02, -.27]	-.18** [-.05, -.29]	.08 [-.04, .19]	.06 [-.06, .16]

Note. Reported confidence intervals are bias corrected and accelerated (BCa) bootstrap 95% confidence intervals. Performance: PCL:SV total, Part 1, Part 2 $n = 264$; Interpersonal and Antisocial facet $n = 256$; Affective facet $n = 257$; Lifestyle facet $n = 254$. Emotional-submissive: PCL:SV total, Part 1, Part 2 $n = 241$; Interpersonal and Antisocial facet $n = 234$; Affective facet $n = 235$; Lifestyle facet $n = 232$. Cooperation: PCL:SV total, Part 1, Part 2 $n = 272$; Interpersonal and Antisocial facet $n = 263$; Affective facet $n = 264$; Lifestyle facet $n = 261$. Motivation to change: PCL:SV total, Part 1, Part 2 $n = 271$; Interpersonal and Antisocial facet $n = 262$; Affective facet $n = 263$; Lifestyle facet $n = 260$. Conceptual understanding: PCL:SV total, Part 1, Part 2 $n = 270$; Interpersonal and Antisocial facet $n = 261$; Affective facet $n = 262$; Lifestyle facet $n = 259$. Distracted: PCL:SV total, Part 1, Part 2 $n = 265$; Interpersonal and Antisocial facet $n = 257$; Affective facet $n = 258$; Lifestyle facet $n = 255$. Anxiety and negative emotionality: PCL:SV total, Part 1, Part 2 $n = 272$; Interpersonal and Antisocial facet $n = 263$; Affective facet $n = 264$; Lifestyle facet $n = 261$. Social dominance: PCL:SV total, Part 1, Part 2 $n = 263$; Interpersonal and Antisocial facet $n = 254$, Affective facet $n = 255$; Lifestyle facet $n = 252$. Empathy: PCL:SV total, Part 1, Part 2 $n = 247$; Interpersonal and Antisocial facet $n = 240$; Affective facet $n = 241$; Lifestyle facet $n = 238$. * $p < .05$, ** $p < .01$.

For individual behaviours within the Performance factor, neither the model with PCL:SV Parts 1 and 2 entered simultaneously, nor the model with four PCL:SV facets entered simultaneously was a significant predictor of conceptual understanding or distracted behaviour during treatment. Both types of models, were however, significant predictors of cooperation and motivation to change, with the PCL:SV Part 1 and 2 models explaining 2% of the variance and the four facet models explaining 4% of the variance in both cooperation and motivation to change during treatment (see Table 24 and Table 25). Out of these four models only PCL:SV Part 2 made a significant contribution to predicting poorer cooperation during treatment, and only the Lifestyle facet made a significant contribution to predicting poorer motivation to change.

Table 23

Multiple Regression Analyses Predicting Performance with either PCL:SV Part 1 and 2 Entered Simultaneously or the Four PCL:SV Facets Entered Simultaneously as Predictor Variables

	<i>F</i>	<i>R</i> ²	<i>B</i>	<i>SE</i>	<i>β</i>	<i>B</i> 95% CI
PCL:SV Part 1	4.84**	.04	-0.04	0.06	-.05	[-0.16, 0.08]
PCL:SV Part 2			-0.21*	0.08	-.16*	[-0.38, -0.06]
Interpersonal	3.08*	.05	0.06	0.12	.04	[-0.20, 0.31]
Affective			-0.21	0.16	-.11	[-0.51, 0.12]
Lifestyle			-0.27	0.15	-.13	[-0.57, 0.06]
Antisocial			-0.12	0.20	-.05	[-0.49, 0.23]

Note. PCL:SV Part 1 and 2 model: *n* = 264; *df* = (2, 261). Four facet model *n* = 252; *df* = (4, 247). Bias corrected and accelerated (BCa) bootstrap standard error and 95% confidence intervals reported.

p* < .05, *p* < .01.

Table 24

Multiple Regression Analyses Predicting Cooperation with either PCL:SV Part 1 and 2 Entered Simultaneously or the Four PCL:SV Facets Entered Simultaneously as Predictor Variables

	<i>F</i>	<i>R</i> ²	<i>B</i>	<i>SE</i>	β	<i>B</i> 95% CI
PCL:SV Part 1	3.23*	.02	0.001	0.002	.02	[-0.004, 0.01]
PCL:SV Part 2			-0.01*	0.003	-.16*	[-0.003, -0.02]
Interpersonal	2.74*	.04	0.01	0.01	.12	[-0.003, 0.02]
Affective			-0.01	0.01	-.13	[-0.02, 0.003]
Lifestyle			-0.01	0.01	-.06	[-0.02, 0.01]
Antisocial			-0.01	0.01	-.13	[-0.03, 0.002]

Note. PCL:SV Part 1 and 2 model: $n = 272$; $df = (2, 269)$. Four facet model: $n = 259$; $df = (4, 254)$. Bias corrected and accelerated (BCa) bootstrap standard error and 95% confidence intervals reported.

* $p < .05$, ** $p < .01$.

Table 25

Multiple Regression Analyses Predicting Motivation to Change with either PCL:SV Part 1 and 2 Entered Simultaneously or the Four PCL:SV Facets Entered Simultaneously as Predictor Variables

	<i>F</i>	<i>R</i> ²	<i>B</i>	<i>SE</i>	β	<i>B</i> 95% CI
PCL:SV Part 1	3.32*	.02	-0.004	0.01	-.04	[-0.02, 0.01]
PCL:SV Part 2			-0.02	0.01	-.13	[-0.04, 0.002]
Interpersonal	2.74*	.04	0.004	0.01	.03	[-0.02, 0.03]
Affective			-0.01	0.02	-.06	[-0.05, 0.02]
Lifestyle			-0.04*	0.02	-.19*	[-0.01, -0.07]
Antisocial			0.001	0.02	-.01	[-0.04, 0.04]

Note. PCL:SV Part 1 and 2 model: $n = 271$; $df = (2, 268)$. Four facet model: $n = 258$; $df = (4, 253)$. Bias corrected and accelerated (BCa) bootstrap standard error and 95% confidence intervals reported.

* $p < .05$, ** $p < .01$.

Regression models with PCL:SV Parts 1 and 2 entered simultaneously, and with the four PCL:SV facets entered simultaneously also predicted emotional-submissive behaviour during treatment, with the PCL:SV Part 1 and 2 model explaining 5% of the variance and the four facet model explaining 6% of the variance in Emotional-submissive factor scores (see Table 26). Specifically, in the PCL:SV Part 1 and 2 model, both PCL:SV Parts made significant contributions to the model, with PCL:SV Part 1 predicting less emotional submissive behaviour and PCL:SV

Part 2 predicting more emotional submissive behaviour. The pattern of relationships in the four facet model were the same, with the Interpersonal and Affective facets predicting less emotional submissive behaviour and the Lifestyle and Antisocial facets predicting more, though the Affective and Antisocial facets were the larger and only significant contributors to the model.

For individual behaviours within the Emotional-submissive factor, regression models with PCL:SV Parts 1 and 2 entered simultaneously significantly predicted anxiety and empathy during treatment but not negative emotionality or social dominance. Specifically scores on PCL:SV Parts 1 and 2 explained 6% and 10% of the variance in anxiety and empathy scores respectively, and in both cases Parts 1 and 2 made significant contributions to the model, with PCL:SV Part 1 predicting less anxiety and empathy during treatment and PCL:SV Part 2 predicting more anxiety and empathy (see Table 27 and Table 28). The four facet models also significantly predicted anxiety and empathy during treatment, with scores on the four facets explaining 7% and 11% of the variance in anxiety and empathy respectively. The pattern of relationships in the four facet models matched those of the two part models, with the Interpersonal and Affective facets predicting less anxiety and empathy, and the Lifestyle and Antisocial facets predicting more anxiety and empathy. The Affective facet made the largest contribution to both models and was the only significant contributor to the model predicting empathy. The Lifestyle and Antisocial facets also made a significant contribution to the model predicting anxiety in treatment (see Table 27 and Table 28).

Finally although the two part model did not significantly predict social dominance during treatment the four facet model was a significant predictor, with scores on the four facets

explaining 7% of the variance in social dominance scores (see Table 29). The Lifestyle facet was the largest and only significant contributor to this model, predicting less socially dominant behaviour in treatment, followed by the Interpersonal and Antisocial facets which predicted more socially dominant behaviour. Like the two part model, the four facet model did not significantly predict negative emotionality in treatment.

Table 26

Multiple Regression Analyses Predicting Emotional-submissive Behaviour with either PCL:SV Part 1 and 2 Entered Simultaneously or the Four PCL:SV Facets Entered Simultaneously as Predictor Variables

	<i>F</i>	<i>R</i> ²	<i>B</i>	<i>SE</i>	<i>β</i>	<i>B</i> 95% CI
PCL:SV Part 1	8.32**	.07	-0.23**	0.06	-.28**	[-0.34, -0.11]
PCL:SV Part 2			0.28**	0.07	.23**	[0.13, 0.40]
Interpersonal	4.79**	.08	-0.14	0.12	-.10	[-0.36, 0.10]
Affective			-0.41*	0.16	-.24*	[-0.76, -0.12]
Lifestyle			0.32*	0.14	.16*	[0.03, 0.62]
Antisocial			0.25	0.15	.11	[-0.01, 0.55]

Note. PCL:SV Part 1 and 2 model: *n* = 241; *df* = (2, 238). Four facet model *n* = 230; *df* = (4, 225). Bias corrected and accelerated (BCa) bootstrap standard error and 95% confidence intervals reported.

p* < .05, *p* < .01.

Table 27

Multiple Regression Analyses Predicting Anxiety with either PCL:SV Part 1 and 2 Entered Simultaneously or the Four PCL:SV Facets Entered Simultaneously as Predictor Variables

	<i>F</i>	<i>R</i> ²	<i>B</i>	<i>SE</i>	<i>β</i>	<i>B</i> 95% CI
PCL:SV Part 1	8.19**	.06	-0.33**	0.10	-.22**	[-0.12, -0.53]
PCL:SV Part 2			0.55**	0.12	.26**	[0.31, 0.78]
Interpersonal	4.41**	.07	-0.14	0.18	-.06	[0.22, -0.52]
Affective			-0.63*	0.27	-.21*	[-0.11, -1.16]
Lifestyle			0.52*	0.22	.15*	[0.08, 0.94]
Antisocial			0.57*	0.24	.14*	[0.17, 1.05]

Note. PCL:SV Part 1 and 2 model: *n* = 272; *df* = (2, 269). Four facet model *n* = 259; *df* = (4, 254). Bias corrected and accelerated (BCa) bootstrap standard error and 95% confidence intervals reported.

p* < .05, *p* < .01.

Table 28

Multiple Regression Analyses Predicting Empathy with either PCL:SV Part 1 and 2 Entered Simultaneously or the Four PCL:SV Facets Entered Simultaneously as Predictor Variables

	<i>F</i>	<i>R</i> ²	<i>B</i>	<i>SE</i>	<i>β</i>	<i>B</i> 95% CI
PCL:SV Part 1	12.84**	.10	-0.04**	0.01	-.36**	[-0.03, -0.07]
PCL:SV Part 2			0.03*	0.01	.18*	[0.01, 0.05]
Interpersonal	6.81**	.11	-0.01	0.02	-.03	[-0.04, 0.03]
Affective			-0.09**	0.02	-.36**	[-0.05, -0.13]
Lifestyle			0.02	0.02	.07	[-0.02, 0.06]
Antisocial			0.04	0.03	.13	[-0.004, 0.09]

Note. PCL:SV Part 1 and 2 model: *n* = 247; *df* = (2, 244). Four facet model *n* = 236; *df* = (4, 231). Bias corrected and accelerated (BCa) bootstrap standard error and 95% confidence intervals reported.

p* < .05, *p* < .01.

Table 29

Multiple Regression Analyses Predicting Social Dominance with either PCL:SV Part 1 and 2 Entered Simultaneously or the Four PCL:SV Facets Entered Simultaneously as Predictor Variables

	<i>F</i>	<i>R</i> ²	<i>B</i>	<i>SE</i>	<i>β</i>	<i>B</i> 95% CI
PCL:SV Part 1	2.97	.02	0.02*	0.01	.17*	[0.004, 0.03]
PCL:SV Part 2			-0.01	0.01	-.04	[-0.03, 0.01]
Interpersonal	4.23**	.07	0.03	0.02	.15	[-0.002, 0.05]
Affective			0.02	0.02	.07	[-0.03, 0.06]
Lifestyle			-0.05**	0.02	-.22**	[-0.02, -0.09]
Antisocial			0.04	0.02	.15	[0.00, 0.09]

Note. PCL:SV Part 1 and 2 model: *n* = 263; *df* = (2, 260). Four facet model *n* = 250; *df* = (4, 245). Bias corrected and accelerated (BCa) bootstrap standard error and 95% confidence intervals reported.

p* < .05, *p* < .01.

9.4 Discussion

For this set of analyses we examined the 2-C model assumption that the separate parts and facets of the PCL:SV would predict different types of behaviour during treatment. In line with previous research, higher PCL:SV total scores were associated with poorer behaviour during treatment (Caldwell et al., 2007; Langton et al., 2006; Ogloff et al., 1990; O'Neill et al., 2003; Richards et al., 2003), providing some external validity for one of our conglomerate

behaviour variables, the Performance factor . As expected, performance was negatively associated with each factor and facet of the PCL:SV; however, at the factor level, higher PCL:SV Part 2 scores were more predictive of poorer performance than higher Part 1 scores. This result is consistent with research by Richards et al. (2003) who found that Factor 2 of the PCL-R was more highly associated with poorer participation. However when analysed at the facet level, the pattern of relationships indicated that higher scores on the Lifestyle and Affective facets were the strongest predictors of poorer performance, thus the pattern of results for performance changed depending on the level of analysis. This pattern of results was partly explained by analyses at the level of individual behaviour variables within the Performance factor, where again at the factor level, PCL:SV Part 2 scores were more highly associated with poorer cooperation and a poorer motivation to change than Part 1 scores. However, at the facet level, higher Lifestyle facet scores were the strongest predictor of poorer motivation to change, and patterns indicated that higher scores on the Affective and Antisocial facets were the strongest predictors of uncooperative behaviour followed by scores on the Interpersonal facet, which were actually predictive in the opposite direction (i.e., higher scores predicted greater cooperation during treatment). Thus different behaviours within the Performance factor demonstrated different patterns of relationships with the facets of the PCL:SV, meaning relationships with conglomerate measures of behaviour in treatment may change based on the behaviours included within that variable. This mixed pattern of relationships may explain why studies have differed in findings regarding whether Factor 1 or 2 of the PCL-R was more highly associated with poorer behaviour, because widely different types of behaviour are included

within the different measures of behaviour used thus far (Caldwell et al., 2011; Hobson et al., 2000; Richards et al., 2003).

As was found in previous research, higher PCL:SV total scores were associated with less motivation to change during treatment (Ogloff et al., 1990). However, the finding of higher PCL:SV Part 2, and more specifically, higher Lifestyle facet scores being more strongly associated with poorer motivation to change was opposite to what we expected based on the 2-C model (Wong et al., 2012; Wong & Hare, 2005). This finding does not therefore support the idea that the deceitfulness and grandiosity represented in the Interpersonal facet inhibits the motivation to change, nor does it support the idea that a lack of guilt or other emotions, represented in the Affective facet decreases the motivation to change (Thornton & Blud, 2007; Wong & Hare, 2005). This finding is consistent however with the concept of volitional readiness conditions in the Multi Factor Offender Readiness Model (MORM), which specifies that problems in goal setting will lead to a lack of motivation due to the inability to sustain and follow through with goal directed behaviour (Ward et al., 2004).

Only PCL:SV Part 2 was associated with poorer cooperative behaviour as opposed to both parts of the PCL:SV as we predicted. This result may be explained by the pattern of relationships found in the regression analyses with the four facets, which revealed that the Interpersonal and Affective facets were predicting cooperative behaviour in opposite directions. The Interpersonal facet's positive relationship with cooperative behaviour is consistent with research by Caldwell (2011) who found that the Interpersonal facet was associated with greater behavioural change during treatment. As discussed previously (see Section 7.8.1), higher scores on the Interpersonal facet have been associated with higher levels

of cognitive functioning and intelligence, which may provide a better skill-base for treatment, making cooperation easier (Hansen, Johnsen, Thornton, Waage, & Thayer, 2007; Salekin, Neumann, Leistico, & Zalot, 2004; Vitacco, Neumann, & Jackson, 2005). This result may also help to explain why the Interpersonal facet was associated with a lower likelihood of reconviction in the current sample (see Section 7.8.1), given the assumption that those who cooperate more are more likely to benefit from treatment and thus less likely to be reconvicted.

Non-significant trends from the regression analysis demonstrating that scores on the Affective and Antisocial facets made the largest contributions to predicting poorer cooperative behaviour was more in line with our predictions. Thornton and Blud (2007) proposed that the rebellious and antisocial traits measured by the Antisocial facet would manifest in defiant and noncompliant behaviours during treatment, and Wong and Hare (2005) suggested that the emotional deficits represented by the Affective facet would disrupt the formation of an affective bond with the therapist, making cooperation and collaboration more difficult. Together these results suggest that traits represented within both factors of the PCL can contribute to obstructive behaviour in treatment instead of just those represented by PCL F1 as the 2-C model suggests (Wong et al., 2012; Wong & Hare, 2005).

No substantial relationships were identified between the factors or facets of the PCL:SV and conceptual understanding or distracted behaviour during treatment. Thus we failed to support our prediction that higher PCL:SV Part 1 and Affective facet scores would be associated with poorer conceptual understanding and our prediction that higher PCL:SV Part 2 and Lifestyle facet scores would be associated with greater distracted behaviours in treatment. Our

predicted relationships with conceptual understanding were based on the idea that emotional deficits represented by the Affective facet may disrupt the ability to understand emotional content (Thornton & Blud, 2007). However, one reason we may have failed to identify the predicted relationships is that we examined understanding across all treatment modules as opposed to just those based on emotional content (i.e., the mood management and victim empathy modules). The reason we failed to identify any relationships with distracted behaviour is less clear, though distracted behaviour was our least reliable variable coded ($ICC = .68$), and anecdotally, reports of attentive behaviour in the notes were fairly inconsistent, which may have increased error considering these behaviours were used in the calculation of distracted scores.

In line with our hypothesis, correlation analyses revealed that higher scores on PCL:SV Part 1 and both its underlying facets were associated with lower levels of emotional-submissive behaviour during treatment. Furthermore, when controlling for the shared variance between part and facets scores of the PCL:SV in multiple regression analyses, higher scores on PCL:SV Part 2 and its underlying facets were revealed to be associated with greater emotional-submissive behaviour during treatment. The Affective facet in particular emerged as the largest contributor to the four facet regression model predicting Emotional-submissive factor scores, with higher Affective facet scores predicting fewer emotional-submissive behaviours during treatment. These findings support the proposition that those higher on PCL F1 and more specifically the Affective facet will display less emotional behaviour during treatment (Thornton & Blud, 2007; Wong & Hare, 2005).

As expected, individual behaviour variables within the Emotional-submissive factor, empathy and anxiety, displayed a similar pattern of results to the Emotional-submissive factor overall, with higher scores on PCL:SV Part 1 and in particular the Affective facet predicting lower levels of empathic and anxious behaviours during treatment and PCL:SV Part 2 and its underlying facets predicting greater empathic and anxious behaviours during treatment. This pattern of results is consistent with similar research using self-report measures of empathy and anxiety (Hare, 2003; Harpur et al., 1989; Hicks & Patrick, 2006; Verona et al., 2001; Vitale et al., 2002); however, previous research did not find a link between PCL F2 and empathy as we did here. This pattern of results also presents an interesting problem for the 2-C model, because based on these findings, the model would suggest that therapists work around low levels of empathy and anxiety due to their relationship with PCL:SV Part 1, but should also try to change high levels of empathy and anxiety due to their relationship with PCL:SV Part 2 (Wong et al., 2012; Wong & Olver, 2015). This highlights one of the problems with relying on the correlates of PCL factors to identify risk and responsivity-based behaviours because we do not yet know whether these behaviours are also associated with relevant treatment outcomes.

Contrary to our hypothesis, we found no substantial relationships between the factors or facets of the PCL:SV and negative emotionality. Similar to anxiety, our hypotheses were based on the idea that PCL F1 and more specifically the Affective facet were associated with a general dearth in negative emotionality (Thornton & Blud, 2007; Wong & Hare, 2005). Because we wanted to examine anxiety separately, our measure of negative emotionality mainly captured expressions of frustration, anger and sadness during treatment. Research has previously identified relationships between negative emotionality and PCL factors, when

negative emotionality included different types of negative emotion (Verona et al., 2001; Verona, Hicks, & Patrick, 2005). However some evidence does suggest relationships with PCL factors differ for different types of negative emotion, specifically, negative associations between PCL F1 and self-reported depression/suicide attempts are relatively stronger and more consistent than negative associations between PCL F1 and self-reported anger/aggression (Hicks & Patrick, 2006; Patrick, 1994; Verona et al., 2001; Verona et al., 2005). Thus, we may have weakened or distorted our ability to identify relationships between parts and facets of the PCL:SV and negative emotions by combining expressions of frustration and anger with expressions of sadness during treatment into one variable. Furthermore, because anxiety is a robust personality correlate and is highly comorbid with other emotional disorders, removing anxiety from the negative emotionality variable may have weakened the underlying construct (Beinvenu & Stein, 2003; Sartorius, Üstün, Lecrubier, & Wittchen, 1996).

Consistent with our hypothesis and predictions by Thornton and Blud (2007), correlation analyses revealed that PCL:SV Part 1 and more specifically the Interpersonal facet was associated with greater levels of socially dominant behaviour during treatment. These results are also consistent with research that has identified relationships between PCL F1 and self-reported indices of dominance (Harpur et al., 1989; Verona et al., 2001). However, regression analyses revealed that together, PCL:SV Parts 1 and 2 were unable to predict socially dominant behaviour. Furthermore, although the four facets together did predict socially dominant behaviour, the strongest predictor in the model was the Lifestyle facet with higher scores predicting less socially dominant behaviour, followed by the Interpersonal and Antisocial facets which predicted more socially dominant behaviour. As discussed above higher Lifestyle facet

scores were also associated with more anxious behaviour during treatment and research has found that submissive behaviours may function as defensive strategies for social anxiety (Gilbert, 2000; Schneier, Kent, Star, & Hirsch, 2009). Therefore the relationship between the Lifestyle facet and less dominant behaviour might be explained by higher levels of anxiety; however, the Antisocial facet was associated both with more anxious behaviour but also higher levels of socially dominant behaviour during treatment, calling into question the role of anxiety as an explanatory mechanism.

Finally, a number of relationships between factors and facets of the PCL:SV and behaviours in treatment were not revealed until the shared variance with other part and facet scores were controlled for in multiple regression analyses, demonstrating further evidence of suppression effects (see Sections 7.4.3 and 8.4 for other examples). Specifically, relationships between PCL:SV Part 2 and emotional-submissive behaviour, empathic behaviour, and anxious behaviour were only revealed or became stronger when the shared variance with the other part scores were controlled for in regression analyses. Furthermore, relationships between the Lifestyle facet and emotional-submissive behaviour, anxious behaviour and socially dominant behaviour, as well as relationships between the Antisocial and Affective facets and anxious behaviour, were only revealed or became stronger when the shared variance with other facet scores were controlled for in regression analyses. In each of these cases the beta coefficient for the other PCL:SV part score, or at least one of the other facet's scores would also increase compared to their validity coefficient (i.e., their univariate r), meaning each of these cases represented a *Cooperative suppression* effect (Cohen & Cohen, 1975; Hicks & Patrick; 2006). Suppression effects have previously been identified with the two factors of the PCL-R on self-

report measures of anxiety, negative emotionality, suicidal behaviour, drug dependence and disinhibitory syndromes (Hicks & Patrick, 2006; Patrick, Hicks, Krueger, & Lang, 2005; Smith & Newman, 1990; Verona et al., 2005). Thus, our findings add to a growing body of evidence that suggests the parts and facets of the PCL represent multiple underlying constructs as opposed to a unified latent construct represented by PCL total scores (Hare & Neumann, 2006, 2008; Hicks & Patrick, 2006). This point is further supported by the relatively weaker and fewer relationships identified between PCL:SV total scores and behaviour in treatment variables (see Table 22).

Overall, these findings supported the 2-C model assumption that the factors and facets of the PCL were associated with different types of behaviour in treatment (Wong et al., 2012; Wong & Hare, 2005; Wong & Olver, 2015). However, many of our specific predictions regarding the relationships between the parts and facets of the PCL:SV and the behaviours examined were not supported. In summary PCL:SV Part 2 and its underlying facets were associated with lower levels of performance behaviours, particularly cooperation and motivation, and higher levels of emotional-submissive behaviour, particularly higher anxiety, empathy and social submissiveness. Conversely, PCL:SV Part 1 and its underlying facets were associated with lower levels of emotional-submissive behaviour, particularly lower anxiety, and empathy and greater social dominance. Finally, no substantial relationships were identified between PCL variables and behaviours indicative of conceptual understanding, distractedness or negative emotionality. Together these findings can begin to create a better picture of why psychopaths are difficult to treat by identifying the types of treatment behaviour that different psychopathic traits lead to. However, these findings alone still do not clarify whether these behaviours are responsible for the poor treatment outcomes found for those high in PCL psychopathy.

Chapter 10

Psychopathic Traits, Behaviour in Treatment and Treatment Outcomes

10.1 Introduction

The Two-Component model for the treatment of PCL psychopaths (2-C) proposes that the interpersonal and affective traits represented by PCL Factor 1 (F1) lead to treatment-interfering behaviours that inhibit full engagement and result in lower rates of treatment completion and treatment effectiveness (Wong, Gordon, Gu, Lewis, & Olver, 2012; Wong & Olver, 2015). The 2-C model also proposes that the impulsive lifestyle and antisocial characteristics of psychopathy, represented by PCL Factor 2 (F2), are predictive of violent and general recidivism because they are proxies for changeable dynamic risk factors which should be the focus of behavioural change in treatment (Wong & Hare, 2005; Wong & Olver, 2015). Thus, according to the 2-C model, behaviours associated with PCL F1 are responsivity-related and behaviours associated with PCL F2 are risk-related.

Thus far, in support of the 2-C model, we found that PCL:SV Part 1 and its underlying facets were stronger predictors of removal from treatment than PCL:SV Part 2 and its facets, whereas PCL:SV Part 2 and its underlying facets were stronger predictors of post-treatment recidivism than PCL:SV Part 1 and its facets (see Chapters 6 and 7). In line with the 2-C model, we also found that Parts 1 and 2 of the PCL:SV and their underlying facets were associated with different types of behaviour during treatment (see Chapter 9). However, the results thus far do not identify whether the behaviours associated with PCL:SV Part 1 and its underlying facets help to explain the relationship between Part 1 and removal from treatment, or whether the behaviours associated with PCL:SV Part 2 and its underlying facets help to explain the

relationship between Part 2 and reconviction. That is, we have yet to identify whether certain types of treatment behaviour could be identified as more risk- or responsivity-related because we have yet to examine whether those behaviours act as mechanisms that explain the relationships between the parts and facets of the PCL:SV and different treatment outcomes.

Therefore, for our final set of analyses we sought to investigate whether certain types of treatment behaviour explained the relationships between the parts and facets of the PCL:SV and different treatment outcomes. Specifically, we conducted two sets of analyses, each with two stages. For the first stage of the first set of analyses we examined whether behaviours associated with PCL:SV Part 1 and its underlying facets, the Interpersonal and Affective facets, predicted treatment non-completion. Then, for the second stage of analyses, we conducted mediation analyses to examine whether behaviours that predicted removal from treatment also explained the relationships between PCL:SV Part 1 variables and removal. For the first stage of the second set of analyses we examined whether behaviours associated with PCL:SV Part 2 and its underlying facets, the Lifestyle and Antisocial facets, predicted reconviction. Then, for the second stage of analyses, we conducted mediation analyses to examine whether behaviours that predicted reconviction also explained the relationships between PCL:SV Part 2 variables and reconviction. Based on the assumptions of the 2-C model we predicted that all of the behaviours associated with PCL:SV Part 1 variables would also predict removal from treatment and would mediate the relationships between PCL:SV Part 1 variables and removal. Furthermore, based on the same assumptions we predicted that all of the behaviours associated with PCL:SV Part 2 variables would also predict reconviction outcomes and would mediate the relationships between PCL:SV Part 2 variables and reconviction.

10.2 Do Behaviours in Treatment Explain The Relationships Between PCL:SV Part 1 Variables and Treatment Non-completion?

10.2.1 Data Analytic Strategy for Behaviour and Treatment Non-completion Analyses

For the first stage of these analyses we examined the relationships between behaviour in treatment variables and treatment non-completion. These analyses were limited to behaviour variables that also demonstrated relationships with PCL:SV Part 1 and its underlying facets the Interpersonal and Affective facets (see Chapter 9). Specifically, we looked at the Performance and Emotional-submissive behaviour factors, and the individual behaviours, cooperation, anxiety, empathy and social dominance. The relationships between behaviours and treatment non-completion were examined using the same set of analyses used to examine relationships between psychopathic traits and treatment non-completion (see Chapter 6) in order to maintain consistency with the previous analyses and make the results more easily comparable. As for the previous analyses, treatment non-completion was broken down into two categories (1. withdrew from treatment, and 2. removed by staff) and these categories were both compared against treatment completion. Two MANOVAs followed by post-hoc ANOVAs were performed to assess for any differences in behaviour factors or individual behaviours between men who completed, withdrew or were removed from treatment. MANOVAs were separated for behaviour factors and individual behaviours so as not to violate the assumption of singularity (Field, 2013). Post-hoc comparison tests were conducted following ANOVAs to identify the pattern of differences between completers, withdrawers and

removed men. Finally discriminant function analyses were performed to examine the relative contributions of behaviour factors and of individual behaviours in predicting completion status.

10.2.2 Behaviour and Treatment Non-completion Results

As displayed in Table 30 and Figure 7, men who completed treatment had higher mean Performance and Emotional-submissive factor scores than men who withdrew or were removed from treatment. Due to the small sample size of the withdrawn group, accuracy of the withdrawn group means was low with large confidence intervals that encompassed or even extended beyond the confidence intervals of the completers and of the removed men respectively (see Figure 7). A similar pattern of results was observed for three of the four individual behaviours (cooperation, empathy and anxiety), with completers displaying higher mean scores on all three variables compared to men who withdrew or were removed from treatment (see Table 30 and Figure 8). Completers, however, displayed similar mean scores on social dominance to removed men, and means on all individual behaviours for withdrawn men were similar to or lower than those of removed men, with large overlapping confidence intervals.

Inferential statistics largely confirmed the described patterns of results, with two MANOVAs revealing—using Pillai’s trace—significant differences between the three completion groups on behaviour factors; $V = 0.11$ $F(4, 464) = 6.85$, $p < .01$, $\eta_p^2 = 0.056$ and individual behaviours $V = 0.12$ $F(8, 472) = 3.79$, $p < .01$, $\eta_p^2 = 0.060$. Post-hoc ANOVAs—also displayed in Table 30—revealed significant differences between the three completion groups on each

behaviour factor and each individual behaviour except for social dominance. Post-hoc Games-Howell comparison tests¹⁷ confirmed that men who completed treatment had significantly higher scores than removed men on each behaviour factor and each individual behaviour that was tested with medium effect sizes¹⁸ (see Table 31). Differences between men who were removed versus those who withdrew were non-significant, with small effect sizes, and differences between men who completed versus withdrew were non-significant, though with large effect sizes.

Figure 7. Mean behaviour factor scores for treatment completers compared with men who were removed or withdrew from treatment. Error bars are 95% confidence intervals.

¹⁷ Games-Howell tests were selected because they account for type 1 errors with unequal group sizes.

¹⁸ Non-parametric Kruskal-Wallis tests were also conducted to account for the influence of outliers and non-normal distributions in the data with the same pattern of results found.

Table 30

Comparisons between Treatment Completers, Withdrawers and Removed Men on Behaviour Factors and on Individual Behaviours

Behaviour	Completed			Removed			Withdrew			<i>F</i>	η^2
	<i>n</i>	<i>M (SD)</i>	95% CI	<i>n</i>	<i>M (SD)</i>	95% CI	<i>N</i>	<i>M (SD)</i>	95% CI		
Performance	209	.41 (2.5)	[.07, .76]	44	-1.5 (3.0)	[-2.4, -.61]	11	-1.9 (3.9)	[-4.5, .69]	12.57**	.088
Emotional-submissive	199	.38 (2.6)	[.02, .75]	33	-1.1 (2.0)	[-1.8, -.38]	9	-.92 (2.8)	[-3.1, 1.2]	5.48**	.044
Cooperation	214	.89 (.10)	[.88, .90]	44	.82 (.14)	[.77, .86]	14	.83 (1.9)	[.72, .94]	5.88** ^W	.060
Empathy	204	.59 (.34)	[.55, .64]	34	.42 (.39)	[.28, .56]	9	.28 (.37)	[-.01, .56]	6.57**	.051
Anxiety	214	5.1 (4.7)	[4.5, 5.8]	44	3.0 (2.9)	[2.1, 3.9]	14	2.7 (4.0)	[.41, 5.0]	8.48** ^W	.040
Social dominance	207	.78 (.30)	[.74, .82]	42	.80 (.32)	[.70, .90]	14	.66 (.38)	[.44, .88]	1.10	.01

Note. CI = confidence interval. ^W = Welch's *F*, used for violations of Leven's test of homogeneity of variance. η^2 = eta squared. ***p* < .01.

Table 31

Mean Differences and Post-hoc Comparison Tests between Treatment Completers, Withdrawers and Removed Men on Behaviour Factors and on Individual Behaviours

Behaviour	Removed vs Completed			Removed vs Withdrew			Completed vs Withdrew		
	Mean difference	95% CI	<i>d</i>	Mean difference	95% CI	<i>d</i>	Mean difference	95% CI	<i>d</i>
Performance	1.92**	[0.77, 3.08]	0.70	0.41	[-2.90, 3.73]	0.12	2.33	[-0.90, 5.56]	0.71
Emotional-submissive	1.46**	[0.52, 2.41]	0.63	0.17	[-2.54, 2.87]	0.07	1.30	[-1.37, 3.97]	0.48
Cooperation	0.07**	[0.02, 0.13]	0.60	0.01	[-0.13, 0.16]	0.07	0.06	[-0.08, 0.20]	0.40
Empathy	0.18*	[0.00, 0.35]	0.47	0.14	[-0.23, 0.51]	0.36	0.32	[-0.04, 0.67]	0.88
Anxiety	2.10**	[0.81, 3.40]	0.54	0.31	[-2.64, 3.26]	0.09	2.41	[-0.47, 5.29]	0.55

Note. CI = confidence interval; *d* = Cohen's *d* effect size.

p* < .05, *p* < .01.

Figure 8. Mean individual behaviour scores for treatment completers compared with men who were removed or withdrew from treatment¹⁹. Error bars are 95% confidence intervals.

Finally two post-hoc discriminant function analyses (DFA) were performed to examine the relative contributions of behaviour factor and individual behaviour scores to predicting treatment completion versus removal and withdrawal. The first DFA with behaviour factor scores revealed two discriminant functions. The first function explained practically all of the variance—99.9%—within the discriminant functions: canonical $R^2 = .11$; and the second function explained practically no variance, 0.1%, canonical $R^2 < .00$. In combination the two functions significantly differentiated the completion groups $\Lambda = 0.89$, $\chi^2(4, N = 235) = 27.38$, p

¹⁹ Anxiety could not be placed on Figure 8 because it does not fit on a 100 point scale (for more details see Section 9.2.1.3). However, the pattern for anxiety looked similar to cooperation.

< 0.01 , but the second function alone did not $\Lambda = 1.0$, $\chi^2(1, N = 235) = .02$, $p = .88$. The second DFA with individual behaviour scores also revealed two discriminant functions. The first function explained 78.4% of the variance, canonical $R^2 = .093$, and the second function explained 21.6%, canonical $R^2 = .028$. Together both functions significantly differentiated completion groups $\Lambda = 0.88$, $\chi^2(8, N = 241) = 29.72$, $p < 0.01$; but the second function failed to do so alone $\Lambda = 0.97$, $\chi^2(3, N = 241) = 6.59$, $p = 0.09$.

Group centroids and discriminant function plots from both DFAs revealed that the first function in both analyses best discriminated completers from both types of treatment non-completers, with little discrimination between removed men and men who withdrew from treatment. The second function did not discriminate between completion groups for the behaviour factor DFA, and discriminated mainly between the two types of non-completers in the individual behaviour DFA. Correlations between outcomes and discriminant functions revealed that Performance contributed more to the first function than Emotional-submissive behaviour in the behaviour factor DFA ($r = .83$ for Performance and $r = .65$ for Emotional-submissive), whereas empathy and cooperation contributed most to the first function in the individual behaviour DFA ($r = .68$ for empathy and $r = .67$ for cooperation) followed by anxiety and social dominance ($r = .51$ for anxiety and $r = -.03$ for social dominance). In short, Performance factor scores and scores on individual behaviour variables cooperation and empathy were best at discriminating between treatment completers and the two types of non-completers

10.2.3 Data Analytic Strategy for Mediation Analyses Part 1

Based on the above results, logistic mediation analyses were conducted with all behaviour variables that demonstrated relationships with both PCL:SV Part 1 variables and removal from treatment. Thus, the behaviour variables tested for mediation were the Performance and Emotional-submissive factors and the three individual behaviour variables: cooperation, empathy and anxiety. Because we were unable to identify any mediation procedure that could account for a multicategorical dependent variable, men who withdrew from treatment were removed from the sample to create a dichotomous removed/completed dependent outcome variable²⁰. Logistic mediations were performed using the SPSS add-on PROCESS developed by Andrew Hayes (Hayes, 2012). PROCESS performs logistic mediations using a combination of linear and logistic regressions to calculate the indirect effect of a predictor on a dependent variable through a mediator. PROCESS provides an estimate of the indirect effect with bootstrapped confidence intervals, which are recommended in place of the more traditional Sobel test because they provide a higher level of power and do not rely on the assumption that the indirect effect has a normal distribution (Hayes, 2013).

Follow-up parallel multiple mediator logistic mediation analyses were conducted in cases where either both behaviour factors, or more than one individual behaviour mediated the relationship between a PCL:SV variable and removal from treatment, in order to assess the joint and relative contributions of each factor or individual behaviour in mediating the relationship.

²⁰ Collapsing removed and withdrawn men into the same treatment non-completion group was also attempted but estimates of the total effects between PCL:SV variables and “removal” were substantially weakened by this procedure.

For all mediation analyses testing anxiety as a mediator, PCL:SV Part 2 was controlled for by entering it as a covariate when estimating the relationship between PCL:SV Part 1 and anxiety during treatment. Furthermore the other three PCL:SV facets were controlled for by entering them as covariates when estimating the relationship between the Affective facet and removal from treatment. These covariates were only accounted for in mediations including the anxiety variable because previous analyses found that relationships between PCL:SV Part 1 variables and anxiety did not otherwise materialise (see Section 9.3.2).

10.2.4 Mediation Results Part 1

The basic mediation model for all subsequent mediation analyses is shown in Figure 9. Based on the confidence intervals of the indirect effects (denoted ab) the Emotional-submissive factor mediated the relationship between PCL:SV Part 1 and removal from treatment as did the individual behaviours: empathy and anxiety (see Table 32). That is, higher scores on PCL:SV Part 1 predicted removal from treatment through less Emotional-submissive behaviour during treatment, particularly less empathy and anxiety. Conversely the Performance factor scores did not mediate the relationship between PCL:SV Part 1 and removal. At the facet level, Emotional-submissive behaviour and empathy were the only eligible behaviour variables for mediation analysis between the Interpersonal facet and removal²¹, and both were found to mediate the relationship. Emotional-submissive behaviour also mediated the relationship between the Affective facet and removal, as did the individual behaviour anxiety, but not empathy. The

²¹ Because they were the only behaviour variables that demonstrated relationships with both the Interpersonal facet and removal.

Performance factor and the individual behaviour of cooperation also mediated the relationship between the Affective facet and removal, suggesting that higher scores on the Affective facet predicted removal from treatment through poorer Performance and in particular poorer cooperation.

Figure 9. Basic mediation model for examining the indirect effect (ab) of PCL:SV variables on outcomes through behaviour: a represents the effect of the PCL:SV variable on behaviour, b represents the effect of behaviour on outcome controlling for the PCL:SV variable, c represents the total effect of the PCL:SV variable on the outcome, and c' represents the direct effect of the PCL:SV variable on the outcome controlling for behaviour

Table 32

All Regression Coefficients Testing the Indirect Effect of PCL:SV Part 1 Variables on Removal from Treatment through Behaviour

Predictor	Mediator	ab	SE	95% CI	a	b	c	c'
PCL:SV Part 1	Performance	.03	.02	[-.00, .07]	-.10 ²²	-.26**	.18**	.17*
	Emotional-submissive	.03	.02	[.01, .08]	-.13*	-.24**	.14	.11
	Empathy	.04	.02	[.001, .09]	-.03**	-1.2*	.14*	.11
	Anxiety	.05	.03	[.02, .12]	-.35**	-.14**	.17*	.16*
Interpersonal	Emotional-submissive	.05	.03	[.01, .13]	-.21*	-.22*	.31*	.28*
	Empathy	.05	.04	[.003, .14]	-.04**	-1.3*	.29*	.26*
Affective	Performance	.09	.05	[.02, .20]	-.29*	-.31**	.36*	.28
	Emotional-submissive	.07	.04	[.02, .20]	-.31**	-.23*	.32	.25
	Cooperation	.05	.03	[.002, .13]	-.01	-5.8**	.35*	.31*
	Empathy	.08	.05	[-.004, .22]	-.07**	-1.2*	.33	.24
	Anxiety	.10	.06	[.02, .26]	-.71**	-.13*	.31*	.33*

Note. a = the effect of PCL:SV variable on behaviour, b = the effect of behaviour on removal controlling for PCL:SV variable, c = the total effect of PCL:SV variable on removal external to behaviour, c' = the direct effect of PCL:SV variable on removal controlling for behaviour, ab = the indirect effect of PCL:SV variable on removal through behaviour. All models with indirect effects that do not include zero in the confidence interval are in bold. Reported confidence intervals are bias corrected and accelerated (BCa) bootstrap 95% confidence intervals. PCL:SV Part 1: Performance, $n = 253$; Emotional-submissive $n = 232$; Empathy $n = 238$; Anxiety $n = 258$. Interpersonal facet: Emotional-submissive $n = 225$; Empathy $n = 238$. Affective facet: Performance, $n = 246$; Emotional-submissive $n = 226$; Cooperation $n = 250$; Empathy $n = 232$; Anxiety $n = 245$. Range of R^2 for full models = .04 - .10 (Cox & Snell), .07 - .17 (Nagelkerke).

* $p < .05$, ** $p < .01$

²² Some relationships between predictors and mediators (pathway a) rose above statistical significance levels (i.e., became non-significant) due to reductions in power from removing withdrawers. Some relationships between predictors and outcome (pathway c) also rose above statistical significance levels due to reductions in power from list-wise deletion of cases with missing behaviour data. Despite these reductions all p values were still low (pathway a $< .07$, pathway c $< .06$).

Two follow-up parallel multiple mediator logistic mediations were performed to test the joint and relative contributions of anxiety and empathy in mediating the relationship between PCL:SV Part 1 and removal, as well as the joint and relative contributions of the Performance and Emotional-submissive factors in mediating the relationship between the Affective facet and removal²³. The confidence intervals for the total indirect effect suggests that together anxiety and empathy mediated the relationship between PCL:SV Part 1 and removal (see Figure 10), but the individual indirect effects suggested that empathy alone did not mediate the relationship when controlling for anxiety whereas anxiety did mediate the relationship when controlling for empathy. This pattern indicates that higher scores on the PCL:SV Part 1 predicted removal from treatment through lower levels of anxious behaviour during treatment regardless of the level of empathic behaviour displayed during treatment. The full model explained 9% of the variance in removal (Nagelkerke $R^2 = .09$) with 86% of the sample correctly classified as either completing or being removed from treatment.

In the second multiple mediator model the confidence intervals for the total indirect effect suggest that together the Performance and Emotional-submissive factors mediated the relationship between the Affective facet and removal (see Figure 11). Furthermore, the individual indirect effects suggested that Performance alone mediated the relationship controlling for Emotional-submissive behaviour and Emotional-submissive behaviour alone

²³ A parallel multiple mediator model looking at whether individual behaviours cooperation and anxiety mediated the relationship between the Affective facet and removal could not be tested because the relationship between the Affective facet and anxiety is only present when controlling for the other three PCL:SV facets, whereas the relationship between the Affective facet and cooperation is suppressed when controlling for the other three facets (see Section 9.3.2).

mediated the relationship controlling for Performance. This indicates that higher scores on the Affective facet predicted removal from treatment through poorer Performance regardless of the level of Emotional-submissive behaviour and through lower Emotional-submissive behaviour regardless of the level of Performance. In other words the Affective facet can lead to removal through two different types of behaviour during treatment, and these two pathways to removal may occur independently or concurrently. The full model explained 17% of the variance in removal (Nagelkerke $R^2 = .17$) with 88% of the sample correctly classified as either completing or being removed from treatment.

Total indirect effect, $b(SE) = .08(.03)$, 95% CI [.02, .15]
 Indirect effect of anxiety, $b(SE) = .04(.03)$, 95% CI [.004, .11]
 Indirect effect of empathy, $b(SE) = .04(.03)$, 95% CI [-.02, .11]

Figure 10. Regression coefficients for a parallel multiple mediator model testing anxiety and empathy during treatment as concurrent mediators of the relationship between PCL:SV Part 1 and removal from treatment ($N = 238$).

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Figure 11. Regression coefficients for a parallel multiple mediator model testing Performance and Emotional-submissive behaviour during treatment as concurrent mediators of the relationship between the Affective facet and removal from treatment ($N = 222$).

10.2.5 Discussion Part 1

Men who demonstrated poorer Performance and less Emotional-submissive behaviour during treatment were more likely to be removed from treatment. These findings are in line with other research looking at the relationship between conglomerate measures of treatment behaviour and treatment non-completion (Langton, Barbaree, Harkins, & Peacock, 2006; Ogloff, Wong, & Greenwood, 1990; Olver, Stockdale, & Wormith, 2011; Seto & Barbaree, 1999). More specifically, men who displayed lower levels of cooperative, empathic, and anxious behaviours

²⁴ Relationships between the Affective facet and Performance, as well as the Affective facet and removal rose slightly above statistical significance levels ($p = .062$ and $p = .051$ respectively) due to a reduction in power from list-wise deletion of cases missing Emotional-submissive behaviour data.

were more likely to be removed from treatment. Although other studies have produced similar findings with various measures of cooperation and empathy (Olver et al., 2011; Wormith & Olver, 2002), self-report measures of anxiety have either not been associated with treatment dropout or have been linked to dropout in the opposite direction, with higher anxiety predicting a higher likelihood of dropout (Hiller, Knight, & Simpson, 1999; McCarthy & Duggan, 2010; McMurrin, Huband, & Duggan, 2008). Our finding for anxiety is consistent with the Multi Factor Offender Readiness Model (MORM), which suggests high levels of distress may provide a window to encourage engagement and change in treatment (Ward, Day, Howells, & Birgden, 2004). However, the inconsistency of the finding compared to other research could be attributed differences between observed and self-reported measures of anxiety. Or alternatively, the effects of anxiety may differ with the risk-level of those being treated, because the current study examined high-risk men whereas previous studies were based on treatment programmes that refused men with high PCL-R scores (McCarthy & Duggan, 2010; McMurrin et al., 2008).

Contrary to our hypothesis that all behaviours associated with PCL:SV Part 1 variables would also be associated with removal, one type of behaviour—social dominance—was unrelated to either type of treatment non-completion. This pattern suggests that any interferences caused by these types of behaviour during treatment were not viewed independently as grounds for removal. In turn, this could mean that socially dominant behaviours are not interpreted by therapists as indicators of motivation or engagement and are instead attributed to differences in personality or behavioural style.

As hypothesised all behaviour variables that predicted removal, also mediated the relationship between at least one PCL:SV Part 1 variable and removal from treatment. This provides the first empirical support for the 2-C model assumption that the interpersonal and affective features of PCL psychopathy lead to treatment interfering behaviours that in turn lead to treatment non-completion (Wong et al., 2012; Wong & Hare, 2005; Wong & Olver, 2015). Specifically, the Emotional-submissive factor mediated the relationship between PCL:SV Part 1 and removal, the Interpersonal facet and removal, and the Affective facet and removal. That is higher scores on each PCL:SV Part 1 variable predicted a higher likelihood of removal through lower levels of emotional-submissive behaviour during treatment. Individual behaviours within the Emotional-submissive factor, anxiety and empathy emerged as the most salient drivers of these mediation effects, with anxiety mediating the relationships between PCL:SV Part 1/the Affective facet and removal, and empathy mediating the relationship between PCL:SV Part 1/Interpersonal facet and removal. Collectively, these results are consistent with the idea that the traits represented within PCL:SV Part 1 lead to lower levels of emotion during treatment. These kinds of shallow emotions during treatment have been speculated to hinder the formation of a therapeutic bond and inhibit any emotionally based motivation to change, though our results do not provide any evidence regarding these claims (Thornton & Blud, 2007; Wong & Hare, 2005).

When controlling for anxiety, empathy did not mediate the relationship between PCL:SV Part 1 and removal; but, when controlling for empathy, anxiety continued to mediate the relationship between PCL:SV Part 1 and removal. This could suggest that compared to empathy, anxiety is more highly associated with other key treatment engagement variables such as

performance or the therapeutic alliance. However, correlation analyses revealed empathy to have stronger correlations with these variables (WAI-S total $r = .49$; Performance $r = .43$) than anxiety (WAI-S total $r = .25$; Performance $r = .04$). Thus, an alternative explanation for these results is that those higher in anxiety are less likely to get involved in rule breaking behaviours that might lead to removal from treatment. Some evidence suggests that higher PCL-R F1 scores are associated with more infractions during treatment (Richards, Casey, & Lucente, 2003), though research examining whether anxiety mediates this relationship would be needed to properly assess such a hypothesis.

The Performance factor and the individual behaviour variable cooperation also mediated the relationship between the Affective facet and removal, with higher scores on the Affective facet predicting a higher likelihood of removal through poorer performance and cooperation. The mediating effect for the performance variable was present regardless of the level of emotional-submissive behaviour, meaning the mediating effects of performance were independent of the mediating effects of emotional-submissive behaviour. The lack of empathy, remorse, and failure to accept responsibility represented within the Affective facet may specifically impair performance due to treatment content that either requires accepting a level of responsibility in order to properly engage, or content that deals specifically with issues of victim empathy (e.g., the offence map and victim empathy modules). As suggested by Wong and Hare (2005) those high in affective deficits may have particular difficulties performing with this type of content because they have limited emotional skills to draw from. The concurrent and independent mediating effects demonstrated by the Performance and Emotional-submissive factors indicate that there may be multiple ways that the affective deficits within

PCL psychopathy lead to removal from treatment and thus multiple strategies may be required to remedy the problem.

Collectively these mediation results provide the first evidence of mechanisms that explain the relationship between PCL psychopathy and treatment non-completion. According to the 2-C model behaviours that explain the relationship between PCL:SV Part 1 variables and removal should be considered responsivity-based behaviours that therapists need to work around or manage while changing risk-based behaviours (Wong et al., 2012; Wong & Hare, 2005; Wong & Olver, 2015). Therefore, based on these results we would recommend therapists specifically try to work around low empathy, low anxiety and poor cooperation for those high on PCL psychopathy (especially PCL F1) while changing more risk-relevant behaviours. However, unless there is evidence suggesting these behaviours are not also associated with risk, these types of recommendations could unintentionally direct therapists to work around risk-relevant behaviours.

10.3 Do Behaviours in Treatment Explain Relationships Between PCL:SV Part 2 Variables and Reconviction?

10.3.1 Data Analytic Strategy for Behaviour and Reconviction Analyses

The second set of analyses were conducted to investigate whether behaviours associated with PCL:SV Part 2 variables could explain the relationships between PCL:SV Part 2 and reconviction outcomes. For the first stage of these analyses we examined the relationships between behaviour in treatment variables and reconviction outcomes. These analyses were limited to behaviour variables that previously demonstrated relationships with PCL:SV Part 2

and its underlying facets: the Lifestyle and Antisocial facets (see Chapter 9). Specifically we examined the Performance and Emotional-submissive factors, and the individual behaviours: cooperation, motivation to change, anxiety, empathy and social dominance. To maintain consistency with previous analyses, the relationships between behaviours and reconviction were examined using the same set of analyses used to examine relationships between psychopathic traits and reconviction (see Chapter 7). As for the previous analyses, we examined relationships with five different indices of reconviction: breaches, general reconviction, violent reconviction, reimprisonment and serious reimprisonment. Point-biserial correlations and Area Under the receiver operating Curve (AUC) analyses were conducted to identify the strength, direction and accuracy of relationships between behaviour variables and reconviction outcomes at a two year follow-up. Subsequently, univariate Cox regression analyses were performed using all of the available follow up time for each case which varied between 0 and 4554 days (see Table 11, Section 7.6.2).

10.3.2 Behaviour and Reconviction Results

Correlation and AUC analyses revealed small negative relationships with low accuracy between the Performance factor and general reconviction, violent reconviction and reimprisonment, with higher Performance factor scores associated with a lower likelihood of reconvictions within two years following post-treatment release (see Table 33). A similar pattern of small negative correlations was also found between the same reconviction outcomes and the individual behaviour, cooperation, with higher cooperation scores associated with a lower likelihood of general-, violent- and reimprisonment-based reconvictions at two years follow-up. Higher scores on motivation to change during treatment were also associated with a

lower likelihood of violent reconvictions and higher scores on the Emotional-submissive factor were associated with a higher likelihood of parole breaches but no other reconviction outcomes.

Cox regression analyses revealed that when full follow up times were used, only Performance and cooperation significantly predicted these same three reconviction outcomes. But these two behaviour variables now also predicted serious reimprisonment (see Table 34). Cox regression hazard ratios suggested that for every one point increase in Performance factor scores there was an 8% lower likelihood of general reconviction, a 9% lower likelihood of violent reconviction and reimprisonment, and a 10% lower likelihood of serious reimprisonment. Hazard ratios also indicated that for every point increase in cooperation scores there was a 92% lower likelihood of general reconviction, a 91% lower likelihood of violent reconviction, an 87% lower likelihood of reimprisonment and an 84% lower likelihood of serious reimprisonment.

Table 33

Relationships between Behaviour Variables and Post-treatment Reconviction Outcomes (Two-year Fixed Follow-up)

Behaviour variable	Breach			General reconviction			Violent reconviction		
	r_{pb}	AUC	95% CI	r_{pb}	AUC	95% CI	r_{pb}	AUC	95% CI
Performance	-.07	.54	[.46, .63]	-.16*	.60*	[.52, .68]	-.19**	.61**	[.53, .68]
Emotional-submissive	.14*	.59	[.49, .68]	.09	.56	[.48, .65]	-.04	.50	[.42, .58]
Cooperation	-.07	.57	[.49, .65]	-.18**	.61*	[.54, .69]	-.18**	.60*	[.52, .67]
Motivation to change	-.03	.52	[.44, .61]	-.11	.57	[.49, .65]	-.14*	.58*	[.51, .66]
Empathy	.09	.56	[.47, .66]	.03	.51	[.43, .60]	-.12	.57	[.48, .65]
Anxiety	.08	.57	[.48, .65]	.08	.55	[.47, .63]	-.00	.52	[.45, .60]
Social dominance	-.09	.57	[.48, .65]	-.06	.54	[.46, .62]	.08	.53	[.45, .61]
	Reimprisonment			Serious reimprisonment					
	r_{pb}	AUC	95% CI	r_{pb}	AUC	95% CI			
Performance	-.15*	.59*	[.51, .66]	-.11	.59*	[.51, .67]			
Emotional-submissive	.03	.53	[.45, .62]	-.01	.51	[.42, .61]			
Cooperation	-.14*	.59*	[.52, .67]	-.07	.57	[.48, .66]			
Motivation to change	-.06	.54	[.46, .61]	-.05	.53	[.44, .62]			
Empathy	-.03	.52	[.43, .60]	-.09	.56	[.47, .65]			
Anxiety	.05	.56	[.48, .63]	.04	.54	[.45, .63]			
Social dominance	-.02	.50	[.32, .58]	-.02	.51	[.42, .60]			

Note. r_{pb} = point-biserial correlation coefficient; AUC = area under the receiver operating curve; CI = confidence interval. Performance $n = 227$; Emotional-submissive $n = 202$; Cooperation and Anxiety $n = 232$; Motivation to change $n = 231$; Empathy $n = 208$; Social dominance $n = 223$.

* $p < .05$, ** $p < .01$.

Table 34

Univariate Cox Regressions for Performance and Cooperation Predicting the Five Reconviction Outcomes (Full Follow-up Period)

Behaviour	Breach					General reconviction				
	χ^2 (df)	B(SE)	Wald	HR	95% CI	χ^2 (df)	B(SE)	Wald	HR	95% CI
Performance	0.71(1)	-.04(.05)	0.71	.96	[.88, 1.05]	10.09(1)**	-.09(.03)	10.07**	.92	[.87, .97]
Cooperation	1.60(1)	-1.32(1.0)	1.75	.27	[.04, 1.89]	14.95(1)**	-2.57(.63)	16.79**	.08	[.02, .26]
	Violent reconviction					Reimprisonment				
	χ^2 (df)	B(SE)	Wald	HR	95% CI	χ^2 (df)	B(SE)	Wald	HR	95% CI
Performance	9.12(1)**	-.10(.03)	9.11**	.91	[.85, .97]	9.99(1)**	-.10(.03)	10.03**	.91	[.85, .96]
Cooperation	10.40(1)**	-2.39(.70)	11.70**	.09	[.02, .36]	8.81(1)**	-2.03(.64)	10.15**	.13	[.04, .46]
	Serious reimprisonment									
	χ^2 (df)	B(SE)	Wald	HR	95% CI					
Performance	7.87(1)**	-.11(.04)	7.91**	.90	[.83, .97]					
Cooperation	4.59(1)*	-1.87(.81)	5.30*	.16	[.03, .76]					

Note. χ^2 = Chi-squared difference from null time-only model; CI = confidence interval; HR = hazard ratio. Performance $n = 205$; cooperation $n = 240$.

* $p < .05$, ** $p < .01$.

10.3.3 Data Analytic Strategy for Mediation Analyses Part 2

Based on the above results, logistic mediation analyses were conducted to examine whether any behaviour variables mediated the relationships found between PCL:SV Part 2 variables and reconviction outcomes at 2-years follow up (see Chapter 7). Like the previous mediation analyses, mediations were conducted using the SPSS add-on PROCESS (Hayes, 2012). The behaviour variables selected for mediation were those that had demonstrated relationships with both PCL:SV Part 2 variables and reconviction outcomes at 2 years follow-up. Thus, the behaviour variables tested were the Performance factor and individual behaviours: cooperation and motivation to change. These behaviour variables were analysed to test whether they mediated relationships between PCL:SV Part 2/the Lifestyle and Antisocial facets and the outcomes violent reconviction and reimprisonment²⁵.

10.3.4 Mediation Results Part 2

Based on the confidence intervals of the indirect effects, the Performance factor and the individual behaviour cooperation each mediated the relationship between PCL:SV Part 2 and violent reconviction, but not reimprisonment (see Table 35). That is, higher scores on the PCL:SV Part 2 predicted a higher likelihood of violent reconviction at two years after release through poorer Performance during treatment, and in particular poorer cooperation.

²⁵ General reconviction outcomes were not tested because no relationships were identified between PCL:SV Part 2 variables and general reconviction at 2 years follow-up (see Chapter 7). We did not test whether motivation to change mediated the relationship between the Antisocial facet and reconviction outcomes, because we did not previously identify any relationships between the Antisocial facet and motivation to change (see Chapter 9).

Conversely motivation to change did not mediate the relationship between PCL:SV Part 2 and violent reconviction.

The same pattern of results was found at the facet level, with performance and cooperation mediating the relationship between the Lifestyle facet and violent reconviction, and between the Antisocial facet and violent reconviction. Again, motivation to change failed to mediate relationships between any PCL:SV facets and reconviction outcomes. Furthermore, no mediation effects were identified for models using reimprisonment as the outcome variable (see Table 35). All full mediation models demonstrating an indirect effect explained between 6% and 7% of the variance in violent reconviction outcomes (Nagelkerke $R^2 = .06-.07$) with between 61% and 63% of the sample correctly classified as either being or not being reconvicted for a violent offence within 2 years after release.

Table 35

All Regression Coefficients Testing the Indirect Effect of PCL:SV Variables on Reconviction Outcomes through Behaviour

Predictor	Mediator	Reconviction outcome	ab	SE	95% CI	a	b	c	c'
PCL:SV Part 2	Performance	Violent	.04	.02	[.01, .08]	-.26**	-.13*	.14*	.11
		Reimprisonment	.02	.02	[-.001, .07]	-.26**	-.09	.16*	.13
	Cooperation	Violent	.02	.01	[.004, .06]	-.01*	-2.9*	.15*	.12
		Reimprisonment	.02	.01	[-.001, .06]	-.01*	-2.1	.17*	.16*
	Motivation to change	Violent	.02	.02	[-.001, .06]	-.02**	-.86	.15*	.13
		Reimprisonment	.02	.02	[-.001, .06]	-.02**	-.86	.15*	.13
Lifestyle	Performance	Violent	.06	.03	[.01, .14]	-.41**	-.14*	.22*	.17
		Reimprisonment	.04	.03	[-.01, .11]	-.41**	-.08	.22*	.19
	Cooperation	Violent	.03	.02	[.001, .09]	-.01²⁶	-3.1*	.23*	.21
		Reimprisonment	.02	.020	[-.001, .08]	-.01	-2.2	.24*	.22*
	Motivation to change	Violent	.04	.03	[-.01, .11]	-.05**	-.79	.23*	.20
		Reimprisonment	.04	.03	[-.01, .11]	-.05**	-.79	.23*	.20
Antisocial	Performance	Violent	.05	.03	[.003, .12]	-.34*	-.13*	.27*	.23
		Reimprisonment	.03	.03	[-.01, .10]	-.34*	-.08	.27*	.24
	Cooperation	Violent	.04	.03	[.001, .12]	-.02*	-2.8*	.29*	.25
		Reimprisonment	.03	.03	[-.004, .10]	-.02*	-1.9	.28*	.25

Note. a = the effect of PCL:SV variable on behaviour, b = the effect of behaviour on reconviction controlling for PCL:SV variable, c = the total effect of PCL:SV variable on reconviction external to behaviour, c' = the direct effect of PCL:SV variable on reconviction controlling for behaviour, ab = the indirect effect of PCL:SV variable on reconviction through behaviour. All models with indirect effects that do not include zero in the confidence interval are in bold. Reported confidence intervals are bias corrected and accelerated (BCa) bootstrap 95% confidence intervals. PCL:SV Part 2: Performance $n = 227$; Cooperation $n = 232$; Motivation to change $n = 231$. Lifestyle facet: Performance $n = 219$; Cooperation $n = 223$; Motivation to change $n = 231$. Antisocial facet: Performance $n = 221$; Cooperation $n = 225$. Range of R^2 for full models = .03 - .05 (Cox & Snell), .04 - .07 (Nagelkerke).

* $p < .05$, ** $p < .01$

²⁶ Relationship between the Lifestyle facet and cooperation rose above the level of statistical significance ($p = .085$) due to a reduction in power from the removal of non-released men.

10.3.5 Discussion Part 2

Men who demonstrated greater performance and in particular greater cooperative behaviour during treatment were less likely to be reconvicted of general, violent or serious crimes following treatment. Similar measures of performance and cooperation have been linked to recidivism in treatment programmes for adolescents high on PCL psychopathy and men who have sexually offended against children (Beggs & Grace, 2011; Caldwell, McCormick, Umstead, & Van Rybroek, 2007; Marques, Nelson, West, & Day, 1994; Scalora & Garbin, 2003). These findings could suggest that men who displayed greater performance or cooperation during treatment were learning more from the treatment programme and thus reducing their risk of reconviction. But, because poorer performance and cooperation also predicted a higher likelihood of removal from treatment (see Section 10.2.2), there is reason to believe that these behaviour variables are only linked to reconviction through removal. That is, those who displayed poorer performance or cooperation were more likely to be removed, and those who were removed were more likely to be reconvicted. However, when the same Cox regression analyses were conducted looking only at men who completed treatment, a similar pattern of results were found, with the exception that the Performance factor now failed to predict violent reconviction (see Appendix C for these additional analyses).

The Performance factor, and cooperation variable also individually mediated the relationships between each PCL:SV Part 2 variable (i.e., including the Lifestyle and Antisocial facets) and violent reconviction. Thus, those with higher scores on PCL:SV Part 2 or either of its facets were more likely to be reconvicted for a violent offence following treatment due to poorer performance and cooperation during treatment. This provides the first empirical

support for the 2-C model assumption that the impulsive lifestyle and antisocial features of PCL psychopathy are associated with treatment behaviours that are in turn associated with risk (Wong et al., 2012; Wong & Hare, 2005; Wong & Olver, 2015). Furthermore, there was also evidence within these mediation models (see b pathways in Table 35) that cooperation and performance predicted violent reconviction regardless of scores on PCL:SV Part 2 variables. Together, these results could indicate that improving men's' performance and cooperation during treatment—especially those high on PCL:SV Part 2 or its facets—might reduce their likelihood of violent reconviction. However, without linking changes in these behaviours to changes in violent reconviction these speculations are not yet supported. Future research that demonstrates changes in cooperation and performance are linked to changes in the likelihood of violent reconviction for those high on PCL:SV Part 2 and its facets would be needed to adequately support these claims and establish these behaviours as genuine dynamic risk factors.

Contrary to our hypotheses some treatment behaviour variables that were associated with PCL:SV Part 2 variables were not associated with any reconviction outcomes, and some behaviours that were associated with both PCL:SV Part 2 variables and reconviction outcomes did not mediate any relationships between PCL:SV Part 2 variables and reconviction. These relationship patterns suggest that in contrast to some implications of the 2-C model not all treatment behaviours associated with PCL:SV Part 2 variables are risk-relevant, and even behaviours that are risk-relevant, are not necessarily relevant to the type of risk represented within PCL psychopathy. That is, based on the current findings it would be ill advised to work on changing empathic or anxious behaviours for the purposes of reducing risk based on their

relationship with PCL:SV Part 2 variables. Similarly, trying to increase a man's motivation to change may reduce his risk of obtaining a new violent conviction (see Table 33), but that would not be because any risk associated with PCL:SV Part 2 or the Lifestyle facet was reduced (see Table 35). Collectively, these results indicate that applying the 2-C model without thorough investigation could lead to mistakes with trying to change behaviours that are not relevant to risk or ignoring behaviours that are risk-relevant but not connected to PCL psychopathy specifically. These kinds of missteps could reduce the overall amount of time spent working on risk-relevant behaviours during treatment and thus inhibit the effectiveness of a treatment programme.

In the first set of mediation analyses, deficits in emotional behaviours such as empathy and anxiety mediated relationships between PCL:SV Part 1 variables and removal from treatment, suggesting they could be classified as responsivity-based behaviours according to the 2-C model (Wong et al., 2012; Wong & Olver, 2015). The current reconviction and mediation analyses provide additional support for this label by demonstrating that these emotional behaviours were not also associated with reconviction. The current analyses also reveal, however, that performance and cooperation mediated both responsivity and risk-related relationships, meaning therapists would be advised to simultaneously work around, and change, these types of behaviour if they were to follow the 2-C model (Wong & Olver, 2015). These results indicate that there is some degree of overlap between the concepts of risk and responsivity, and that the 2-C model's framing of the concepts as completely separate may be mistaken (see Chapter 11 for further discussion).

Applying the overall findings to practice suggests that removal from treatment based on deficits in emotional behaviours such as anxiety or empathy—perhaps because they are interpreted by staff as a lack of engagement—may be misguided because these types of behaviours are not indicative of risk. This conclusion is in line with the idea that these types of behaviours will not be easily changed for those high on PCL psychopathy, and that changing them will not result in reductions of risk (Wong & Hare, 2005; Thornton & Blud, 2007). However, if these emotional deficits are genuinely linked to less engagement and change during treatment as the MORM suggests, removing men for these emotional deficits may still be justified in that they may be indirectly linked to recidivism through engagement and change (Ward et al., 2004). The overall findings also suggest that removal on the basis of poorer performance or cooperation may be justified, in that these behaviours are directly linked to reconviction post-treatment and thus may serve as in treatment proxies for the treatment's effectiveness. However, because cooperation and performance were linked to both reconviction and removal through different psychopathic traits, efforts to increase these behaviours during treatment may demonstrate unique potential for both increasing completion rates and reducing risk for men with high PCL scores. Anecdotally, in the treatment programme analysed, therapists and other staff were often found to make efforts to help those demonstrating the lowest levels of performance and cooperation. Research aimed specifically at understanding why some people find it difficult to cooperate in treatment may be needed to develop more specific interventions to support therapists working with these cases.

Chapter 11

General Discussion

The purpose of this research was to investigate why PCL psychopaths are difficult to treat by testing the assumptions of the Two-Component model (2-C; Wong Gordon, Gu, Lewis, & Olver, 2012; Wong & Olver, 2015) on a cohort of high-risk prisoners who attended an intensive violence treatment programme. Specifically, over a series of analyses we examined the broad assumption that the interpersonal and affective personality features of PCL psychopathy (F1) are more highly responsible for any observed responsivity issues during treatment compared with the impulsive and antisocial features of PCL psychopathy (F2). In addition, we examined the 2-C model assumption that the impulsive and antisocial features of PCL psychopathy are proxies for dynamic risk factors, and thus, are associated with dysfunctional and antisocial behaviours that should be the focus of change during treatment. In the previous chapters, each of our specific hypotheses and their associated analyses were discussed separately with reference to most closely related research. We now turn to discussing how our collective findings inform ideas about the 2-C model, the treatment of PCL psychopaths, specific responsivity and the structure of the PCL. Finally, we discuss the overall limitations of the research and the utility of the PCL in forensic and legal settings.

11.1 The Two-Component Model

Overall our analyses provided some general support for the 2-C model (Wong et al., 2012; Wong & Olver, 2015). In keeping with the assumptions of the interpersonal component of the 2-C model (represented by PCL F1), our analyses revealed that the interpersonal and affective personality traits of PCL psychopathy were associated with a

higher rates of removal from treatment and a poorer therapeutic alliance. We also found that these F1 personality traits were associated with poorer performance and less emotional behaviours during treatment (i.e., less empathy and anxiety), and these behaviours helped explain the relationships between the F1 personality traits and removal. That is, F1 personality traits predicted poorer performance and fewer displays of emotion during treatment, which in turn predicted higher rates of removal. Similarly, in line with the assumptions of the criminogenic component of the 2-C model (represented by PCL F2), our results showed that the impulsive lifestyle and antisocial behaviour traits of PCL psychopathy were more highly associated with dynamic risk and post-treatment reconviction. We also found that these F2 behavioural traits were also associated with poorer performance and cooperation during treatment, and these behaviours helped explain the relationships between F2 traits and violent reconviction. That is, F2 traits predicted poorer performance and cooperation during treatment, which in turn were associated with a higher likelihood of violent reconviction post-treatment. However, despite general support, a number of specific findings failed to support or contradicted assumptions of the 2-C model including: (a) the failure to detect relationships between any PCL variables and change on dynamic risk, (b) an unexpected association between PCL:SV Part 1/the Interpersonal facet and a lower likelihood of reconviction on some reconviction indices, (c) the Lifestyle facet of the PCL emerging as the strongest predictor of a poorer therapeutic alliance and poorer motivation to change during treatment, and (d) the suppressed relationships between PCL:SV Part 2/the Lifestyle and Antisocial facets, and more frequent displays of emotional behaviour during treatment.

Some of our analyses suggested that more than two components may be needed to fully explain the difficulties that occur when treating those high on PCL psychopathy. For

example when conducting analyses with only PCL:SV Parts 1 and 2, Part 1 was the strongest predictor of a poorer therapeutic alliance, but when analysed using the four PCL:SV facets, the Lifestyle facet—which sits within PCL:SV Part 2—was the strongest predictor (see Chapter 8). One reason for these types of inconsistent results was that the two facets within each part of the PCL:SV sometimes had divergent relationships with an external variable, meaning these relationships would suppress or cancel one another out when combined in a PCL:SV Part score. However, in many cases the relationships between PCL:SV variables and treatment processes and outcomes were reasonably consistent at the part and facet levels. Therefore, it may be difficult to justify disrupting the simplicity of the 2-C model on the basis of one or two anomalies. This is the first study to directly examine the central tenets of the 2-C model. More research that compares the utility of two and four factor PCL models in relation to treatment processes and outcomes is clearly needed to help identify the extent to which the 2-C model is an accurate description of the relationships between the PCL, response to treatment and risk of recidivism.

In combination with previous findings, our analyses also suggested that there is some degree of overlap between the two components in the 2-C model (Caldwell, Skeem, Salekin & Van Rybroek, 2006; Hobson, Shine, & Roberts, 2000; Olver, Lewis, & Wong, 2013; Olver & Wong, 2009; Richards, Casey, & Lucente, 2003). That is, in our analyses, PCL:SV Part 1 variables were associated with some indices of risk, and PCL:SV Part 2 variables were associated with some indices of responsivity. Furthermore, some variables such as the behavioural indicators of performance and cooperation appeared to be equally important to both components in the 2-C model. This kind of overlap in the results is unsurprising given that the 2-C model is based on the two factors of the PCL which are moderately correlated (Hare, 2003; Wong et al., 2012). Thus, in light of this evidence the 2-C model could be

improved by incorporating the overlap between the two components. For example, instead of just allocating treatment processes and outcomes as being representative of one of the two components, they could be better conceptualised as sitting somewhere on a spectrum of the two components (see Figure 12). This reconceptualization would also mean that each treatment process and outcome would sit somewhere on a spectrum between responsivity and risk as these concepts are embedded within the first and second components respectively. This type of alteration, would allow the model to explain a larger proportion of the available evidence and would also provide more flexibility for therapists working within the model to deal with processes and behaviours that sit between the realms of risk and responsivity.

Figure 12. Example of an overlapping Two-component model with treatment processes and outcomes from the current research arranged based on their relationships with the two factors of the PCL.

Under this overlapping conceptualisation of the 2-C model each relevant treatment process can be assessed in terms of its relationship to risk versus responsivity and thus how much it needs to be changed versus managed. For example the current findings suggest that

therapists may need to work around low levels of empathic or anxious behaviours displayed during treatment, whereas they may need to both manage and change cooperative behaviours; this could mean increasing cooperative behaviours while managing uncooperative ones, or alternatively increasing specific types of cooperative behaviour while managing other types of cooperative behaviour. Notably, more research is required to make clearer and more accurate recommendations of this type but adjusting the model in this way provides the basis needed for initiating that type of research.

Reconceptualising the 2-C model as a dimensional, overlapping model instead of a dichotomous model with two separate components also has theoretical implications for other concepts imbedded within the model. First, with regards to PCL psychopathy, it suggests that the personality and behavioural features of PCL psychopathy are interrelated. Therefore, if changes to the F2 behavioural features of PCL psychopathy can be made, this will affect the F1 personality features, meaning there may be more potential for changing some of the F1 personality features of PCL psychopathy than has previously been accepted (Wong & Hare, 2005). Similarly, the overlapping model suggests that the correctional rehabilitation concepts of Risk and Responsivity are also interrelated. Currently, responsivity is conceptualised as having a unidirectional relationship with risk in that responsivity factors can inhibit risk reduction processes but risk is not necessarily viewed as influencing responsivity (Bourgon & Bonta, 2014). Under this overlapping conceptualisation however, the relationship between risk and responsivity would be more bidirectional, with risk having an equal influence on responsivity. In applied terms, this would acknowledge that some risk factors targeted for change during treatment also represent key responsivity factors that may need to be addressed in some way before changes can occur.

Overall the 2-C model provided a promising framework for advancing research on the treatment of those high on PCL psychopathy. By testing the assumptions of this model we were able to generate new questions and hypotheses that could provide a greater understanding towards why those high on PCL psychopathy are difficult to treat as opposed to just whether or not they are treatable. Investigating how personality and behavioural traits interact with treatment processes also provided unique information about how individual differences within a highly specific group can influence the treatment process and the types of traits that might be most disruptive. Following on from the current findings, research that evaluates treatment theories or models, such as the 2-C model, has the potential to reveal the inner mechanisms of treatment, and thus a better understanding of how treatment works.

11.2 Treatment of PCL Psychopaths

Consistent with other PCL treatment research our analyses found that those with higher scores on the PCL were more likely to be removed from treatment, had higher levels of dynamic risk, displayed poorer performance, less motivation to change and less empathy during treatment, and were more likely to breach their parole or be re-imprisoned following treatment (Hobson et al., 2000; Ogloff, Wong, & Greenwood, 1990; Olver & Wong, 2009; Richards et al., 2003). However, despite these findings, earlier research evaluating the same treatment programme suggested that the treatment was effective for at least some of these men (Polaschek, 2011), and our results suggested that it was more effective for those who demonstrated greater cooperative and motivated behaviours during treatment (see Section 10.3.2). In combination with more recent studies (e.g., Langton, Barbaree, Harkins, & Peacock, 2006; Olver et al., 2013; Wong et al., 2012), this evidence runs contrary to

narratives suggesting that treating those high on PCL psychopathy has no effect on reducing their risk of recidivism or makes their risk of recidivating worse by increasing their ability to manipulate others (Hare, Clark, Grann, & Thornton, 2000; Rice, Harris, & Cormier, 1992). Furthermore, this evidence is not consistent with findings that suggest those high on PCL psychopathy who perform well in treatment are actually more likely to reoffend than those who behave poorly (Seto & Barbaree, 1999). Instead, our results supported our initial argument that those high on PCL psychopathy are treatable but demonstrate a number of specific responsivity issues that can make them more difficult to treat (see Chapter 3).

By viewing those high on PCL psychopathy as treatable but difficult our research was able to focus on identifying the sources of specific trait based difficulties that may make treatment less effective, as opposed to just investigating whether the treatment programme was or was not effective for a particular group of people. This type of research can complement more standard treatment evaluations—comparing a treated group to an untreated control group on indices of recidivism—by providing more information about how different people interact with treatment and thus what might need to be altered to increase a treatment programmes effectiveness. For example we found that those high on the interpersonal and affective PCL traits displayed less empathic and anxious behaviours during treatment which was associated with an increase in their likelihood of removal from treatment despite these behaviours being unrelated to risk. If supplementary research found that these emotional deficits were in fact the reason for removal we could recommend small changes to the programme such as removing treatment modules that involve the formation of emotional behaviours (e.g., the victim empathy module), or training therapists in how to deal with emotional deficits (e.g., making sure therapists don't interpret emotional deficits as a lack of engagement). These types of changes could decrease

the number of men removed from treatment, which could subsequently increase performance and treatment effectiveness.

Although the exploratory type of research conducted in this thesis provides evidence-based information about what actually occurs during treatment and thus what may need changing to increase treatment effectiveness, standard comparative treatment evaluations between treatment and control groups will still be needed to assess whether those changes have positive effects. We therefore suggest that an ideal way to create a more highly effective treatment programme for those high on PCL psychopathy would be to follow a more iterative evaluation process that involves ongoing evaluation, exploration, change, and re-evaluation (see Figure 13). While this iterative style of evaluation and development would certainly make the evaluation process lengthier, its potential to steadily improve already effective treatment programmes could serve as a more progressive and economic alternative to creating, piloting and evaluating completely new treatment programmes for personality disordered prisoners (e.g., Tyrer et al., 2010).

Figure 13. Iterative treatment evaluation process to improve effective treatment programmes for those high on PCL psychopathy.

11.3 Specific Responsivity

In chapters 2, 3 and 4 we advocated for the position that PCL psychopathy represents a specific responsivity factor within the Risk Need Responsivity model of rehabilitation (Andrews, Bonta, & Hoge, 1990). We further proposed that the four facets of

the PCL could each represent deficits within separate categories of readiness conditions in the Multi Factor Offender Readiness Model (MORM; Ward, Day, Howells, & Birgden, 2004), and finally, we suggested that the 2-C model could function as set of specific hypotheses to test from within the MORM (see Figure 2). Thus, under this proposed framework many of our findings regarding the 2-C model were also relevant to the MORM model of specific responsivity.

In the context of the MORM (see Figure 1) we found (in Chapters 6, 7, 8 and 9) that deficits in cognitive and affective readiness conditions—represented by the Interpersonal and Affective facets of the PCL—were linked to poorer participation in treatment, a poorer therapeutic alliance and a higher likelihood of removal from treatment. Furthermore, we found that deficits in the volitional readiness conditions—represented by the Lifestyle facet—were the strongest predictors of a poorer therapeutic alliance and were also associated with a poorer motivation to change during treatment and the highest likelihood of post treatment reconviction. Although we failed to find any links between readiness conditions and change in criminogenic needs (VRS dynamic risk), the MORM suggests that these relationships are mediated through treatment engagement variables such as participation and the therapeutic alliance (see Figure 1). Therefore, future research examining whether engagement variables mediate the relationships between PCL facets and change would help clarify our findings and would provide an additional test of the MORM's structure.

In addition to the 2-C model, the MORM could serve as a useful guide for future research in treating those high on PCL psychopathy. For example, the MORM suggests that the internal readiness conditions—represented as deficits in readiness conditions by the facets of the PCL in our research—interact with external readiness conditions such as

circumstance, location and support, and those interactions in turn predict the level of engagement and performance in treatment (Ward et al., 2004). Thus, one direction for future research could be to examine how the PCL facets interact with different external readiness conditions, and whether those external readiness conditions influence relationships between PCL facets and treatment processes and outcomes. Ultimately research that can detect and unravel the complex interactions between different readiness conditions and indices of engagement and change during treatment hold the promise of dramatically increasing our understanding of how treatment works.

11.4 The Structure of PCL Psychopathy

In chapter 1 we discussed whether the PCL measures a single, unified, latent psychopathy construct represented by PCL total scores, or whether it measures multiple, distinct latent constructs best represented by PCL factor and facet scores. Critics of the idea that the PCL measures a single unified construct note that PCL total scores often perform worse and identify fewer relationships with external variables when compared with the factor and facet scores of the PCL (Hicks & Patrick, 2006). Separate factor and facet scores sometimes demonstrate divergent relationships with external variables, and relationships between a factor or facet and an external variable are sometimes suppressed by shared variance between factor and facet scores (Dolan & Anderson, 2003; Hansen, Johnsen, Thornton, Waage, & Thayer, 2007; Hicks & Patrick, 2006; Patrick, 1994; Salekin, Neumann, Leistico, & Zalot, 2004; Shine & Hobson, 1997; Vitacco, Neumann, & Jackson, 2005). In line with this critique we found that the part and facets scores of the PCL:SV were better at identifying completion status, and predicted more types of reconviction outcome than PCL total scores. We also found that the shared variance between the part and facet scores of

the PCL:SV suppressed relationships between PCL:SV Part 1/Interpersonal facet and a lower likelihood of reconviction which diverged with relationships between PCL:SV Part 2 variables and a higher likelihood of reconviction. Shared variance between the part scores, and between the facet scores also suppressed divergent relationships between PCL:SV Part 2 variables and higher levels of emotional behaviour displayed during treatment. And finally, shared variance between the four facet scores suppressed the strength of the relationship between the Lifestyle facet and a poorer therapeutic alliance.

One explanation for the distinct, divergent and suppressed relationships found with the parts and facets of the PCL:SV, compared to the total scores, is that the PCL taps into two or more distinctive entities within a common measurement instrument (Paulhus, Robins, Trzesniewski, & Tracy, 2004). One idea consistent with our findings—referred to as the dual-process model—suggests that the PCL taps into two distinctive underlying processes; a low fear/anxiety deficit captured by PCL Factor 1, and an externalising-propensity marked by impulsive antisocial behaviour and poor emotional control: captured by PCL Factor 2 (Fowles & Dindo, 2006; Patrick, 2007; Patrick, Hicks, Krueger, & Lang, 2005). One potential consequence of the dual process theory is that those scoring highly on a PCL instrument may predominantly display one process over the other and thus the PCL may be capturing two subgroups of people with different but overlapping disorders. Research examining subtypes within groups that score highly on the PCL have consistently identified two subgroups often labelled primary and secondary subtypes of psychopathy due to their similarity with early subtypes identified by Benjamin Karpman (Karpman, 1941, 1948). Primary subtypes are generally found to score higher on the Interpersonal and Affective facets of the PCL, and present with less anxiety, stress, negative emotionality and major mental disorders than secondary subtypes (Hicks, Markon, Patrick, Krueger, & Newman,

2004; Olver, Seawall, Sarty, Lewis, & Wong, 2015; Poythress et al., 2010; Skeem, Johansson, Andershed, Kerr, & Louden, 2007). Furthermore, research suggests that the two subtypes differ on some measures of treatment response, with secondary psychopaths demonstrating greater performance and change during treatment than primary psychopaths (Olver et al., 2015; Poythress et al., 2010; Skeem et al., 2007). Future research that identified these subtypes within the current sample and re-analysed the data by comparing the two groups on all the same treatment processes and outcomes may help to explain our distinct, divergent and suppressed relationships found with the part and facet scores of the PCL:SV.

Overall, in combination with other research on the underlying structure of the PCL and subtypes of psychopathy, our findings suggest that PCL total scores are not necessarily representative of one central disorder and can therefore be relatively inaccurate predictors of treatment response and reconviction. Therefore, at this stage of our understanding, using PCL total scores to deny people treatment or as evidence of high risk and untreatability in court cases regarding release and sentencing could be severely misguided (DeMatteo & Edens, 2006; D' Silva, Duggan, & McCarthy, 2004; Hughes, Hogue, Hollin, & Champion, 1997; Lloyd, Clark, & Forth, 2010; McCarthy & Duggan, 2010; Richards et al., 2003; Viljoen et al., 2011). Even if PCL total scores were good predictors of treatment response, obstructing all treatment efforts and consequently treatment research based on high PCL scores would prevent the ability to make any progress with this high-risk population and thus miss a crucial opportunity to reduce the amount harm caused by these individuals. In comparison with PCL total scores, the factor and facet scores of the PCL did provide us with more nuanced and detailed information regarding risk and responsivity. For example we found that those high on PCL F1 may be more likely to be removed from treatment but are also

less likely to be reconvicted for general and violent reconvictions than those with lower PCL F1 scores. However, because the predictive strength and accuracy of these factors and facets were not particularly high throughout our analyses we would not recommend sole reliance on the PCL for identifying risk and responsivity needs.

11.5 Limitations

To accurately evaluate the results and conclusions of the current thesis a number of limitations must be considered. First, by measuring behaviour in treatment retrospectively from the large number of clinical notes available we encountered a number of sources of potential measurement error that could not be accounted for in the current data set. Most notably, the quality of the clinical notes containing the behavioural observations we quantified varied substantially between different groups and therapists. As far as we are aware there were no specific protocols about what therapists were required to observe and record in the notes, nor did we have any control over how the notes were archived. Without this information we can assume there were potentially large amounts of variation in what was observed, recorded and archived for the notes we used to measure behaviour in treatment. This problem would only have been exacerbated by other potential error sources such as the error introduced by converting the written clinical notes into a quantifiable dataset through the Behaviour in Treatment Scale (BTS: see Appendix A). The best approach to reducing the amount of error in these types of observations would be to have trained therapists or outside observers make first hand ratings each treatment session using instruments like the BTS. Alternatively because the notes we used were not originally recorded for the purposes of research, developing protocols for what should be recorded in treatment notes and how it should be recorded could also reduce this error to some degree.

Second, although some inter-rater reliability procedures were conducted for the BTS we were unable to test the inter-rater reliability of other instruments used in the current thesis (i.e., the PCL:SV and VRS) because much of the data from these instruments was collected during treatment by numerous different staff members over the 12 years of treatment analysed. Although these instruments have both previously demonstrated high levels of reliability on other samples (see Sections 5.3.1 and 7.2.1), there is no guarantee that reliability was of a satisfactory level for the current sample. However, it should be noted that our potential issues with poor reliability and measurement error would have had the effect of decreasing our effect sizes and thus underplaying the significance of our results.

Finally, despite some efforts to account for non-normal distributions in the data by using non-parametric tests to verify parametric tests and using robust methods such as bootstrapping for confidence interval and standard error estimates, we were unable to fully account for violations of normality in all of our analyses. Furthermore, assumptions of independence for analyses using behaviour, change and therapeutic alliance data may have been violated by effects of different treatment groups or different therapists which were not accounted for in any of our analyses. Notably, these issues have not been fully addressed in others' research in the related areas, but could potentially be improved by using a wider range of robust methods that do not require normal distributions and multilevel modelling techniques that control for the influence of group and therapist effects.

11.6 Conclusion

Overall we found that those who score highly on a PCL instrument may demonstrate very different behaviours and outcomes depending on the specific makeup of their high PCL

score. For example based on our findings someone with a high PCL score could be either more likely to obtain a violent reconviction (if high on F2 and low on F1) or less likely to do so (If high on F1 but low on F2). Similarly, they could either demonstrate low levels of empathy and anxiety during treatment, which was associated with removal, or they might demonstrate high levels of empathy and anxiety, which was associated with treatment completion. Furthermore, depending on their facet scores they could act either socially dominant or socially submissive during treatment. Although we might see more consistency in terms of their performance and their relationship with their therapist, there appears to be enough heterogeneity within this highly specific group that any broad statements or claims about their treatability will always mischaracterise at least some segments of the group. Therefore, although high PCL scores may indicate some general concerns regarding risk and treatment responsivity, without more specific follow up assessments, using these scores alone to guide treatment policy or sentencing will ultimately be flawed.

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Appendix A

The Behaviour in Treatment Scale

This coding scheme was developed to measure a variety of behaviours in treatment that are associated with different features of PCL psychopathy using archival treatment information.

This coding scheme is to be used in conjunction with the behaviour in treatment score sheet and evidence recording sheet. To proceed, follow the instructions on the behaviour in treatment score sheet.

Cooperation – Acts or instances of working with staff and group members to reach common goals (e.g. treatment task completion). This variable includes compliance with task instructions. This variable is separate from motivation to change meaning the prisoner does not have to be motivated to be cooperative or vice versa.

Based on the available information count each observation of cooperative and uncooperative behaviour using the examples below as a guide.

Examples of cooperation may include but are not exclusive to.

- Following the instructions of group facilitators on treatment tasks.
- Providing **helpful** assistance or suggestions to other group members on treatment tasks.
- Accepting **helpful** assistance or suggestions from other group members on treatment tasks.
- Accepting assistance or suggestions from group facilitators on treatment tasks.
- Working with others in order to complete tasks in non-group community activities.
- Completing homework.

Examples of being uncooperative or noncompliant in treatment may include but are not exclusive to.

- Refusing to participate in treatment tasks.
- Not complying with instructions on treatment tasks.
- Refusing to listen to the suggestions of treatment facilitators.
- Refusing to listen to the **helpful** suggestions of other group members.
- Rejecting the assistance of group facilitators or group members on treatment tasks.
- Failing to complete homework or throwing homework away.
- Showing up late to group.

Note: (1) When dealing with evidence where there is an overlap between 'Cooperation' and 'Distracted behaviour', try to place that evidence under the most appropriate item. If the evidence is equally appropriate for both items place the evidence under both items.

(2) Instances of non-cooperation caused by frustration or an obvious lack of emotional control should not be counted as evidence of being uncooperative and should instead be captured under 'Negative emotionality'.

Motivation to change – An involvement and commitment in learning and understanding the goals of treatment tasks and treatment as a whole. This variable is intended to separate prisoners who are interested in the benefits of treatment from those who are completing treatment for other reasons (e.g. obtaining parole faster, pleasing the therapist, impressing other group members or passing time until parole). This variable is separate from cooperation meaning the prisoner does not have to be cooperative to be motivated or vice versa.

Based on the available information count each observation of motivated and unmotivated behaviour using the examples below as a guide.

Examples of motivation to change may include but are not exclusive to.

- Asking questions about tasks that increase their understanding about treatment.
- Any examples of the prisoner going above and beyond what is required of them in group and the unit.
- Reports of the prisoner being open and honest especially while in group sessions and especially regarding previous offences.
- Using skills learnt in treatment without being asked.
- Therapists' reports of good treatment engagement.
- Using skills learnt in treatment in any situation outside treatment sessions.
- Individually following up on something discussed or covered in treatment.
- Asking for books or other materials related to treatment.

Examples of signs that indicate a prisoner is using treatment for reasons other than reducing patterns of antisocial behaviour may include but are not exclusive to.

- Therapists' reports of a prisoner's superficial involvement or lack of treatment engagement.
- Hurrying to get out of a treatment session.
- The prisoner reports they have completely changed at any opportunity to appear more rehabilitated than they obviously are, in attempts to look good to therapists or parole board.
- The prisoner explicitly says that they are only in treatment to get out of prison faster.
- Appears disengaged or disinterested during treatment sessions.
- Ongoing offences or high-risk behaviours by a prisoner who has previously demonstrated an understanding of the negative effects caused by the behaviours but continues the offences or behaviours in spite of this.
- Behaviour suggesting that they want to leave the programme because they think they will get out faster, or soon enough anyway, or because they are want to avoid a part of the programme.

Note: (1) When dealing with evidence where it is clear the prisoner simply does not understand the tasks they are asked to complete do not record this evidence as a lack of motivation and instead consider it as evidence for a lack of conceptual understanding in the 'Conceptual Understanding' item.

(2) When evaluating any evidence of ongoing offending, look for signs of guilt or lack thereof regarding the offence to be used as evidence in the 'Emotional Empathy' item.

Social dominance – The level of rank and superiority a prisoner displays in relation to others, including both treatment facilitators and other group members. This variable is bipolar, with social submissiveness constituting the opposite end of the spectrum.

Based on the available information count each observation of socially dominant and submissive behaviour using the examples below as a guide.

Examples of social dominance may include but are not exclusive to.

- Taking control of or re-directing group discussions.
- Talking over other group members or treatment facilitators.
- Voicing strong opinions.
- Negatively criticizing treatment facilitators or other group members. This includes unprovoked negative criticisms or negative criticisms used to gain some kind of advantage in a discussion.
- They do not easily admit they are wrong or consider the merit of other arguments in the presence of other group members but are less rigid in one on one scenarios.
- Others view the prisoner as a leader (e.g. They will follow their lead, look up to them, or look to them for approval).
- Acts as a mediator or conduit between treatment facilitators and other group members.
- Voicing complaints on behalf of the group.
- They are suspected of or involved in stand overs on other group members.
- Other group members do things for them.

Examples of social submissiveness may include but are not exclusive to.

- Fails to voice any complaints or criticisms on their own, but will join in when somebody else does.
- Follows the lead of other group members, especially those that appear socially dominant.
- Quickly backs down when someone disagrees with them.
- Looks to other group members for approval when speaking in group.
- Lets other group members make decisions for him.
- Appears in some instances to be under the control of other group members.
- Accepts negative criticism from others without question.
- Does things for other group members that are more socially dominant.

Empathy - The ability to understand, experience and share in another person's emotional state. This variable includes both positive and negative emotional states. This variable is separate from cognitive empathy – the ability to recognise someone else's emotions or take the perspective of others on a purely cognitive level. This item is two dimensional, with emotional disregard or callousness constituting the opposite end of the spectrum. The purpose of this item is to detect any capacity for emotional empathy even in someone who is predominantly callous.

Note: This item includes any instances of guilt or lack of guilt, which constitute examples of emotional empathy and callousness respectively. Any evidence of expressed guilt that is found to be artificial should be either disregarded or considered as evidence for callousness depending on the context.

Based on the available information count each observation of empathic and callous behaviour using the examples below as a guide.

Examples of emotional empathy may include but are not exclusive to.

- Verbally or physically comforting a distressed group member (e.g. telling them not to worry, providing advice to help them or patting them on the back)
- Providing encouragement to a group member in distress (e.g. saying 'good work' or 'you can do it').
- Sharing in the pain or joy of another group member's story.
- Laughing with a group member who is sharing a joke or funny anecdote.
- The prisoner makes explicit statements about understanding the feelings of someone else.
- The therapist reports the prisoner displays or possesses some form of emotional empathy.
- Supporting and encouraging other group members.
- Any signs displayed by the prisoner or reported by therapist of guilt over past or present transgressions (e.g. expressions of sadness over people that have been hurt by their actions, expressions of deserving their sentence because of the harm they caused or expressions of concern regarding someone in the unit they have had some kind of conflict with).

Examples of callousness may include but are not exclusive to.

- Laughing inappropriately (e.g. at someone else's distress or explanation of a serious crime).
- Criticising or mocking others for showing any signs of distress or negative emotion.
- Persisting in situations where they are causing any kind of discomfort.
- Taking advantage of another group member's emotional state (e.g. saying things that increase or maintain another prisoner's negative emotional state for their own amusement).
- The therapist reports that the prisoner is callous or displays callousness.
- Remaining completely neutral in a situation where most others are displaying emotional empathy.
- Any signs displayed by the prisoner or reported by the therapist that they are remorseless (e.g. minimisation of past offences and transgressions, a lack of concern or indifference regarding others they have hurt in past or present incidents)

Anxiety – An unpleasant fear like state that is lacking an immediately identifiable external cause or is it out of proportion with the external cause present. The purpose of this item is to detect any signs of anxiety observable within the treatment unit as opposed to the presence of an anxiety disorder.

Note: Justified instances of fear (e.g. reports of feeling scared whilst being attacked) should not be included.

Based on the available information count each observation of anxious behaviour using the examples below as a guide.

Examples of evidence for anxiety may include but are not exclusive to.

- Therapist reports of anxiousness or nervousness in group discussions or treatment tasks.
- Shaky hands or voice when presenting work to the group.
- Statements of worry or concern regarding upcoming events.
- Statements of worry or concern regarding the end of treatment.
- Statements of worry or concern regarding past events.
- Treatment task avoidance clearly motivated by a type of worry or fear.
- Evidence of ruminating on things said by him or others at some time in the past (e.g., earlier in session, previous session)
- Described by others as a someone who stresses about things (e.g., custody staff descriptions)
- Therapist reports that the prisoner's participation in certain tasks increased as they became more comfortable with the group.

Negative emotionality – The tendency to experience negative emotions and react poorly to situations perceived as stressful. Signs of this variable may be most easily observed in negative or frustrated reactions to treatment tasks perceived as difficult. Others may describe the person as “moody”, “up and down”, or “difficult”. They may also cope poorly with change or the unexpected.

Note. To separate this behaviour from the other variables this variable does not include instances of anxiety or guilt.

Based on the available information count each observation negative emotionality using the examples below as a guide.

Examples of negative emotionality may include but are not exclusive to.

- Any signs of sadness or depression reported by the prisoner or the therapist.
- Reactions of frustration/annoyance/irritability to treatment tasks.
- Reactions of helplessness or despair to treatment tasks.
- Poor reactions to questions, or constructive criticisms of their work.
- Gets upset or angry when unexpected events occur (e.g., change in scheduled activities, sick therapist, lockdowns, and random drug searches).
- Snaps at people, “reacts” to things others have said and then sometimes has to apologise afterwards (for getting the wrong end of the stick, or saying something in temper that they later regret).
- Any signs that they are unusually excitable.
- Reports from others that they are intense.

Note: If the prisoner states that they fake any negative emotions, the emotions referred to should not be counted.

Conceptual understanding – The ability to understand key treatment task concepts and content.

Based on the available information count each observation conceptual understanding and lack of conceptual understanding using the examples below as a guide.

Examples for evidence of conceptual understanding may include but are not exclusive to.

- The therapist reports the prisoner understands treatment concepts or content.
- The prisoner displays a high level of understanding concepts and content within their written work.
- The prisoner performs well on tasks that require a good conceptual understanding of the treatment content (e.g. identifying cognitive distortions)
- The prisoner correctly describes or explains the concepts of a treatment task to others.
- The prisoner identifies how the treatment concepts discussed fits in with his personal situation.

Examples of evidence for a lack of conceptual understanding may include but are not exclusive to.

- The therapist reports that the prisoner does not understand or “get” content or concepts related to treatment tasks.
- The therapist reports that the prisoner’s poor performance on treatment tasks may be caused by their lack of understanding in task concepts or content.
- The prisoner performs poorly on tasks that require a good conceptual understanding of the treatment content (e.g. identifying cognitive distortions)
- The prisoner incorrectly describes or explains the concepts of a treatment task to others.
- The therapist reports of the prisoner’s difficulty in understanding treatment content or concepts.

Distracted – The extent to which the prisoner is unable to focus on the immediate objectives of a treatment session without succumbing to outside distractions, mind wandering or switching to tasks unrelated to the current treatment objective.

Based on the available information count each observation of distracted behaviour and attentive behaviour using the examples below as a guide.

Examples of evidence for distracted behaviour may include but are not exclusive to

- Therapist reports that the prisoner acts bored during sessions.
- Therapist reports that the prisoner was not able to “stay on task” or similar types of statements.
- Therapist reports that the prisoner has poor levels of focus, concentration or attention during treatment sessions.
- The prisoner participates in off task activities.
- Others call out the prisoner for going off task.
- The prisoner behaves in a distracting manner.
- The prisoner is caught daydreaming or watching something unrelated to the current treatment task.
- The prisoner is observed to fall asleep during treatment sessions.

Examples of evidence for attention in treatment may include but are not exclusive to

- Therapist reports that the prisoner “stayed on task” or similar types of statements.
- Therapist reports that the prisoner has a good level of focus, concentration or attention during treatment sessions.
- The prisoner is noted as not taking part when other prisoners are participating in off task activities.
- The prisoner calls out other prisoners for going off task.

Appendix B

Behaviour in treatment score sheet and evidence recording sheet

Note: This summary score sheet and evidence recording sheet is to be used in conjunction with the Behaviour in Treatment Scale.

Identifier:		Research no.		Rater:	
1 st Rater Date:		2 nd Rater Date:		Second Rater:	
Information used to perform rating :					Key (V) (W) (X) (Y) (Z)
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
No.	Item				Score
1	Cooperation				
	Uncooperative				
2	Motivation to change				
	Lack of motivation				
3	Social dominance				
	Social submissiveness				
4	Emotional empathy				
	Callous				
5	Anxiety				
6	Negative emotionality				
7	Conceptual understanding				
	Lack of understanding				
8	Distractedness				
	Attention				

Instructions:

1. In the top panel beside 'rater' write own name and indicate whether you are the first or second rater, then fill in the date of rating that corresponds with your rating position (first or second).
2. In the top panel beside 'Identifier' write the Initials of the subject being rated and their corresponding research no. in the 'research no.' box.
3. In the second panel down list the sources of information being used for the rating and give each source of information a corresponding 'key code' in the box to the right in order to be used during the rating.
4. Using this evidence recording sheet and the 'Behaviour in Treatment Scale' go through each source of information and count observations that fit with the definition and examples of each variable, marking each count in the corresponding sub tables.
5. Count only one instance of each behaviour variable for each group or individual session note and only one out of the positive or negative dimensions for that behaviour. If both positive and negative observations of behaviour are available in one session note choose the more salient of the two.
6. Sum the counts for each behaviour variable and write the totals in the summary score sheet above.

Cooperation	
<i>Evidence of cooperation in treatment:</i>	
<i>Evidence of being uncooperative or noncompliant in treatment:</i>	
Item Summary:	
Motivation to change	
<i>Evidence of motivation to change:</i>	
<i>Evidence for lack of motivation to change:</i>	
Item Summary:	
Social Dominance	
<i>Evidence of social dominance:</i>	
<i>Evidence of social submissiveness:</i>	
Item Summary:	
Emotional Empathy	
<i>Evidence of emotional empathy:</i>	
<i>Evidence of emotional callousness:</i>	
Item Summary:	
Anxiety	
<i>Evidence of anxiety displayed within the treatment unit:</i>	
Item Summary:	
Negative emotionality	
<i>Evidence of negative emotionality within the treatment unit:</i>	
Item Summary:	
Conceptual Understanding	
<i>Evidence of conceptual understanding within the treatment unit:</i>	
<i>Evidence for a lack of conceptual understanding within the treatment unit:</i>	
Item Summary:	
Distracted	
<i>Evidence of distracted behaviour in treatment:</i>	
<i>Evidence of attention in treatment:</i>	
Item Summary:	

Appendix C

Table 36

Univariate Cox Regressions for Performance and Cooperation Predicting the Five Reconviction Outcomes with Treatment Completers Only

Behaviour	Breach					General reconviction				
	χ^2 (df)	B(SE)	Wald	HR	95% CI	χ^2 (df)	B(SE)	Wald	HR	95% CI
Performance	0.26(1)	.03(.06)	0.26	1.03	[.92, 1.16]	4.18(1)*	-.07(.03)	4.18*	.93	[.87, .997]
Cooperation	.31(1)	-.79(1.4)	0.31	.45	[.03, 7.35]	7.52(1)**	-2.10(.77)	7.49**	.12	[.03, .55]
	Violent reconviction					Reimprisonment				
	χ^2 (df)	B(SE)	Wald	HR	95% CI	χ^2 (df)	B(SE)	Wald	HR	95% CI
Performance	3.38(1)	-.08(.04)	3.38	.93	[.86, 1.01]	4.04(1)*	-.09(.04)	4.06*	.92	[.85, .998]
Cooperation	4.50(1)*	-2.02(.95)	4.49*	.13	[.02, .86]	5.48(1)*	-2.14(.92)	5.45*	.12	[.02, .71]
	Serious reimprisonment									
	χ^2 (df)	B(SE)	Wald	HR	95% CI					
Performance	9.12(1)**	-.18(.06)	9.06**	.84	[.75, .94]					
Cooperation	7.13(1)**	-3.08(1.16)	7.05**	.05	[.01, .45]					

Note. χ^2 = Chi-squared difference from null time-only model; CI = confidence interval; HR = hazard ratio. Performance $n = 189$; cooperation $n = 193$.

* $p < .05$, ** $p < .01$

Appendix D

Table 37

Factor and Facet Composition of PCL:SV and PCL-R Items

PCL:SV items	PCL-R items	Factor	Facet
1. Superficial 2. Grandiose 3. Deceitful	1. Glibness/superficial charm 2. Grandiose sense of self-worth 4. Pathological lying 5. Conning/manipulative	Factor 1	Interpersonal
4. Lacks remorse 5. Lacks empathy 6. Doesn't accept responsibility	6. Lack of remorse or guilt 7. Shallow affect 8. Callous/lack of empathy 16. Failure to accept responsibility for own actions		Affective
7. Impulsive 8. Poor behavioural controls 9. Lacks goals	3. Need for stimulation/ proneness to boredom 14. Impulsivity 10. Poor behavioural controls 9. Parasitic lifestyle 13. Lack of realistic long term goals	Factor 2	Lifestyle
10. Irresponsible 11. Adolescent antisocial behaviour 12. Adult antisocial behaviour	15. Irresponsibility 12. Early behaviour problems 18. Juvenile delinquency 19. Revocation of conditional release 20. Criminal versatility		Antisocial