

### Abstract

People suffering from psychopathy are known to have difficulties in relating to others, and according to Schema Theory, there is a close connection between Early Maladaptive Schemas (EMSs) and interpersonal problems. The current study aimed to investigate the relationship between psychopathy, EMSs, and interpersonal problems. A sample of incarcerated offenders ( $N = 16$ ) completed the Screening Version of the Psychopathy Checklist-Revised (PCL:SV), the Young Schema Questionnaire - Short Form (YSQ-SF), and the Inventory of Interpersonal Problems Circumplex Scale (IIP-64). Results showed, that this is a group with highly prevalent EMSs and interpersonal problems. The highest scoring EMSs were Self-Sacrifice, Mistrust/Abuse, Unrelenting Standards/Hypercriticalness, and Emotional Deprivation. The interpersonal problems with the highest scores were Socially Avoidant, Cold, Overly Nurturant, and Exploitable. However, when correlating the PCL:SV score with both EMSs and interpersonal problems, the EMSs Entitlement/Grandiosity and Insufficient Self-Control, and the interpersonal problem Domineering, were the only ones who correlated significantly with the degree of psychopathy. The results also showed strong significant correlations between the EMSs and the interpersonal problems. The findings from this study suggest that psychopathy, EMSs and interpersonal problems are closely connected. Although more research is needed, the findings contribute to a further understanding of the complexity of the psychopathy construct, as well as possible implications for treatment.

## Preface

This is the thesis “Early Maladaptive Schemas and Interpersonal Problems in Norwegian Offenders Suffering from Psychopathy”. It has been written to fulfil the graduating requirements of the Clinical Psychology program at the Norwegian University of Science and Technology (NTNU), Trondheim. We wanted to write about the interpersonal relations of the psychopath because this is a subject that interests us. We have been involved in extracurricular activities connected to research on psychopathy for about a year, and wanted, with this thesis, to expand our knowledge base further.

Since there were two of us writing this thesis, we have written some of the parts separately and some of the parts together. Specifically, we separated the introduction into one part consisting mainly of theory regarding interpersonal problems and its connections to other personality disorders and psychopathy, and one part consisting of theory regarding Schema Theory and its connections to other personality disorders and psychopathy. Respectively, Lise-Martine wrote about interpersonal problems, while Malin wrote about Schema Theory. The remaining parts of the thesis, including methods, results, and discussion, we have written together.

We want to thank our supervisor Roger Hagen, who helped us during this process, and who were always available and willing to answer our queries. We also want to thank Aina Sundt Gullhaugen for providing data material, and for inspiring us to study psychopathy.

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## Introduction

The first clinical term for psychopathy came from the German word *psychopastiche*, which means suffering soul, and was coined by German psychiatrist Koch in 1888 (Kiehl & Hoffman, 2011). Contemporary conceptualizations of psychopathy are largely based on the work of Cleckley (1941). He described psychopathy mainly as deficits in affective and interpersonal functioning, and as characterized by certain features or personality traits, like being incapable of love, impulsive, superficially charming, deceitful, egocentric, and with shallow emotions. Based on Cleckley's published criteria, the Canadian researcher Hare (1980) published the Psychopathy Checklist (PCL), which he later has revised (PCL-R; Hare, 1991). Today the PCL-R is seen as the gold standard for the assessment of psychopathy. There is no psychiatric classification of individuals suffering from psychopathy. However, there are two different diagnostic categories currently being used for individuals with psychopathic traits, which are the DSM-V antisocial personality disorder and the ICD-10 dyssocial personality disorder (American Psychiatric Association, 2013; World Health Organization, 1992).

Neuman, Hare, and Newman (2007) argues that psychopathy is a multifaceted construct, made up of at least four dimensions reflecting Interpersonal, Affective, Lifestyle, and Antisocial deviations that empirical research have identified. A common generalization is that psychopathy differs from antisocial and dyssocial personality disorder in that it is characterized by internal states to a greater extent than antisocial and dyssocial personality disorder, which are mainly characterized based on behaviour. Although most people suffering from psychopathy meet the criteria for antisocial and dyssocial personality disorder, many with antisocial and dyssocial personality disorder do not meet the criteria for psychopathy (Hare, 1991). By researching the internal states that differentiate psychopathy from the other two diagnostic categories, insight can be obtained regarding psychopathic individuals and their prominent dysfunctional patterns in interpersonal interactions.

## Interpersonal Theory

There is a growing consensus in the field of personality disorders that interpersonal behaviour is either the defining feature, or a fundamental part of most personality disorders. Both the DSM-V and the ICD-10 requires that all personality disorders, regardless of type, must result in interpersonal impairment or subjective distress (American Psychiatric Association, 2013; World Health Organization, 1992). Thus, simply displaying maladaptive

traits and characteristics is not enough to be diagnosed with a personality disorder, unless these traits lead to further problems such as interpersonal difficulties. Morey (1997) stressed this distinction, stating that, “personality disorders, unlike certain other forms of mental disorder, are dysfunctional primarily through their expression in the social milieu” (p. 937). The rigid maladaptive patterns of interaction, which are often seen in individuals suffering from personality disorders, will in turn evoke a limited set of responses that can maintain and continue these dysfunctional patterns (Pincus & Wiggins, 1990).

Interpersonal characteristics are core features of the psychopathy construct, and there is solid theoretical support for viewing psychopathy, like several other personality disorders, through the lens of interpersonal behaviour (Doninger & Kosson, 2001). Rush (1812) was the first to describe the disturbed and disruptive interpersonal relationships of the psychopath, as early as two centuries ago. In clinical descriptions of psychopathy, Cleckley (1941) emphasized unresponsiveness in interpersonal relationships as a core feature of this disorder. These descriptions are still accepted today and psychopaths are identified within the interpersonal domain to be callous, lacking of empathy, selfish, dominant, manipulative, superficial, and exploitive, and with an incapability to form long-lasting affectional bonds (Cooke, Forth, & Hare, 1998). The importance of the interpersonal component of psychopathy is reflected by its inclusion in current conceptualizations of the disorder (Cooke & Michie, 2001; Neumann, Hare, & Newman, 2007).

The Inventory of Interpersonal Problems Circumplex scale (IIP-64) is based on the interpersonal circumplex, which is a structural model that organizes interpersonal functioning around the domains of Agency and Communion (Pincus & Wiggins, 1990). The scales of the IIP-64 refer to the eight octants that divide the interpersonal circumplex into eight broad categories of interpersonal behaviour (see descriptions in Table 1).

*Table 1 here*

Research has confirmed that the IIP reliably acts as a marker of personality pathology, and is a useful and valid screening instrument in the prediction of the presence or absence of a personality disorder (Pilkonis, Kim, Proietti, & Barkham, 1996; Scarpa et al., 1999; Stern, Kim, Trull, Scarpa, & Pilkonis, 2000). It has been found that borderline personality disorder is significantly associated with Nonassertive, Avoidant, Exploitable, Intrusive, and Vindictive dimensions of interpersonal problems (Hilsenroth, Menaker, Peters, & Pincus, 2007; Soldz, Budman, Demby, & Merry, 1993; Wright et al., 2013), while narcissistic personality disorder

is significantly associated with the Domineering, Vindictive, and Intrusive dimensions (Ogrodniczuk, Piper, Joyce, Steinberg, & Duggal, 2009; Rodebaugh, Gianoli, Turkheimer, & Oltmanns, 2010).

Soldz et al. (1993) found that antisocial personality disorder were associated with the IIP-64 scales Domineering, Vindictive and Intrusive. Matano and Locke's (1995) study showed similar findings in an alcoholic sample, reporting that patients with antisocial personality disorder had high scores on the IIP scales Cold, Domineering, and Vindictive. However, Eher et al. (1999) discovered contrasting findings, which showed that incarcerated offenders, who had committed sexual assault, scored highest on the IIP scales Overly Nurturant, Exploitable, Non-Assertive, and Socially Avoidant. The authors of this study emphasized empirical data suggesting that sexual offending against adults might reflect a range of psychopathology that frequently includes psychopathy. Indeed, psychopaths constitute a specific subgroup of people with antisocial personalities who are characterized by an especially elevated risk of violence and criminal recidivism (Hemphill, Hare, & Wong, 1998; Salekin, Rogers, & Sewell, 1996), however, this sample was not exclusively consisting of psychopaths. Except for Gullhaugen and Nøttestad (2012), who found that psychopathic offenders scored significantly higher than the control group of male non-personality disordered and non-criminal students on the IIP-64 scales Vindictive, Cold, Socially Avoidant, and Domineering, there is a lack of research when it comes to the IIP and psychopathy.

Although the conceptualizations of psychopathy include an interpersonal aspect, a lot of research on psychopathy has neglected the issue of interpersonal problems. There is therefore a gap in literature, and a way to better understand interpersonal problems could be through the framework of Schema Theory.

### **Schema Theory**

Jeffrey Young developed Schema Therapy to treat patients who usually have been considered difficult to treat (Young, Klosko, & Weishaar, 2003). This includes patients with a personality disorder. Young argues that at the core of chronic Axis I disorders and personality disorders, as well as milder characterological problems, lies the combination of Early Maladaptive Schemas (EMSs) and maladaptive coping responses (surrendering, avoiding, and overcompensating). Young and colleagues (2003) define these schemas or EMSs as, "broad and pervasive patterns, comprised of memories, emotions, cognitions, and

bodily sensations regarding oneself and one's relationship with others" (p. 7). These schemas usually develop during childhood or adolescence, typically as a result of adverse childhood experiences where core emotional needs are not met, and they are elaborated and repeated throughout life (Young et al., 2003). The notion that dysfunctional childhood experiences are a precursor for maladaptive schemas is supported through research (Cecero, Nelson, & Gillie, 2004; Messman-Moore & Coates, 2007). Another factor that may contribute to the development of schemas is the child's emotional temperament or their distinct personality (Young et al., 2003). Indeed, Thimm (2010) found a substantial correlation between EMSs and personality traits, measured by the NEO-PI-R, which he argues emphasizes the connection between personality traits, innate temperament, and the development of EMSs.

EMSs are considered dysfunctional to a significant degree, as they are maladaptive cognitive and emotional patterns that have an impact on behaviour, perceptions, experiences, and interpersonal relationships throughout life (Young et al., 2003). Young and colleagues have identified 18 EMSs, grouped into five schema domains based on which emotional need that has not been met. The Disconnection and Rejection domain is related to violations of the needs for safety, stability, nurturance, empathy, and acceptance. The Impaired Autonomy and Performance domain is related to the feeling of not being able to function independently through the unfulfillment of needs for autonomy and competence. The Other-Directedness domain is related to the violation of the need for self-directedness, which leads to a focus on other people's feelings and needs at the expense of one's own. The Overvigilance and Inhibition domain relates to the needs for spontaneity and playfulness not being fulfilled, which often leads to rigid and internalized rules. The Impaired Limits domain concerns the violation of the need to impose internal limits, as well as a difficulty to respect the rights of others (Rafaeli, Bernstein, & Young, 2011; Young et al., 2003). A full overview of the schemas is found in Table 2.

*Table 2 here*

An accumulating body of research emphasize the connection between EMSs and different personality disorders. Nordahl, Holthe, and Haugum (2005) found that patients with a personality disorder diagnosis scored higher on EMSs than did patients without a personality disorder. EMSs also seem to account for and predict variances in personality disorder characteristics (Carr & Francis, 2010; Petrocelli, Glaser, Calhoun, & Campbell,

2001; Shorey, Anderson, & Stuart, 2014), and a lot of the research done is related to borderline and antisocial personality disorder, which is often seen in offender populations (Black et al., 2007; Coid, 2002).

In a sample of non-clinical participants, Carr and Francis (2010) found that EMSs were statistically significant predictors of different personality disorders, except from borderline and antisocial personality disorders. Contrary to this finding, Shorey et al. (2014) found that schema domains did predict both antisocial and borderline personality disorder symptoms in a sample of male treatment seeking substance abusers. Furthermore, they found that the Impaired Limits domain and the Disconnection and Rejection domain were positively associated with antisocial personality disorder, while the Impaired Autonomy and Performance domain, and the Overvigilance and Inhibition domain were positively associated with borderline personality disorder. Regarding antisocial personality disorder, Ball and Cecero (2001) found that the severity of the disorder was associated with the EMSs Mistrust/Abuse, Vulnerability to Harm, and Emotional Inhibition, respectively referring to the domains of Disconnection and Rejection, Impaired Autonomy and Performance, and Overvigilance and Inhibition. The schema domain Disconnection and Rejection were also associated with antisocial personality traits in a sample of men who committed violence against their partners, along with the Impaired Limits domain (Corral & Calvete, 2014). When looking at offender samples specifically, Gilbert and Daffern (2013) studied male offenders and found that the Impaired Limits domain were significantly related to the severity of antisocial personality disorder, when controlling for the effects of other schema domains, as well as depression and borderline personality disorder severity.

Although most of the research regarding the association between psychiatric disorders and EMSs has revolved around different personality disorders, research has also been conducted regarding the construct of psychopathy and its relation to different schemas. Gullhaugen and Nøttestad (2012) found in their study that psychopathic offenders scored significantly higher than the control group on the domains Disconnection and Rejection, Impaired Autonomy and Performance, Overvigilance and Inhibition, and Impaired Limits. In a sample consisting of male offenders, Chakhssi, Bernstein, and de Ruiter (2014) found that psychopathy was significantly and positively related to the EMSs Mistrust/Abuse and Insufficient Self-Control, and negatively related to the schema Subjugation. On the other hand, Daffern, Gilbert, Lee, and Chu (2015) found no significant correlation between the PCL:SV score and EMSs using a sample of male and female psychopathic offenders. Although, when they divided the psychopaths into two groups according to their level of

neuroticism, they found that the offenders with higher levels of neuroticism also showed higher scores on certain EMSs. These were Abandonment/Instability, Mistrust/Abuse, and Emotional Deprivation, all referring to the Disconnection and Rejection domain, as well as the EMSs Vulnerability to Harm, Insufficient Self-Control, Subjugation, Emotional Inhibition, and Defectiveness/Shame.

Achieving more knowledge regarding the association between psychopathy and EMSs may broaden our understanding of the psychopath, and perhaps open up for a view that includes more than the typically behavioural aspects regarding this group of individuals.

### **Early Maladaptive Schemas and Interpersonal Problems**

According to Schema Theory, EMSs are closely related to interpersonal problems (Young et al., 2003). Schemas are self-perpetuating in the way people cope with them to assure consistency, and it is proposed that interpersonal problems arise through maladaptive coping (Rafaeli et al., 2011). As schemas over time develop to become a part of a person's personality or trait, they also become a guide for a person's way of behaving and interacting with others, and thus they may become templates to maladaptive interpersonal interaction. Some research has examined the relationship between EMSs and interpersonal problems, as measured by IIP-64. Through circumplex analyses, Thimm (2013) has studied the connection between EMSs and interpersonal problems in a psychiatric outpatient sample. His results showed that all the IIP-64 scales, except from Domineering, Intrusive, and Overly Nurturant, were associated with all the YSQ-SF scales. He further argues that interpersonal problems may arise as consequences of maladaptive interpersonal strategies, or coping mechanisms, that the individual applies to manage activation of EMSs. In a study done by Borge, Hoffart, and Sexton (2010), examining social phobic patients and different outcome variables in regards to therapy, a significant correlation between IIP-64 and YSQ-SF ( $r = .69$ ) were reported. In a correlational study using a sample of female Iranian university students, a positive significant correlation was found between all five schema domains and interpersonal problems. Especially, the domains Disconnection and Rejection ( $r = .89$ ) and Impaired Autonomy and Performance ( $r = .92$ ) were strongly correlated with interpersonal problems (Mojallal, Javadi, Hosseinkhanzadeh, Mousavi, & Lavasani, 2015).

As far as our knowledge based on thorough search in the literature, no research has been done regarding the relationship between interpersonal problems, as measured by the IIP-64, and EMSs in a group of psychopaths. However, Gullhaugen and Nøttestad's (2012) study

examined interpersonal and affective aspects in a group of psychopathic offenders and a control group, using both the IIP-64 and the YSQ-SF. To potentially attain a deeper understanding of the group of psychopathic offenders we will look at this group separately and do additional analyses of the Gullhaugen and Nøttestad (2012) data. This can make it possible to see if new findings emerge that may have been lost when comparing with a control group, and when not examining the correlation between interpersonal problems and EMSs. Gathering this information may have implications for the understanding of the psychopathy concept, and further for the treatment of psychopathy.

### **Method**

The aim of this study was to further explore the relationship between psychopathy, EMSs, and interpersonal problems in the Gullhaugen and Nøttestad (2012) data. Based on earlier research we hypothesized the following:

1. The psychopathic offenders will score highest on the EMSs Mistrust/Abuse and Insufficient Self-Control, and highest on the interpersonal problems Cold, Domineering, and Vindictive.
2. There will be a positive relationship between the degree of psychopathy and the EMSs Mistrust/Abuse and Insufficient Self-Control, and the interpersonal problems Cold, Domineering, and Vindictive.
3. There will be a significantly higher degree of EMSs and interpersonal problems in the group with a strong indication of psychopathy, compared to the group with a possible indication of psychopathy.
4. There will be a strong positive relationship between EMSs and interpersonal problems among the psychopathic offenders.

### **Inclusion and Exclusion Criteria**

The study used a cross-sectional design where all the participants were assessed once on different inventories.

A criterion for this study was that participants had to score 13 or above on the PCL:SV in order to be included. They also had to understand the Norwegian language both in writing and verbally. Out of the 189 individuals who met the language requirement for the study, 30 individuals volunteered to participate. Eighteen of these 30 completed all measures. Based on their PCL:SV score, 16 of the 18 were included in the study (for more detailed information related to design and inclusion/exclusion criteria, see Gullhaugen & Nøttestad, 2012).

### **Study Population**

The individuals included in the study were 16 male offenders incarcerated in Norwegian detention and high security prisons (Ringerike, Ila, and Trondheim prisons). Five subjects scored between 13 and 18, and the remaining eleven scored 18 or above, on the PCL:SV. The mean age of the participants was 37.57 years, with a standard deviation of 10.82. Educational variables are shown in Table 3.

*Table 3 here*

### **Measures**

*The Screening Version of the Psychopathy Checklist-Revised (PCL:SV)* is a short version of the PCL-R. Both instruments are found to be conceptually and empirically related in measuring the psychological construct of psychopathy (Cooke, Michie, Hart, & Hare, 1999). The PCL:SV is found to be valid and reliable (Cooke et al., 1999; Hare, Clark, Grann, Thornton, 2000), and consists of 12 items which is scored numerically based on its fit on “item does not apply” (0), “item applies to some degree” (1), and “item definitely applies” (2). The scores can range from 0 to 24, where a score of 18 or higher is a strong indication of psychopathy, whereas a score of 13 or higher is a recommended cut-off for possible psychopathy (Cooke et al., 1999; Gullhaugen, 2012; Pedersen, Kunz, Rasmussen, & Elsass, 2010).

*The Young Schema Questionnaire - Short Form (YSQ-SF)* is a self-report measure that assesses 15 of the 18 schemas constituting Young’s taxonomy of EMSs (Rafaeli et al., 2011; Schmidt, Joiner, Young, & Telch, 1995). The YSQ-SF consists of 75 items that are scored according to a 6-point Likert scale ranging from “completely untrue” to “completely

true". The total score for the schemas are obtained by adding together the items within each schema. There is evidence supporting the reliability and validity of the YSQ, which the YSQ-SF is derived from (Lee, Taylor, & Dunn, 1999; Schmidt et al., 1995), and the Norwegian version of the YSQ-SF has adequate psychometric properties (Hoffart et al., 2005). With a Cronbach's alpha of .924 in our study, the overall scale of the 15 items was found to be highly reliable.

*The Inventory of Interpersonal Problems Circumplex scale (IIP-64)* measures interpersonal sources of distress (Alden, Wiggings, & Pincus, 1990; Horowitz, Rosenberg, Baer, Ureno, & Villasenor, 1988). The IIP-64 is a self-report measure of interpersonal problems consisting of 64 items that comprise eight scales. Each item is scored according to a 5-point Likert scale ranging from "not at all" to "extremely". The IIP-64 is found to be valid and reliable (Monsen, Hagtvet, Havik, & Eilertsen, 2006). With a Cronbach's alpha of .886 in our study, the overall scale of the eight items was found to be highly reliable.

### **Statistical Analyses**

All analyses were conducted using the Statistical Package for the Social Sciences, version 21. We used an alpha level of .05 for all statistical tests.

First, reliabilities of the scales were measured with Cronbach's  $\alpha$  for all YSQ-SF and IIP-64 scales. Then, descriptive statistics, including mean, standard deviation, and range, were calculated for all YSQ-SF and IIP-64 scales. A Pearson's  $r$  correlational analysis was conducted between the PCL:SV and the IIP-64 and YSQ-SF scales. To examine statistically significant differences on the IIP-64 and YSQ-SF total scores between the group scoring 18 or above and the group scoring between 13 and 18 on the PCL:SV, an independent samples  $t$ -test was performed. Finally, a Pearson's  $r$  correlational analysis between YSQ-SF and IIP-64 scales was computed.

### **Results**

In this sample, the mean PCL:SV score was 18.94, ranging from 14-23, with a standard deviation of 2.96. Most YSQ-SF and IIP-64 scales had adequate to excellent internal consistency (Cronbach's  $\alpha$ ), with the exception of the Domineering scale on the IIP-64 that had a Cronbach's alpha of .49.

To test the hypothesis that the psychopaths would score highest on the EMSs Mistrust/Abuse and Insufficient Self-Control, descriptive statistics were computed. The descriptive statistics for the YSQ-SF, displayed in Table 4, showed that the psychopaths had consistently high scores on all YSQ-SF scales. The highest scores were on the schemas Self-Sacrifice,  $M = 16.44$  ( $SD = 4.62$ ), Mistrust/Abuse,  $M = 14.88$  ( $SD = 6.36$ ), Unrelenting Standards/Hypercriticalness,  $M = 14.56$  ( $SD = 5.81$ ), and Emotional Deprivation,  $M = 13.56$  ( $SD = 8.37$ ). Thus, the hypothesis was partly verified, with Mistrust/Abuse being one of the high scoring EMSs, while the prediction emphasizing Insufficient Self-Control as a high scoring EMS, was not confirmed.

*Table 4 here*

To test the hypothesis that the psychopaths would score highest on the interpersonal problems Cold, Domineering, and Vindictive, descriptive statistics were calculated. The descriptive statistics for the IIP-64, displayed in table 5, showed that the highest scores on the IIP-64 scales were Socially Avoidant,  $M = 12.27$  ( $SD = 7.78$ ), Cold,  $M = 11.47$  ( $SD = 9.42$ ), Overly Nurturant,  $M = 11.33$  ( $SD = 7.20$ ), and Exploitable,  $M = 11.27$  ( $SD = 8.01$ ). Thus, the results did not support the hypothesis for Domineering and Vindictive, but confirmed the prediction that Cold would be one of the highest scoring scales on the IIP-64.

*Table 5 here*

To test the hypothesis that there would be a positive correlation between the degree of psychopathy and the EMSs Mistrust/Abuse and Insufficient Self-Control, and between the degree of psychopathy and the interpersonal problems Cold, Domineering, and Vindictive, a Pearson's  $r$  correlational analysis was conducted. As shown in Table 6 and 7, this analysis was associated with a statistically significant effect between the PCL:SV score and the EMSs Entitlement/Grandiosity,  $r = .60$  and Insufficient Self-Control,  $r = .58$ , and the interpersonal problem Domineering,  $r = .52$ . These results suggest a strong positive relationship ( $r > .50$ ) between the PCL:SV score and the EMSs Entitlement/Grandiosity and Insufficient Self-Control, and the interpersonal problems Domineering. Thus, the hypothesis that the degree of psychopathy would be positively correlated with the EMS Insufficient Self-Control and the interpersonal problem Domineering was verified, while the same prediction about the EMS Mistrust/Abuse and the interpersonal problems Cold and Vindictive was not confirmed.

*Tables 6 and 7 here*

The group that scored 18 or above on the PCL:SV ( $N = 11$ ) was associated with a total IIP-64 score  $M = 87.40$  ( $SD = 46.47$ ). By comparison, the group that scored between 13 and 18 on the PCL:SV ( $N = 5$ ) was associated with a numerically lower total score on the IIP-64  $M = 76.80$  ( $SD = 36.43$ ). To test the hypotheses that the group scoring 18 or above and the group scoring between 13 and 18 on the PCL:SV were associated with statistically significant different mean IIP-64 total scores, an independent samples  $t$ -test was performed. The assumption of homogeneity of variances was tested and satisfied via Levene's  $F$  test,  $F(13) = .68$ ,  $p = .425$ . However, the independent samples  $t$ -test was not associated with a statistically significant effect,  $t(13) = .44$ ,  $p = .665$ .

The group that scored 18 or above on the PCL:SV ( $N = 11$ ) was associated with a total YSQ-SF score  $M = 179.27$  ( $SD = 61.38$ ). By comparison, the group that scored between 13 and 18 on the PCL:SV ( $N = 5$ ) was associated with a numerically lower total score on the YSQ-SF  $M = 164.00$  ( $SD = 61.07$ ). To test the hypotheses that the group scoring 18 or above and the group scoring between 13 and 18 on the PCL:SV were associated with statistically significant different mean YSQ-SF total scores, an independent samples  $t$ -test was performed. The assumption of homogeneity of variances was tested and satisfied via Levene's  $F$  test,  $F(14) = .080$ ,  $p = .782$ . However, the independent samples  $t$ -test was not associated with a statistically significant effect,  $t(14) = .46$ ,  $p = .651$ .

Finally, a Pearson's  $r$  correlational analysis was conducted to examine the association between EMSs and interpersonal problems. This analysis revealed a high degree of significant correlations between many EMSs and interpersonal problems, as shown in Table 8. The only exceptions were the Intrusive scale on the IIP-64, which was not significantly related to any of the YSQ-SF scales, and the Enmeshment/Undeveloped Self scale on the YSQ-SF, which was not significantly related to any of the IIP-64 scales. The strongest correlations were between the following scales from IIP-64 and YSQ-SF respectively: Socially Avoidant and Vulnerability to Harm,  $r = .89$ ; Socially Avoidant and Failure,  $r = .86$ ; Socially Avoidant and Social Isolation/Alienation,  $r = .86$ ; Socially Avoidant and Subjugation,  $r = .84$ ; Vindictive and Insufficient Self-Control,  $r = .84$ ; Cold and Vulnerability to Harm,  $r = .83$ ; Nonassertive and Social Isolation/Alienation,  $r = .83$ ; Exploitable and Subjugation,  $r = .82$ ; Domineering and Entitlement/Grandiosity,  $r = .82$ ; Domineering and Insufficient Self-Control,  $r = .81$ ; Vindictive and Entitlement/Grandiosity,  $r = .78$ ; Socially Avoidant and Emotional Inhibition,  $r = .77$ . These findings suggest a very strong positive

relationship ( $r = > .70$ ) between certain EMSs and interpersonal problems among the psychopaths in this study.

*Table 8 here*

### **Discussion**

The current study examined the relationship between psychopathy, EMSs, and interpersonal problems, as measured by IIP-64, in a group of incarcerated offenders. The highest scores related to interpersonal problems were on the Socially Avoidant, Cold, Overly Nurturant, and Exploitable scales, thus our hypothesis was only partly confirmed, with Cold being one of the highest scoring interpersonal problems, while Domineering and Vindictive were not. Both Socially Avoidant and Cold correspond with what is considered typical interpersonal characteristics of psychopathy, but Overly Nurturant and Exploitable are characteristics that appear to be the opposite of how people suffering from psychopathy are generally perceived. This might suggest that psychopaths partially perceive themselves as different than what is the general consensus about the psychopathy construct. There can be several reasons as to why these findings emerge. It might be because of a possible lack of insight, rationalization, or simply because they are not answering the questions truthfully. One other possible explanation might relate to the psychopath having great emotional needs that are not being fulfilled, which is consistent with Schema Theory. This might lead to a feeling of being taken advantage of (Exploitable), or to a feeling of always accommodating others (Overly Nurturant). If so, this is a paradox, considering how people encountering psychopaths feel both taken advantage of by them, and having to adapt to their needs. On the other hand, the correlational analysis showed that Domineering was the only dimension of interpersonal problems that correlated significantly with the degree of psychopathy. Thus our hypothesis of Cold, Vindictive and Domineering being positively related to the degree of psychopathy was only partly confirmed. High scores on the interpersonal problem Domineering often means that the individual is in high need of control, and describe themselves as manipulative. It often feels threatening to them to lose control and this can produce feelings related to loss of dignity and self-respect (Wongpakaran et al., 2012). This description is more similar to existing literature on the interpersonal style of the psychopath.

As current research on the IIP-64 has not focused specifically on psychopathy, the most relatable groups to compare the results with are people with antisocial personality

disorder and violent offenders. In line with Eher et al.'s (1999) study on incarcerated offenders, we also found that the interpersonal problems Overly Nurturant, Exploitable, and Socially Avoidant were the ones with the highest scores, although unlike their results our findings did not prove the interpersonal problem Nonassertive to be a prominent one. Our results also correspond with Soldz et al.'s (1993) findings, showing that antisocial personality disorder was associated with the IIP-64 scale Domineering, although we did not find support for Vindictive and Intrusive. Matano and Locke (1995) found the interpersonal problems Cold, Domineering, and Vindictive to be associated with antisocial personality disorder in an alcoholic population. In line with their findings, we found that Cold was one of the highest scoring interpersonal problems and Domineering was associated with the degree of psychopathy. In sum, our findings on interpersonal problems among psychopaths correspond with earlier research on antisocial populations.

Our results regarding EMSs showed that the highest scores were on the Self-Sacrifice, Mistrust/Abuse, Unrelenting Standards/Hypercriticalness, and Emotional Deprivation scales. Thus, the hypothesis that Mistrust/Abuse and Insufficient Self-Control would be the highest scoring EMSs, was only partly confirmed. It was surprising that the psychopaths in this study had Self-Sacrificing as the highest scoring EMS. Self-Sacrifice, a schema included in the Other-Directedness domain, involves meeting the needs of others and avoiding actions that cause others pain. However, this schema can also lead to behaviours like avoiding guilt from feeling selfish, and avoiding relationships with people perceived as needy, as well as a sense that one's own needs are not met by others (Rafaeli et al., 2011; Young et al., 2003). Thus, this schema seems very atypical for the psychopaths' usual interactions, although it makes sense that some aspects of it may apply.

The correlational analysis showed that Entitlement/Grandiosity and Insufficient Self-Control were the only EMSs that correlated significantly with the PCL:SV score. Thus, the findings do not support the hypothesis about Mistrust/Abuse, but confirm that Insufficient Self-Control is positively related to the degree of psychopathy. The results suggest that being superior or dominating towards others, in addition to lacking impulse control, increase or decrease depending on the degree of psychopathy. The EMSs Entitlement/Grandiosity and Insufficient Self-Control sort under the Impaired Limits domain, which concerns deficiencies in internal limits, and may lead to transgressing the boundaries of self and others, driven by a perceived lack of freedom to express valid needs and emotions. Thus, the behaviour related to dominating, violating limits, and lacking impulse control, which is often observed in

psychopaths, might be explained by a perception that their needs are not being adequately met by others.

Consistent with previous research, Emotional Deprivation, Mistrust/Abuse, and Insufficient Self-Control were either some of the highest scoring EMSs among the psychopaths, or were associated with psychopathy (Chakhssi et al., 2014; Daffern et al., 2015). Our findings showed that Mistrust/Abuse and Emotional Deprivation, which are parts of the Disconnection and Rejection domain, were two of the highest scoring EMSs. High scores related to schemas in the Disconnection and Rejection domain coincide with earlier research showing that schemas in this domain are prevalent in both antisocial and psychopathic samples (Ball & Cecero, 2001; Coral & Calvete, 2014; Shorey et al., 2014).

When comparing the group with a strong indication of psychopathy (scoring above 18 on the PCL:SV) with the group with a possible indication of psychopathy (scoring between 13 and 18 on the PCL:SV), there were no significant differences between the group average of EMSs and interpersonal problems. Although we hypothesized that a stronger indication of psychopathy leads to more EMSs and interpersonal problems, the only indication of this assumption in this study was numerical. Lack of significant findings may be due to the fact that the two groups lie on a continuum, and thus the highest PCL:SV score in the group with a possible indication of psychopathy is only one point away from the lowest score in the group with a strong indication of psychopathy.

As hypothesized, the correlational analysis revealed strong significant correlations between EMSs and interpersonal problems. The results showed generally stronger correlations between the IIP-64 and YSQ-SF scales among the psychopaths in this study, compared to earlier research on psychiatric outpatients (Thimm, 2013), a female Iranian student population (Mojallal et al., 2015), and patients with social phobia (Borge et al., 2010). This finding suggests that there is a strong relationship between psychopathy, EMSs, and interpersonal problems, perhaps an even stronger relationship than in other populations, although further research is needed to confirm this assumption.

It has been hypothesized that interpersonal problems are related to the developmental process within the attachment system, and that insecure attachment may result in Domineering, Vindictive, Cold, Socially Avoidant, or Nonassertive interpersonal problems (Bartholomew & Horowitz, 1991; Wongpakaran et al., 2012). Domineering, Cold, and Socially Avoidant are all interpersonal problems that protrude among the psychopaths in this study. There is also a possibility that the high prevalence of EMSs in this study can be explained by the assumption that adverse childhood experiences creates a toxic environment

without secure attachments, favourable for the development of EMSs in children. Early childhood victimization in the form of abuse and neglect are proved highly correlated with adult psychopathy scores (Borja & Ostrosky, 2013; Krischer & Sevecke, 2008; Lang, Klinteberg, & Alm, 2002; Marshall & Cooke, 1999; Poythress, Skeem, & Lilienfeld, 2006; Weiler & Widom, 1996). Rafaeli et al. (2011) point out that different early life experiences, in interaction with the child's temperament, may lead to a development of EMSs. These experiences can be related to traumatization, lack of fulfilment of needs, lack of autonomy, or internalization of significant others.

An assumption might be that early childhood victimization and insecure attachment can lead to EMSs, which in turn affects interpersonal interaction patterns later in life. Thus, the EMSs and the interpersonal problems will have a reciprocal impact on each other. This might explain the highly present EMSs and interpersonal problems among the psychopaths in this study, as well as the strong correlations between EMSs and interpersonal problems in this group.

### **Limitations**

An obvious limitation in this study regards the small sample size. Since there were only 16 individuals participating, one needs to be careful with respects to generalizing the results. To make our findings more generally applicable it is necessary to study a larger sample. In addition, the sample is consisting of male offenders incarcerated in detention and high security prisons, and the generalizability to women and non-criminal individuals suffering from psychopathy is therefore unknown. Furthermore, using self-report measures on a group characterized by dishonesty can be an obvious disadvantage as their frequent lying might extend to responses on psychological tests. For future research it might be informative to use multiple sources. Self-report measures only measure explicit factors, and Schema Theory emphasizes difficulties in evaluating and reporting different EMSs as they are implicit reactions to different emotional needs, and may also be affected by various coping responses (Young et al., 2003). EMSs can be further understood by applying experimental tests to uncover the implicit factors. Lack of insight can also affect the results, as people with personality disorders are known to have difficulties observing their own behaviour and the way it affects those around them (Clifton, Turkheimer, & Oltmanns, 2005). An alternative approach to assessing interpersonal problems may be to observe the behaviour directly during experimental tests, like social interaction tasks. Another limitation is the

cross-sectional design of this study, which limits our possibilities to determine any causal inferences, thus our findings are only of correlational nature.

### **Implications**

For future research it could be interesting to replicate these findings in a bigger population of psychopaths to see if the same EMSs and interpersonal problems will emerge. It would be of interest to explore the origin of interpersonal problems and EMSs, and one way to do that might be to examine their relation to early childhood victimization and insecure attachment. Of further importance are the implications this knowledge may bring to the treatment of psychopathy. There has long been a tradition emphasizing that this group is difficult, if even impossible to treat (Harris & Rice, 2006; Rice, Harris, & Cormier, 1992; Seto & Barbaree, 1999). Some research even points out that treating people suffering from psychopathy may make them worse (Rice et al., 1992). However, little empirical findings support this view (Chakhssi, de Ruiter & Bernstein, 2010; D'Silva, Duggan, & McCarthy, 2004; Salekin, 2002).

Schema Therapy has shown promising results in treating patients that typically is hard to treat. Bernstein et al. (2012) have found that Schema Therapy might be an effective treatment for forensic psychiatric patients with a personality disorder, including individuals suffering from psychopathy. Supporting this preliminary finding is results achieved during a case study where an offender suffering from psychopathy received Schema Therapy, and showed a positive treatment response. This included a lowering of the PCL-R score, as well as changes in empathy, shame, guilt, communication skills, and insight (Chakhssi, Kersten, de Ruiter, & Bernstein, 2014), which can be seen as improvements in interpersonal functioning. Knowing the psychopaths' vulnerabilities might open up for a place to intervene in therapy, e.g., directed towards specific EMSs. It can be argued that EMSs and related coping responses have a mediating effect on interpersonal problems, thus, Schema Therapy might be a way to improve interpersonal functioning among psychopaths.

### **Conclusion**

In summary, our findings show that the psychopaths in this study had highly prevalent EMSs and interpersonal problems. We also found strong significant correlations between the EMSs and the interpersonal problems, which emphasizes their relationship. Our results show both the ruthless side that characterizes the psychopaths' interpersonal behaviour, as well as a

more vulnerable side when it comes to internal states that might contribute to this behaviour. These findings indicate a nuanced perspective emphasizing the complexity of the psychopathy construct. This study contributes to the existing research on EMSs and interpersonal problems, and can provide an increased understanding of the internal states affecting interpersonal functioning among individuals suffering from psychopathy.

## References

- Alden, L. E., Wiggins, J. S., & Pincus, A. L. (1990). Construction of circumplex scales for the inventory of interpersonal problems. *Journal of Personality Assessment, 55*(3&4), 521-536.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: APA.
- Ball, S. A., & Cecero, J. J. (2001). Addicted patients with personality disorders: Traits, schemas, and presenting problems. *Journal of Personality Disorders, 15*(1), 72-83.
- Bartholomew, K., & Horowitz L. M. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology, 61*(2), 226-244.
- Bernstein, D. P., Nijman, H. L. I., Karos, K., Keulen-de Vos, M., de Vogel, V., & Lucker, T. P. (2012). Schema Therapy for forensic patients with personality disorders: design and preliminary findings of a multicenter randomized clinical trial in the Netherlands. *International Journal of Forensic Mental Health, 11*, 312-324.
- Black, D. W., Gunter, T., Allen, J., Blum, N., Arndt, S., Wenman, G., & Sieleni, B. (2007). Borderline personality disorder in male and female offenders newly committed to prison. *Comprehensive Psychiatry, 48*, 400-405.
- Borge, F.-M., Hoffart, A., & Sexton, H. (2010). Predictors of outcome in residential cognitive and interpersonal treatment for social phobia: Do cognitive and social dysfunction moderate treatment outcome? *Journal of Behavior Therapy and Experimental Psychiatry, 41*, 212-219.
- Borja, K., & Ostrosky, F. (2013). Early traumatic events in psychopaths. *Journal of Forensic Sciences, 58*(4), 927-931.
- Carr, S. N., & Francis, A. J. (2010). Early maladaptive schemas and personality disorder symptoms: An examination in a non-clinical sample. *Psychology and Psychotherapy: Theory, Research and Practice, 83*, 333-349.
- Cecero, J. J., Nelson, J. D., & Gillie, J. M. (2004). Tools and tenets of Schema Therapy: Toward the construct validity of the Early Maladaptive Schema Questionnaire—Research Version (EMSQ-R). *Clinical Psychology and Psychotherapy (11)*, 344-357.
- Chakhssi, F., Bernstein, D. P., & de Ruiter, C. (2014). Early maladaptive schemas in relation to facets of psychopathy and institutional violence in offenders with personality disorders. *Legal and Criminological Psychology, 19*, 356-372.
- Chakhssi, F., de Ruiter, C., & Bernstein, D. P. (2010). Change during forensic treatment in

- psychopathic versus nonpsychopathic offenders. *The Journal of Forensic Psychiatry & Psychology*, 21(5), 660-682.
- Chakhssi, F., Kersten, T., de Ruiter, C., & Bernstein, D. P. (2014). Treating the untreatable: A single case study of a psychopathic inpatient treated with Schema Therapy. *Psychotherapy*, 51(3), 447-461.
- Cleckley, H. M. (1941). *The mask of sanity*. St. Louis, MO: C. V. Mosby.
- Clifton, A., Turkheimer, E., & Oltmanns, T. F. (2005). Self- and peer perspectives on pathological personality traits and interpersonal problems. *Psychological Assessment*, 17(2), 123-131.
- Coid, J. W. (2002). Personality disorders in prisoners and their motivation for dangerous and disruptive behaviour. *Criminal Behaviour and Mental Health*, 12, 209-226.
- Cooke, D. J., Forth, A. E., & Hare, R. D. (1998). *Psychopathy: Theory, research and implications for society*. Dordrecht, The Netherlands: Kluwer Academic Publishers.
- Cooke, D. J., & Michie, C. (2001). Refining the construct of psychopathy: Towards a hierarchical model. *Psychological Assessment*, 13(2), 171-188.
- Cooke, D. J., Michie, C., Hart, S. D., & Hare, R. D. (1999). Evaluating the screening version of the Hare Psychopathy Checklist-Revised (PCL:SV): An item response theory analysis. *Psychological Assessment*, 11(1), 3-13.
- Corral, C., & Calvete, E. (2014). Early maladaptive schemas and personality disorder traits in perpetrators of intimate partner violence. *Spanish Journal of Psychology*, 17(1), 1-10.
- Daffern, M., Gilbert, F., Lee, S., & Chu, C. M. (2015). The relationship between Early Maladaptive Schema, psychopathic traits, and neuroticism in an offender sample. *Clinical Psychologist*, 1-4.
- Doninger, N. A., & Kosson, D. S. (2001). Interpersonal construct systems among psychopaths. *Personality and Individual Differences*, 30, 1263-1281.
- D'Silva, K., Duggan, C., & McCarthy, L. (2004). Does treatment really make psychopaths worse? A review of the evidence. *Journal of Personality Disorders*, 18(2), 163-177.
- Eher, R., Fruehwald, S., Aigner, M., Schmidl-Mohl, B., Frottier, P., Dwyer, M., & Gutierrez-Lobos, K. (1999). Discriminating among incarcerated sexual offenders by their perception of interpersonal problems and experience-related anxiety. *Journal of Behavior Therapy and Experimental Psychiatry*, 30, 93-103.
- Gilbert, F., & Daffern, M. (2013). The association between early maladaptive schema and personality disorder traits in an offender population. *Psychology, Crime & Law*, 19(10), 933-946.

- Gullhaugen, A. S., & Nøttestad, J. A. (2012). Under the surface: The dynamic interpersonal and affective world of psychopathic high security and detention prisoners. *International Journal of Offender Therapy and Comparative Criminology*, 56(6), 917-936.
- Hare, R. D. (1980). A research scale for the assessment of psychopathy in criminal populations. *Personality and Individual Differences*, 1(2), 111-119.
- Hare, R. D. (1991). *The Hare psychopathy checklist-revised*. Toronto, Canada: Multi-Health Systems.
- Hare, R. D., Clark, D., Grann, M., & Thornton, D. (2000). Psychopathy and the predictive validity of the PCL-R: An international perspective. *Behavioral Sciences and the Law*, 18, 623-645.
- Harris, G. T., & Rice, M. E. (2006). Treatment of psychopathy: A review of empirical findings. In C. J. Patrick (Ed.), *Handbook of psychopathy* (pp. 555-572). New York: Guilford Press.
- Hemphill, J. F., Hare, R. D., & Wong, S. (1998). Psychopathy and recidivism: A review. *Legal and Criminological Psychology*, 3, 139-170.
- Hilsenroth, M. J., Menaker, J., Peters, E. J., & Pincus, A. L. (2007). Assessment of borderline pathology using the Inventory of Interpersonal Problems Circumplex Scales (IIP-C): A comparison of clinical samples. *Clinical Psychology and Psychotherapy*, 14, 365-376.
- Hoffart, A., Sexton, H., Hedley, L. M., Wang, C. E., Holthe, H., Haugum, J. A., . . . Holte, A. (2005). The structure of maladaptive schemas: A confirmatory factor analysis and a psychometric evaluation of factor-derived scales. *Cognitive Therapy and Research*, 29(6), 627-644.
- Horowitz, L. M., Rosenberg, S. E., Baer, B. A., Ureno, G., & Villasenor, V. S. (1988). Inventory of interpersonal problems: Psychometric properties and clinical applications. *Journal of Consulting and Clinical Psychology*, 56(6) 885-892.
- Kiehl, K. A., & Hoffman, M. B. (2011). The criminal psychopath: History, neuroscience, treatment, and economics. *Jurimetrics*, 51, 355-397.
- Krischer, M. K., & Sevecke, K. (2008). Early traumatization and psychopathy in female and male juvenile offenders. *International Journal of Law and Psychiatry*, 31, 253-262.
- Lang, S., Klinteberg, B., & Alm, P. O. (2002). Adult psychopathy and violent behavior in males with early neglect and abuse. *Acta Psychiatrica Scandinavica*, 412, 93-100.

- Lee, C. W., Taylor, G., & Dunn, J. (1999). Factor structure of the Schema Questionnaire in a large clinical sample. *Cognitive Therapy and Research*, 23(4), 441-451.
- Marshall, L. A., & Cooke, D. J. (1999). The childhood experiences of psychopaths: A retrospective study of familial and societal factors. *Journal of Personality Disorders* 13(3), 211–225.
- Matano, R. A., & Locke, K. D. (1995). Personality disorder scales as predictors of interpersonal problems of alcoholics. *Journal of Personality Disorders*, 9(1), 62-67.
- Messman-Moore, T. L., & Coates, A. A. (2007). The impact of childhood psychological abuse on adult interpersonal conflict: The role of early maladaptive schemas and patterns of interpersonal behavior. *Journal of Emotional Abuse*, 7(2), 75-92.
- Mojallal, M., Javadi, M. H., Hosseinkhanzadeh, A. A., Mousavi, S. V., & Lavasani, M. G. (2015). Early maladaptive schemas and interpersonal problems in Iranian university students. *Practice in Clinical Psychology*, 3(1), 11-21.
- Monsen, J. T., Hagtvet, K. A., Havik, O. E., & Eilertsen, D. E. (2006). Circumplex structure and personality disorder correlates of the Interpersonal Problems Model (IIP-C): Construct validity and clinical implications. *Psychological Assessment*, 18(2), 165-173.
- Morey, L. C. (1997). Personality diagnosis and disorders. In R. Hogan, J. Johnson, & S. Briggs (Eds.), *Handbook of personality psychology* (pp. 937). San Diego, CA: Academic Press.
- Neumann, C. S., Hare, R. D., & Newman, J. P. (2007). The super-ordinate nature of the Psychopathy Checklist-Revised. *Journal of Personality Disorders*, 21(2), 102-117.
- Nordahl, H. M., Holthe, H., & Haugum, J. A. (2005). Early maladaptive schemas in patients with or without personality disorders: Does schema modification predict symptomatic relief? *Clinical Psychology and Psychotherapy*, 12, 142-149.
- Ogrodniczuk, J. S., Piper, W. E., Joyce, A. S., Steinberg, P. I., & Duggal, S. (2009). Interpersonal problems associated with narcissism among psychiatric outpatients. *Journal of Psychiatric Research*, 43, 837-842.
- Pedersen, L., Kunz, C., Rasmussen, K., & Elsass, P. (2010). Psychopathy as a risk factor for violent recidivism: Investigating the Psychopathy Checklist Screening Version (PCL:SV) and the Comprehensive Assessment of Psychopathic Personality (CAPP) in a forensic psychiatric setting. *International Journal of Forensic Mental Health*, 9, 308–315.
- Petrocelli, J. V., Glaser, B. A., Calhoun, G. B., & Campbell, L. F. (2001). Early maladaptive

- schemas of personality disorder subtypes. *Journal of Personality Disorders*, 15(6), 546-559.
- Pilkonis, P. A., Kim, Y., Proietti, J. M., & Barkham, M. (1996). Scales for personality disorders developed from the inventory of interpersonal problems. *Journal of Personality Disorders*, 10(4), 355-369.
- Pincus, A. L., & Wiggins, J. S. (1990). Interpersonal problems and conceptions of personality disorders. *Journal of Personality Disorders*, 4, 342-352.
- Poythress, N. G., Skeem, J. L., & Lilienfeld, S. O. (2006). Associations among early abuse, dissociation, and psychopathy in an offender sample. *Journal of Abnormal Psychology*, 115(2), 288-297.
- Rafaeli, E., Bernstein D.P., & Young, J. (2011). *Schema therapy: Distinctive features*. New York, NY: Routledge.
- Rice, M. E., Harris, G. T., & Cormier, C. A. (1992). An evaluation of a maximum security therapeutic community for psychopaths and other mentally disordered offender. *Law and Human Behavior*, 16(4), 399-412.
- Rodebaugh, T. L., Gianoli, M. O., Turkheimer, E., & Oltmanns, T. F. (2010). The interpersonal problems of the socially avoidant: Self and peer shared variance. *Journal of Abnormal Psychology*, 119(2), 331-340.
- Rush, B. (1812). *Medical Inquiries and observations upon the diseases of the mind* (5th ed.). Philadelphia, PA: Grigg and Elliot.
- Salekin, R. T. (2002). Psychopathy and therapeutic pessimism: Clinical lore or clinical reality? *Clinical Psychology Review*, 22, 79-112.
- Salekin, R. T., Rogers, R., & Sewell, K. W. (1996). A review and meta-analysis of the Psychopathy Checklist and Psychopathy Checklist-Revised: Predictive validity of dangerousness. *Clinical Psychology: Science and Practice*, 3(3), 203-215.
- Scarpa, A., Luscher, K. A., Smalley, K. J., Pilkonis, P. A., Kim, Y., & Williams, W. C. (1999). Screening for personality disorders in a nonclinical population. *Journal of Personality Disorders*, 13(4), 345-360.
- Schmidt, N. B., Joiner, T. E., Young, J. E., & Telch, M. J. (1995). The Schema Questionnaire: Investigation of psychometric properties and the hierarchical structure of a measure of maladaptive schemas. *Cognitive Therapy and Research*, 19(3), 295-321.
- Seto, M. C., & Barbaree, H. E. (1999). Psychopathy, treatment behavior, and sex offender

- recidivism. *Journal of Interpersonal Violence*, 14(12), 1235-1248).
- Shorey, R. C., Anderson, S., & Stuart, G. L. (2014). The relation between antisocial and borderline personality symptoms and early maladaptive schemas in a treatment seeking sample of male substance users. *Clinical Psychology and Psychotherapy*, 21, 341–351.
- Soldz, S., Budman, S., Demby, A., & Merry, J. (1993). Representation of personality disorders in circumplex and five-factor space: Explorations with a clinical sample. *Psychological Assessment*, 5(1), 41-52.
- Stern, B. L., Kim, Y., Trull, T. J., Scarpa, A., & Pilkonis, P. A. (2000). Inventory of Interpersonal Problems Personality Disorder Scales: Operating characteristics and confirmatory factor analysis in nonclinical samples. *Journal of Personality Assessment*, 74(3), 459-471.
- Thimm, J. C. (2010). Personality and early maladaptive schemas: A five-factor model perspective. *Journal of Behavior Therapy and Experimental Psychiatry*, 41, 373-380.
- Thimm, J. C. (2013). Early maladaptive schemas and interpersonal problems: A circumplex analysis of the YSQ-SF. *International Journal of Psychology & Psychological Therapy*, 13(1), 113-124.
- Weiler, B. L., & Widom, C. S. (1996). Psychopathy and violent behavior in abused and neglected young adults. *Criminal Behavior and Mental Health*, 6(3), 253–271.
- Wongpakaran, T., Wongpakaran, N., Sirithethawee, U., Pratoomsri, W., Burapakajornpong, N., Rangseekajee, P., . . . Temboonkiat, A. (2012). Interpersonal problems among psychiatric outpatients and non-clinical samples. *Singapore Medical Journal*, 53(7), 481-487.
- World Health Organization. (1992). *International Statistical Classification of Diseases and Related Health Problems, 10th Revision (ICD-10)*. Geneva: WHO.
- Wright, A. G., Hallquist, M. N., Morse, J. Q., Scott, L. N., Stepp, S. D., Nolf, K. A., & Pilkonis, P. A. (2013). Clarifying interpersonal heterogeneity in borderline personality disorder using latent mixture modeling. *Journal of personality disorders*, 27(2), 125-143.
- Young, J. E., Klosko, J. S., & Weishaar, M. E. (2003). *Schema therapy: A practitioner's guide*. New York, NY: Guilford Press.

## Tables

*Table 1. IIP-64 scales.*

Interpersonal problems	Description
Vindictive	Being suspicious, distrustful, egocentric, and hostile
Cold	Having trouble with affection and sympathy
Socially Avoidant	Being socially avoidant, shy, and anxious
Nonassertive	Having difficulty expressing one's needs and failing to be forceful
Exploitable	Being too trusting and easily taken advantage of by people
Overly Nurturant	Being excessively selfless, generous and eager to please
Intrusive	Imposing one's needs and seeking attention inappropriately
Domineering	Being controlling, manipulative and aggressive

Table 2. YSQ-SF scales.

Schemas	Description
<i>Disconnection and Rejection domain</i>	
Emotional Deprivation	The expectation that one's need for a normal degree of emotional support, through nurturance, empathy and protection, will not be adequately met by others.
Abandonment/Instability	The perceived unreliability or instability of significant others for emotional support and connection.
Mistrust/Abuse	The expectation that others will hurt, abuse, humiliate, cheat, lie, manipulate, or take advantage of you.
Social Isolation/Alienation	The feeling that one is isolated from the rest of the world, different from other people, and/or not part of any group or community.
Defectiveness/Shame	The feeling that one is defective, flawed, unwanted or inferior, or that one would be unlovable to significant others if exposed.
<i>Impaired Autonomy and Performance domain</i>	
Failure	The belief that one has failed or will fail, or is fundamentally inadequate in different areas of achievement relative to one's peers.
Dependence/Incompetence	The belief that one is unable to handle day-to-day responsibilities in a competent manner, without help from others.
Vulnerability to Harm	An exaggerated fear that an imminent catastrophe will strike at any time and that one will be unable to prevent it.
Enmeshment/Undeveloped Self	Excessive emotional involvement and closeness with one or more significant others, at the expense of full individuation or normal social development.
<i>Other-Directedness domain</i>	
Subjugation	Excessive surrendering of control to others because one feels coerced or to avoid negative consequences.
Self-Sacrifice	The excessive focus on voluntarily meeting the needs of others, at the expense of one's own gratification.
<i>Overvigilance and Inhibition domain</i>	
Emotional Inhibition	An excessive inhibition of spontaneous actions or feelings to avoid disapproval by others, or to avoid feelings of shame.
Unrelenting Standards/ Hypercriticalness	The underlying belief that one must strive to meet very high internalized standards of behaviour and performance, usually to avoid criticism.
<i>Impaired Limits domain</i>	
Entitlement/Grandiosity	The belief that one is superior to other people, and entitled to special rights and privileges regardless of what is realistic or considered reasonable by others.
Insufficient Self-Control	The pervasive difficulty to exercise sufficient self-control and frustration tolerance to achieve one's personal goals, or to restrain the excessive expression of one's emotions and impulses.

Table 3. Educational variables.

Education	PCL:SV $\geq 13$		PCL:SV $\geq 18$	
	<i>N</i>	%	<i>N</i>	%
Elementary School	1	6.25	1	9.09
Junior High School	7	43.75	5	45.45
High School	5	32.25	2	18.18
University/college	3	18.75	3	27.27

*Table 4.* Means, standard deviations, range and internal consistencies of the IIP-64.

Interpersonal Problems	<i>M</i>	SD	Range	Cronbach's $\alpha$
Vindictive	10.00	7.06	1-29	.84
Cold	11.47	9.42	0-28	.93
Socially Avoidant	12.27	7.78	2-31	.87
Nonassertive	10.07	7.81	0-26	.92
Exploitable	11.27	8.01	1-27	.90
Overly Nurturant	11.33	7.20	5-30	.87
Intrusive	8.27	4.48	2-17	.61
Domineering	9.20	3.90	4-20	.49

*Table 5.* Means, standard deviations, range, and internal consistencies of the YSQ-SF.

Early maladaptive schemas	<i>M</i>	SD	Range	Cronbach's <i>α</i>
Emotional Deprivation	13.56	8.37	5-30	.91
Abandonment	12.38	6.26	5-25	.89
Mistrust	14.88	6.36	5-30	.87
Social Isolation	12.25	6.51	5-27	.95
Defectiveness	9.13	4.29	5-16	.73
Failure	8.88	6.39	5-30	.93
Dependence	7.94	3.36	5-16	.69
Vulnerability to Harm	10.13	5.07	5-22	.75
Emmeshment	9.25	4.36	5-19	.63
Subjugation	9.44	4.34	5-21	.83
Self-Sacrifice	16.44	4.62	11-27	.79
Emotional Inhibition	12.19	6.50	5-26	.90
Unrelenting Standards	14.56	5.81	5-25	.85
Entitlement	12.00	6.00	6-29	.89
Insufficient Self-Control	11.50	5.69	5-28	.87

*Table 6. Correlations between PCL:SV and IIP-64.*

	Interpersonal problems							
	BC	DE	FG	HI	JK	LM	NO	PA
PCL:SV	.47	.29	.18	-.07	-.00	-.15	-.17	.52*

Notes: \*  $p < 0.05$ ; BC= Vindictive; DE= Cold; FG= Socially Avoidant; HI= Nonassertive; JK= Exploitable; LM= Overly Nurturant; NO= Intrusive; PA= Domineering

Table 7. Correlations between PCL:SV and YSQ-SF.

	Early maladaptive schemas															
	ed	ab	ma	si	ds	fa	di	vh	em	sb	ss	ei	us	et	is	
PCL:SV	-.15	-.12	.26	.10	-.18	-.07	.34	.26	.11	.01	-.24	-.09	.23	.61*	.58*	

Notes: \*  $p < 0.05$ ; ed= Emotional Deprivation; ab= Abandonment/Instability; ma=Mistrust/Abuse; si= Social Isolation/Alienation; ds= Defectiveness/Shame; fa= Failure; di= Dependence/Incompetence; vh= Vulnerability to Harm; em= Enmeshment/Undeveloped Self; sb= Subjugation; ss= Self-Sacrifice; ei= Emotional Inhibition; us= Unrelenting Standards/Hypercriticalness; et= Entitlement/Grandiosity; is= Insufficient Self-Control

Table 8. Correlations between YSQ-SF and IIP-C Scales.

Schemas and Domains	Interpersonal Problems							
	BC	DE	FG	HI	JK	LM	NO	PA
<i>Disconnection and Rejection</i>								
Emotional Deprivation	.02	.42	.65**	.71**	.74**	.63*	.17	.24
Abandonment	.42	.30	.62*	.59*	.64**	.55*	.26	.18
Mistrust	.67**	.57*	.76**	.30	.47	.27	-.23	.58*
Social Isolation	.48	.76**	.86**	.83**	.76**	.67**	.11	.38
Defectiveness	.31	.43	.73**	.68**	.68**	.52*	.07	.32
<i>Impaired Autonomy and Performance</i>								
Failure	.14	.45	.86**	.66**	.71**	.74**	-.02	.13
Dependence	.76**	.56*	.76**	.40	.45	.39	-.05	.60*
Vulnerability to Harm	.57*	.83**	.89**	.57*	.75**	.69**	.16	.60*
Enmeshment	-.12	.22	.04	.38	.25	.27	.31	-.02
<i>Other-Directedness</i>								
Subjugation	.25	.65**	.84**	.72**	.82**	.76**	.21	.35
Self-Sacrifice	-.44	.04	.25	.54*	.56*	.56*	.27	-.20
<i>Overvigilance and Inhibition</i>								
Emotional Inhibition	.05	.42	.77**	.66**	.73**	.53*	.039	.25
Unrelenting Standards	.55*	.69**	.72**	.33	.55*	.34	-.150	.63*
<i>Impaired Limits</i>								
Entitlement	.78**	.59*	.54*	.06	.34	.15	-.023	.82**
Insufficient Self-Control	.84**	.69**	.70**	.37	.41	.23	.069	.81**

Notes: \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; BC= Vindictive; DE= Cold; FG= Socially Avoidant; HI= Nonassertive; JK= Exploitable; LM= Overly Nurturant; NO= Intrusive; PA= Domineering