

Accepted for the International Journal of Forensic Mental Health

Psychopathy, alexithymia and emotional intelligence in a forensic hospital¹

Thierry H. Pham*-, Claire Ducro*, & Olivier Luminet+

*Centre de Recherche en Défense Sociale, Tournai, Belgium

-University of Mons-Hainaut, Belgium

+University of Louvain-la-Neuve, Belgium

This research was supported by an annual grant to the CRDS from the Ministry of Health and Social Affairs of the south part of Belgium and by a grant of the Belgian National Funds for Scientific Research FNRS. A preliminary version of the paper was presented at the annual congress of the International Association of Forensic Mental Health Services in Montréal, June 2007. Correspondence should be addressed to Thierry Pham who is at CRDS, N° 94, rue Despars, 7500. Tournai. Belgium. Electronic mail may be sent via Internet to Thierry.Pham@crds.be

Abstract

In this study, we compared 20 criminal psychopaths and 19 non-psychopaths identified with the PCL-R (Hare, 2003). All participants were adult males patients confined in a Belgian security hospital. The psychopath and the control groups were equivalent for age, IQ and social desirability score (Crowne & Marlowe, 1960). First, the two groups completed the Toronto Alexithymia Scale (TAS, Bagby et al. 1994a;b). This self report measure includes three factors: “the identification of emotion states”; “the expression of emotion states to others” and the “operative thinking”. Secondly, each participant completed the TEIque (Emotional Intelligence Questionnaire, Petrides & Furnam, 2003). The full version of this self-report includes 15 scales and 4 main factors. For this study, we selected six scales that were a priori supposed to be strongly involved in emotion processing: “emotional regulation” of self, “emotion management” of others, “relational aptitudes”, “emotional expression”, “emotional perception” and “stress management”. First, psychopaths presented a lower total score on the TAS. Among the facets of psychopathy, the deficient affective component was the most negatively correlated to the TAS total score. These results disconfirmed the classical hypothesis of a perceived emotion deficit among psychopaths. Concerning the TEIque, psychopaths presented a higher score on both the “emotional perception” and “emotional regulation” scales. Again, among the facets of psychopathy, the deficient affective component was the most negatively correlated to the TEIque total score. The TAS and the TEIque total scores were negatively related ($r=.61$). The overall results are discussed in light of the recent literature on affects characteristics of psychopaths (Book, Quinsey, & Langford, 2007) and on their potential lifetime strategy (Harris & Rice, 2006).

Key words: psychopathy, emotions, alexithymia, emotional intelligence.

Psychopathy and alexithymia

From a clinical perspective, psychopaths have been described as presenting a fundamental dissociation between the cognitive and experiential components of emotions (Cleckley, 1941, 1976). According to Cleckley, although the psychopath exhibits “verbal and facial expressions, tones of voice and all the other signs we have come to regard as implying conviction and emotion and the normal experiencing of life”, he is “totally or almost totally unable to grasp emotionally the major components of meaning or feeling implicit in the thoughts that he expresses or the experiences he appears to go through” (Cleckley, 1976, p. 376). This point of view has had a profound impact on the concept of psychopathy among both clinicians and researchers. As a result, psychopaths are represented as suffering from an emotional deficit and engaging in antisocial behaviours and unstable relationships.

In order to account for the particular emotional management style of psychosomatic patients, which is characterized, among other things, by the inability to verbalize feelings (MacLean, 1949), a disturbance of verbal and symbolic expression, a weak imaginative capacity, and utilitarian thinking style (Marty & de M'Uzan, 1963), Sifneos (1973) coined the term “alexithymia”, which literally means the lack of words to describe emotions. The consensus today is that alexithymia is composed of four dimensions: (1) difficulty identifying feelings and distinguishing between them and the bodily sensations of emotional arousal; (2) difficulty describing feelings to others; (3) constricted imaginal processes (paucity of fantasies); and (4) externally oriented thinking style focused on tangible aspects of life (Taylor, Bagby, &

Parker, 1997). Other authors have added one more dimension to these, namely, low emotional reactivity (Bermond - Vorst, 1994), which constitutes the negative side of a complete emotional reaction. In short, individuals who score high for alexithymia present one central deficit: difficulty identifying and describing subjective feelings (Luminet, 2002).

Emotional disorders appear to be at play in both psychopathy and alexithymia. On the one hand, the concept of “semantic dementia”, often evoked in relation to psychopaths (Cleckley, 1976; Patrick, 2006), brings to mind the notion of “emotional illiteracy” used by Freedman and Sweet (1994) to describe psychosomatic patients. In this connection, psychopaths have been described as individuals who know the lyrics to a song but not its melody (Johns & Quay, 1962). Alexithymics, for their part, have been described as “disaffected” (McDougall, 1989). Psychopaths are characterized in particular by shallow affect, lack of a sense of remorse and guilt, sexual promiscuity, and lack of empathy (Hare, 2003). Both psychopathy and alexithymia have been associated with reduced sensitivity at the interpersonal level as evidenced by the indiscriminate selection of sexual partners (Thome, 1990) and low empathy (Krystal, 1979). At the diagnostic level, a study has suggested a correlation between alexithymia and narcissistic personality disorder (Taylor, 1984). At the behavioural level, individuals with high alexithymia scores are more likely to manifest explosive violent behaviours (Krystal, 1979), which could translate accumulated stress at the physiological level (Taylor & Bagby, 1988). Moreover, these individuals have been found to have less control over their anger (Wise, Man, & Hill, 1990). On the whole, these features of alexithymia evoke the impulsiveness, poor self-control and impoverished emotional life characteristic of psychopaths (Hare,

2003).

The concepts of psychopathy and alexithymia present obvious analogies, which is not to say that they are identical. In clinical contacts, alexithymics tend to bore their listeners and to score high on social conformity (Gage & Egan, 1984; Taylor, Ryan, & Bagby, 1985), whereas psychopaths tend more to charm and manipulate (Hare, 2003). Alexithymics have difficulty verbalizing and exteriorizing their emotions whereas psychopaths feign emotions, which are experienced superficially instead. At the experimental level, a study reported a physiological hyper-reactivity alongside an experiential cognitive response deficit in alexithymics on the basis of emotional induction by video. These individuals feel emotions well at the physiological level but have difficulty both identifying and verbalizing them (Luminet, Rimé, Bagby, & Taylor, 2004). However, in tests of emotional induction by imagery following the presentation of written scenarios, psychopaths have shown weaker physiological changes relative to non-psychopaths (Patrick, Cuthbert, & Lang, 1994). In these same tests, they have not differentiated themselves on subjective evaluations and have not felt emotion at the psychophysiological level, but have nevertheless expressed emotion at the cognitive level.

Where the literature is concerned, four studies have explored the relationship between psychopathy and alexithymia. Let us begin by looking at the two studies that reported no positive association. First, Kroner and Forth (1995) examined the relationship between Hare's Psychopathy Checklist – Revised (PCL-R; Hare, 1991) and the 20-item Toronto Alexithymia Scale (TAS-20; Bagby, Taylor, & Parker, 1994a, 1994b) in a population of male inmates incarcerated for violent offences. These

authors carried out a factor analysis of the TAS-20 yielding a two-factor solution²: “emotional understanding deficit” and “lack of importance of emotions”. The PCL-R total score and the antisocial factor of psychopathy (Factor 2) correlated positively with “lack of importance of emotions”. This result must be placed alongside the data regarding the associations between alexithymia, substance abuse (Haviland, Shaw, MacMurray, & Cummings, 1988), impulsivity, proneness to boredom (Apfel & Sifneos, 1979; Taylor & Bagby, 1988) and poor anger control (Wise et al., 1990). However, the psychopathy total score and particularly the interpersonal factor (Factor 1) correlated *negatively* with the alexithymia total score ($r = -.20$) and even more so with the “emotional understanding deficit” factor ($r = -.26$). These negative correlations contradict the hypothesis of massive alexithymic characteristics in psychopaths. According to Kroner and Forth (1995), the tendency among psychopaths to minimize their difficulties, together with their grandiose sense of self-worth, nurtures the denial of problems related to the description and experience of feelings. A second study conducted by Louth, Hare, and Linden (1998) investigated the correlation between the PCL-R and the TAS-20 with inmates, focusing on three factors: “difficulty identifying and communicating feelings to others”, “constricted imaginal processes” and “externally oriented thinking”. Like Kroner and Forth (1995), Louth et al. (1998) noted no significant correlation between the PCL-R total score and the TAS-20 total score. They did, however, observe a positive correlation between the chronic antisocial factor of psychopathy (Factor 2) and, respectively, the alexithymia total score ($r = .33$) and “difficulty identifying and communicating feelings” ($r = .38$). However, they reported no positive correlations between the interpersonal characteristics of psychopathy (Factor 1) and the TAS-20. According to these

² Bagby et al. (1994a, 1997b), the developers of the TAS-20, defined three: difficulty identifying feelings, difficulty describing feelings to others, and externally oriented thinking.

authors, this absence of relationship could be explained in particular by the grandiose sense of self-worth of psychopaths and their proneness to lying.

The next two studies reported positive associations between alexithymia and psychopathy. First, Pham (1995) compared scores on the Bermond-Vorst Alexithymia Questionnaire (BVAQ) between a group of psychopath inmates and a group of non-psychopath inmates. The BVAQ comprises five factors: “difficulty expressing feelings”, “constricted imaginal processes”, “difficulty describing feelings”, “poor emotional functioning” and “externally oriented thinking”. Psychopaths presented a higher BVAQ total score than did controls. Nevertheless, no significant interactions emerged. This result supported the hypothesis of alexithymic traits in psychopaths. Second, comparing psychopath and non-psychopath adolescents, Langevin and Hare (2001) obtained no significant inter-group differences on the TAS-20 scores. They did note, however, a correlation of .31 between the TAS-20 total score and the PCL-R total score. In sum, the data in the literature are contradictory and do not support the clear presence of alexithymic features in psychopaths.

Psychopathy and emotional intelligence

The concept of emotional intelligence (EI) concerns the capacity to recognize and regulate emotions at both the intra- and interpersonal levels (Petrides & Furnham, 2003). Presently, two different models of EI co-exist. Under the first, EI is conceived as a set of emotional dispositions measurable through self-questionnaires (Petrides & Furnham, 2003); under the second, it is conceived as a set of cognitive skills measurable through performance tests (Salovey & Mayer, 1990). The data in

the literature suggest a weak correlation between the two (O'Connor & Little, 2003; Petrides, Frederickson, & Furnham, 2004; Pérez, Petrides, & Furnham, 2005).

Two recent studies examined the relationship between psychopathy and EI. In the first, EI was defined as a personality trait. Malterer, Glass, and Newman (2008) compared psychopath and non-psychopath inmates (PCL-R; Hare, 2003) on the Trait Meta-Mood Scale (Salovey, Mayer, Goldman, Turvey, & Palfai, 1995). Controlling for anxiety level showed that non-anxious psychopaths scored lower on two EI dimensions, including "attention to feeling". The interpersonal characteristics of psychopathy (Factor 1) proved particularly associated with this dimension. The second EI dimension measured "mood repair" and particularly negative emotional states. In this case, it was Factor 2 (impulsive and antisocial aspects of psychopathy) that proved associated with the deficit. This study thus revealed different characteristics of psychopathy to be related to specific aspects of the EI deficit. The second study defined EI in terms of cognitive skills (Kahn, Hansberry, Harenski, Shane, & Kiehl, 2008) and focused on male and female substance-abuse patients. The authors reported significant negative correlations between psychopathy and EI (MSCEIT) in the men but not the women. More specifically, the emotional deficit in psychopathy was negatively associated with the experiential component of EI measuring knowledge of the relationship between affective states and thinking style, a very cognitive aspect of EI.

In closing, although a sizeable body of literature exists regarding the relationship between alexithymia and psychopathy, little research has been conducted to date on the relationship between EI and psychopathy. Against this

backdrop, the purpose of our study was twofold: (a) to evaluate simultaneously the relationships among alexithymia, EI and psychopathy--something that to our knowledge had never been done before; and (b) to examine these relationships as a function of the different components of psychopathy. In short, we wished to test the general hypothesis of an emotional deficit in psychopaths at the subjective level.

The constructs of alexithymia and EI are closely related. However, confirmatory factor analyses suggest that these constructs are not interchangeable (Parker, Taylor, & Bagby, 2001). These analyses using the TAS-20 and the Bar-On Emotional Quotient Inventory (Bar-On, 1997) indicate the predominance of a two-factor solution. Moreover, the correlations between the two concepts are negative and generally exceed $-.80$.

Method

Participants

Thirty-nine patients from a secure psychiatric hospital were evaluated. All were French-speaking and male. They were hospitalized in a forensic facility under Belgium's Social Defence Law, which provides for the confinement of offenders if they are recognized as incapable of controlling their actions owing to mental disorder. The sample was not representative of the entire forensic facility. It comprised "stabilized" patients, as we excluded from the study those in an acute phase, as well as those with a pronounced intellectual deficiency for whom valid clinical evaluation could not be carried out. The offences (frequency order) committed by the participants were as follows: sex offences, robbery, assault with bodily harm, homicide or attempted homicide, robbery with violence and drug-related offences.

The Hare Psychopathy Checklist (PCL-R; Hare, 1991, 2003). Level of psychopathy was evaluated for each participant using the PCL-R, an instrument constructed on the basis of the description of psychopaths provided by Cleckley (1976). The French version of the PCL-R was validated with adult inmates and interned psychiatric patients (Côté & Hodgins, 1996; Pham, 1998; Pham, Remy, Daillet & Lienard, 1998; Pham, Chevrier, Nioche, Ducro, & Réveillère, 2005). The PCL-R (Hare, 1991) comprises 20 items distributed over an interpersonal factor (Factor 1) and an antisocial factor (Factor 2). In the second edition of the PCL-R manual, Hare (2003) subdivided each of these factors into two facets, namely, (1) interpersonal and (2) affective for the former and (3) impulsive and (4) antisocial for the latter. The items are evaluated through semi-structured interviews and on the basis of information garnered from clinical and institutional records. Each item is rated on a scale of 0 to 2 as follows: (“0”) does not apply to subject; (“1”) applies to subject to a certain degree but not enough to merit a 2 rating; (“2”) applies to subject. At the categorical level, psychopathy is diagnosed when the PCL-R score reaches 30 and over (Hare, 1991, 2003). However, as psychopathy scores have tended to be lower in European populations compared with North American samples (Cooke, 1995, 1996, 1998; Pham, 1998), we opted for a lower cutoff of 25 as recommended by Harris, Rice, and Quinsey (1994). Our control group was made up of those participants who obtained a PCL-R total score of less than 16. However, as recent studies have insisted on the dimensional nature of the PCL-R (Edens, Marcus, Lilienfeld & Poythress, 2006; Guay, Ruscio, Knight & Hare, 2007), we also measured the relationships across psychopathy, alexithymia and EI scores using Pearson’s correlation.

Insert Table 1 here

Control variables: Age, IQ, social desirability and severe mental disorders. The two groups were equivalent in terms of age and intelligence quotient (IQ) as measured on the WAIS-III (Wechsler, 1997). IQ total score correlated at $-.14$ with the TAS total score and at $.18$ with the Teique total score, but the relationships did not prove statistically significant. The groups were also equivalent in terms of total score on the 29-item social desirability questionnaire developed by Crowne and Marlowe (1960).

Insert Table 2 here

Each participant was also evaluated on the Diagnostic Interview Schedule Screening Interview (DISSI; Robins & Marcus, 1987). This computerized epidemiological instrument allows formulating lifetime diagnoses. The DISSI was validated by Baruffol and Thilmany (1993) on a general Belgian community sample. Regarding the diagnoses evaluated via the DISSI, depression was more common among controls than among psychopaths (53% vs. 14%, $\chi^2 = 5.12$, $p = .03$). Drug addictions, pathological gambling and conduct disorder were more common instead among psychopaths (respectively, 50%, 29% and 86%) than among controls (respectively, 11%, 0% and 53%; $\chi^2 = 6.33$, 5.88 and 3.97 ; $p = .02$, $.03$ and $.05$). Although these differences were coherent with the clinical characteristics of psychopathy (Hare, 2003), the diagnoses did not prove significantly correlated to the alexithymia total score (depression: $.19$; drug addictions: $-.26$; pathological gambling: $-.29$; conduct disorder: $-.26$) or the EI total score ($-.30$, $.27$, $.14$ and 18 , respectively).

Instruments

The Toronto Alexithymia Scale (TAS; Bagby et al., 1994a, 1994b). The TAS-20 self-report questionnaire is a revised version of its 26-item predecessor (Taylor et al., 1985). The TAS-20 measures three dimensions: (1) difficulty identifying and distinguishing between feelings and bodily sensations; (2) difficulty describing feelings to others; and (3) externally oriented thinking. This structure neither related to the age or the gender (Parker, Taylor & Bagby, 2001). The internal consistency reliability is superior to .80 (Luminet, 2002). Test-retest reliability is acceptable, varying between .70 (Loas, Otmani, Fremaux, Lecercle, DufLOT, & Delahousse, 1996) and .77 (Bagby, Taylor, & Parker, 1994b). We used the French version of the TAS. Its translation in French was achieved with the use of the translation-back translation method (Triffaux, Anseau, Wauthy, Schuerch & Bertrand, 1994). The TAS was successfully validated among French samples (Loas, Otmani, Fremaux, Lecercle, DufLOT, & Delahousse, 1996; Loas, Parker, Otmani, Verrier, & Fremaux, 1998).

The Trait Emotional Intelligence Questionnaire (TEIQue). The TEIQue is a self-report EI questionnaire developed by Petrides and Furnham (2003). It operationalizes the model proposed by Petrides (2001) under which EI is conceived as a set of emotional traits related to personality. The TEIQue comprises 153 items that the participant rates on a 7-point Likert scale (from “not at all” in agreement to “entirely”). Its 153 items constitute 15 subscales grouped under four factors (wellbeing, self-control, emotionality, sociability). The subscales were designed on the basis of factor analyses carried out on certain existing models. We used the French version of The TEIQue provided by Mikolajczak, Luminet, Leroy and Roy (2007). This French version was realized with reference to the International Test Commission Guidelines: The TEIQue was translated into French and then back

translated into English. The translators were fully bilingual and the whole translation process was supervised by Leroy and Mikolajczak. The construct validity of the TEIQue was examined in a French speaking population. Mikolajczak, Luminet, Leroy, and Roy (2007) conducted factor analyses among student participants demonstrating the validity of the factor structure. Among male students, Mikolajczak et al. (2007) reported for the global score with a Cronbach Alpha of .94 for the total score. The same subscales coefficients varying from .66 to .91. Mikolajczak, Luminet, and Menil (2006) also investigated convergent validity: The TEIQue presented significant correlations with alexithymia as measured by the TAS-20 (Bagby et al., 1994; Loas et al., 1996; $r = -.55$, $p < .000$) and optimism as measured by the Life Orientation Test (LOT-R; Scheier & Carver, 1985; $r = .68$, $p < .000$) in the expected direction. For the purposes of our study, we considered six factors that seemed pertinent to us in the emotional processes of psychopaths: (1) "emotional perception": capacity to perceive one's own feelings and those of others; (2) "emotional expression": capacity to express feelings; (3) "emotional regulation": capacity to control feelings; (4) "emotional management": capacity to influence emotional state of others; (5) "stress management": capacity to manage stress; and (6) "relational aptitudes": capacity to bind with and listen to others. The correlation between the TEIQue total score and the TAS total score was $-.61$, $p < .01$.

Procedure

The evaluations were carried out individually over three sessions. The first served to evaluate intellectual capacities and severe mental disorders. The second was taken up by the semi-structured clinical interview for evaluating psychopathy level. In the last session, participants completed the TAS (Bagby et al., 1994a,

1994b), the TEIQue (Petrides & Furnham, 2003; Petrides et al., 2004) and the social desirability questionnaire designed by Crowne and Marlowe (1960).

Data analysis

T **Student**-tests were conducted to compare the psychopath and control groups in terms of psychopathy level, age, intellectual level and tendency toward social desirability. We calculated the correlations among the PCL-R, TAS and TEIQue scores while controlling for social desirability scores (partial correlations). These correlations took into account both the two-factor and the four-facet structures of the PCL-R (Hare, 2003). **MANOVAs with psychopathy as the between groups variable and the TAS-20 factors scores (2 x 3). The same MANOVA analyses were conducted for the EI factors (2 x 6).** In order to explain interactions, we ran **t Student tests** for independent samples with the Bonferroni correction.

Results

Insert Table 3 here

Psychopathy and alexithymia

The 2 x 3 **MANOVA** (Groups x Alexithymia factors) revealed a Group effect, $F(1, 37) = 9.07, p < .01$, with psychopaths presenting lower alexithymia scores than controls. The alexithymia factor scores differed significantly, $F(2, 37) = 23.76, p < .01$, with the highest scores registered for “externally oriented thinking”. However, the Group x Factor interaction, $F(2, 37) = 0.27$, was not significant.

Insert Table 4 here

We next calculated the correlations between, on the one side, the PCL-R total score, its two factor scores and its four facet scores and, on the other, the TAS-20 total score and its three factor scores. The alexithymia total score proved negatively correlated with the psychopathy total score. The factors measuring “externally oriented thinking” and, to a lesser extent, “identifying emotions” proved negatively correlated to the psychopathy factors. These relationships went in the same direction as for the “difficulty describing feelings” factor but not in a statistically significant manner. In the two-factor model of psychopathy, we noted that the interpersonal characteristics (Factor 1) were more negatively correlated to alexithymia than were the antisocial characteristics (Factor 2). In the four-facet model of psychopathy, the affective deficit (Facet 2), instead, proved more negatively correlated to the alexithymia total score. The highest negative correlation involved this affective deficit and “externally oriented thinking”.

Psychopathy and EI

The 2 x 6 MANOVA (Groups x EI factors) revealed a Group effect, $F(1, 37) = 4.20$, $p < .05$, with psychopaths presenting a **higher EI** total score than controls. We observed a Factor effect, $F(5, 37) = 27.9$, $p < .01$, as well as a Group x Factor interaction, $F(5, 37) = 2.33$, $p < .05$. T **Student** tests run to explain this interaction indicated that psychopaths presented higher EI scores on the “emotional regulation” and “emotional perception” dimensions than did the controls.

Insert Table 5 here

The two EI factors that proved significantly correlated to psychopathy scores were “emotional perception” and “emotional regulation”. However, we noted near-zero correlations for the EI factors measuring capacity to express emotions, capacity to manage stress, and relational aptitudes. These three EI factors were not significantly associated with any psychopathy facet. Nevertheless, it need be pointed out that, where the factors were concerned, “perception” correlated positively to both the interpersonal characteristics (Factor 1), especially the affective dimension (Facet 2), and the antisocial characteristics (Factor 2), especially the impulsive dimension (Facet 3), of psychopathy. However, the “emotional regulation” factor correlated significantly with the interpersonal characteristics and particularly the interpersonal and affective dimensions (Facets 1 and 2) but not with the antisocial characteristics of psychopathy.

Insert Table 6 here

Discussion

Our study’s first contribution was to evaluate the relationships across psychopathy, alexithymia and EI *simultaneously*. Its second contribution consisted in going beyond the limited framework of psychopathy total scores and comparisons between psychopaths and non-psychopaths. Instead, we analyzed these relationships from a dimensional perspective, considering psychopathy scores relative to the two main factors, each subdivided into two facets.

The first part of the study concerned the relationship between psychopathy and alexithymia. At the categorical level, in accordance with the literature on the

emotional deficit of psychopaths (Cleckley, 1941, 1976; Patrick, 2006), we hypothesized a positive link between alexithymia and psychopathy. Our results nullified this hypothesis, as the psychopathy total score proved negatively correlated with the alexithymia total score. Among the psychopathy participants, the mean total score of alexithymia fits the “intermediate” cut-off level measured in non clinical samples (Luminet, 2002; Parker, Taylor & Bagby, 1993). The same score is slightly higher than the alexithymic cut-off score of 56 for the control participants. Our examination of the alexithymia factors showed significant negative relationships for two factors, namely, capacity to identify feelings and externally oriented thinking. The alexithymia factors did not vary much as a function of the two psychopathy factors. Similar magnitudes of correlation emerged between alexithymia and the four psychopathy facets. Similarly to the findings of Kroner and Forth (1995), our results run counter to previous data (Louth et al., 1998; Langevin & Hare, 2001) regarding a positive link between the psychopathy total score, particularly its interpersonal factor (Factor 1), and the three alexithymia factors. More specifically, the emotional detachment facet of psychopathy did not constitute an emotional deficit in the alexithymic sense.

Our results fail to support also the hypothesis put forth by Kroner and Forth (1995) to the effect that psychopaths manipulate their responses in order to appear socially desirable. Indeed, we took social desirability into account in our inter-group comparisons. Our findings cannot be attributed to the positive relationship at times observed between social conformity and alexithymia (Gage & Egan, 1984; Taylor et al., 1985). Our data are nevertheless congruent with the view that the concepts of psychopathy and alexithymia are not similar. Unlike alexithymics, psychopathic

patients experience no difficulty, at least on the basis of self-report, identifying feelings and present no distinguishing thinking style when it comes to emotions. As mentioned earlier, instead, the literature has described alexithymics as tending to bore their listeners and scoring high on social conformity (Gage & Egan, 1984; Taylor et al., 1985) and psychopaths as tending more to charm and manipulate (Hare, 2003).

The second part of the study concerned the relationship between psychopathy and EI. The negative correlation (-.61) that we obtained between the TAS total score and the TEIQue total score supports the view that alexithymia and EI are rather symmetrical concepts (Luminet, 2002; Mikolajczak, Luminet, Leroy, & Roy, 2007). In this part, we hypothesized an EI deficit in psychopaths. Our results suggest that psychopaths perceive themselves to possess a more developed EI. In fact, the results show that psychopaths have superior EI on the basis of the TEIQue relative to controls. The psychopaths EI mean scores did not differ from non clinical (students) scores reported by Mikolajczak, Luminet, Leroy, and Roy (2007) except for the “emotional management” factor. This EI factor did not differ between psychopaths and control patients.

On the one hand, they see themselves as better able to perceive emotions, as evidenced by their higher score on the “emotional perception” scale. However, they also perceive themselves to be better able to manage emotional states, as evidenced by their higher “emotional regulation” score. These effects may be also associated to a self-presentation effect relating to the interpersonal characteristics of psychopathy including narcissism. This finding is congruent with the notion that

individuals who tend to be manipulative at the interpersonal level as is the case with psychopaths possess sufficient EI (Björkqvist, Österman, & Kaukiainen, 2000; Kaukiainen et al., 1999). However, these results run counter to previous data (Malterer et al., 2008; Kahn et al., 2008) obtained from male psychopaths. Our results are innovative in that they show psychopaths to perform well with respect to the emotional perception and emotional regulation factors. However, these good performances are not generalized across the EI factors. In fact, psychopaths obtain middling scores on the other EI factors. One potential explanation for this could be that the different types of questionnaires might yield different response patterns. For example, it is recognized (Malterer et al., 2008) that the Trait Meta-Mood Scale (TMMS; Petrides & Furnham, 2003) is a better measure of the intra-personal dimension of emotional perception, whereas the TEIQue is a better measure of the intra- *and* extra-personal dimension.

Our findings may be relevant to policy or practice in forensic mental health with regards to the clinical and criminological differentiations between forensic patients and inmates. It should be noted, indeed, that our interned patients presented a low IQ (WAIS TIQ = 78 and 79; see also Pham, Malingrey, Ducro, & Saloppé, 2007) compared with the inmates in earlier studies by Pham (1995) and Malterer et al. (2008). In the first of these two, the psychopaths had an IQ of 91 on the WAIS compared with 101 for the control group. In the second, the respective IQ were 99 and 100 as measured by the Shipley Institute of Living Scale (Zachary, 1986). In our study, total IQ was weakly correlated to the alexithymia and EI total scores, respectively. However, we cannot rule out that IQ-related cognitive characteristics may influence the comparison of self-reported perception of emotional competency.

Indeed, an integrative review revealed the significant effects of cognitive variables on emotional reactions (Ochsner & Gross, 2005). A better understanding of IQ-related influences on emotion perception is required, then. Moreover, the emotional particularities of psychopaths compared with controls cannot be generalized necessarily to the different environments whence participants are selected. For example, comparative data between incarcerated psychopaths and “successful” psychopaths, that is, those not apprehended by the judiciary system, have shown in particular that the latter possess greater affect-related psychophysiological reactivity as well as non-impaired executive functions (Ishikawa, Raine, Lencz, Bihrlé, & Lacasse, 2001). On this basis, the electrodermal reactivity deficit often described as an emotional idiosyncrasy of psychopathy (Blackburn, 1993) cannot be generalized necessarily to non-incarcerated psychopaths living in the community. These results call for future research to integrate different types of comparative environments using the same diagnostic measures. Such research integrating participants from forensic psychiatric settings compared with participants from correctional settings might allow identifying possible specificities of the former relative to the latter. To our knowledge, there is no literature (see reviews in Hare, 2003, and Patrick, 2006) dealing specifically with the emotional particularities of psychopaths and non-psychopaths interned in security hospitals relative to the same groups in correctional settings. **Such a comparison may be relevant for both assessment and treatment practices in forensic mental health.**

One of the limitations of our study resides in the small sample of comparison and further analyses including more participants are needed. The second limitation resides in having focused solely on self-reported data. We did not measure how

emotions were actually experienced through non-verbal parameters. However, on the whole, the results regarding both alexithymia and EI fail to confirm the long-standing hypothesis of a global emotional deficit in psychopaths (Cleckley, 1941, 1976; Patrick, 2006). On the contrary, the second facet of psychopathy measuring the affective deficit even constitutes at the subjective level an emotional competency in EI. What's more, this same facet could represent a "protective" factor of alexithymia and, in particular, of "externally oriented thinking". Thus, the general emotional poverty argument proposed by Cleckley (1941) may not be completely accurate. In this connection, Book, Quinsey, and Langford (2007) recently proposed the notion of "callous empathy": Psychopaths lack feeling for others but understand their mental states and use this information to their own best advantage. Hence, callous empathy may be a key element to their success at the interpersonal level as cheaters (Mealey, 1995) and social predators (Hare, 2003). Indeed, the ability to read affect affords an advantage in manipulating or exploiting other people (including inmates, patients and staff). This absence of deficit is also congruent with the notion that psychopathy may constitute an effective mode of functioning (Harris & Rice, 2006) with respect to certain environments, including incarceration in correctional facilities and internment in psychiatric establishments. Finally, the characteristics of psychopathy related to emotional coldness might even "protect" against traumatic stress symptoms (Pham, submitted), the prevalence of which in closed psychiatric settings remains poorly documented.

References

- Apfel, R. J., & Sifneos, P. E. (1979). Alexithymia: Concept and measurement. *Psychotherapy and Psychosomatics*, 32, 180-190.
- Bagby, R. M., Taylor, G. J., & Parker, J. D. A. (1994a). The twenty-item Toronto Alexithymia Scale: I. Item selection and cross-validation of the factor structure. *Journal of Psychosomatic Research*, 38, 23-32.
- Bagby, R. M., Taylor, G. J., & Parker, J. D. A. (1994b). The twenty-item Toronto Alexithymia Scale: II. Convergent, discriminant, and concurrent validity. *Journal of Psychosomatic Research*, 38, 33-40.
- Bar-On, R. (1997). *Bar-On Emotional Quotient Inventory: Technical manual*. Toronto: Multi-Health Systems.
- Baruffol, E., & Thilmany, M. C. (1993). Anxiety, depression, somatization and alcohol abuse prevalence rates in a general Belgian community sample. *Acta Psychiatrica Belgica*, 93,136-153.
- Bermond, B. & Vorst, H.C. (1994). De Bermond – Vorst Alexithymia Vragenlijst: Normeringson-derzoek (The Bermond-Vorst Alexithymia Questionnaire: Norms and validation). Unpublished manuscript, University of Amsterdam, The Netherlands.
- Björkqvist, K., Österman, K., & Kaukiainen, A. (2000). Social intelligence - empathy = aggression? *Aggression and Violent Behavior*, 5(2), 191-200
- Blackburn, R. (1993). *The psychology of criminal conduct: Theory, research and practice*. Oxford, England: John Wiley & Sons.

- Book, A. S., Quinsey, V. L., & Langford, D. (2007). Psychopathy and the perception of affect and vulnerability. *Criminal Justice and Behavior*, *34*(4), 531-544.
- Cleckley, H. (1941). *The mask of sanity*. St. Louis, MO: Mosby.
- Cleckley, H. (1976). *The mask of sanity (5th edition)*. St. Louis, MO: Mosby.
- Cooke, D. J. (1995). Psychopathic disturbance in the Scottish prison population: Cross-cultural generalizability of the Hare Psychopathy Checklist. *Psychology, Crime, and Law*, *2*, 101-108.
- Cooke, D. J. (1996). Psychopathic personality in different cultures: How much do we know? What do we need to find out? *Journal of Personality Disorders*, *10*, 23-40.
- Cooke, D. J. (1998). Psychopathy across cultures. In D. J. Cooke, A. E. Forth & R. D. Hare (Eds.), *Psychopathy: Theory, research and implications for society* (pp. 13-45). Dordrecht: Kluwer Academic Publishers.
- Côté, G., & Hodgins, S. (1996). L'Échelle de Psychopathie de Hare-Révisée - Manuel. Toronto: Multi-Health Systems.
- Crowne, D. P. & Marlowe, D. R. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology*, *24*, 349-354.
- Edens J. F., Marcus, D. K., Lilienfeld, S. O., & Poythress, N. G. (2006). Psychopathic, not psychopath: Taxometric evidence for the dimensional structure of psychopathy. *Journal of Abnormal Psychology*, *115*(1), 131-44.

- Freedman, M. B., & Sweet, B. S. (1994). Some specific features of group psychotherapy and their implication for selection of patients. *International Journal of Group Psychotherapy, 4*, 355-368.
- Gage, B. C., & Egan, K. J. (1984). The effect of alexithymia on morbidity in hypertensives. *Psychosomatics and Psychotherapy, 41*, 136-144.
- Guay J. P., Ruscio, J., Knight, R. A., & Hare, R. D. (2007). A taxometric analysis of the latent structure of psychopathy: Evidence for dimensionality. *Journal of Abnormal Psychology, 116*(4), 701-16.
- Hare, R. D. (1991). *The Hare Psychopathy Checklist—Revised*. Toronto, Ontario, Canada: Multi-Health Systems.
- Hare, R. D. (2003). *The Hare Psychopathy Checklist: Revised (2nd ed.)*. Toronto, ON: Multi-Health Systems.
- Harris, G. T., & Rice, M. E. (2006). Treatment of psychopathy in C. J. Patrick (Ed.), *Handbook of psychopathy* (pp. 555-572). New York: Guilford Press.
- Harris, G. T., Rice, M. E., & Quinsey, V. L. (1994). Psychopathy as a taxon: Evidence that psychopaths are a discrete class. *Journal of Consulting and Clinical Psychology, 62*; 387-397.
- Haviland, M. G., Shaw, D. G., MacMurray, J. P., & Cummings, M. A. (1988). Validation of the Toronto Alexithymia Scale with substance abusers. *Psychotherapy and Psychosomatics, 50*, 81-87.
- Ishikawa, S. S., Raine, A., Lencz, T., Bihrlé, S., & Lacasse, L. (2001). Autonomic stress reactivity and executive functions in successful and unsuccessful

- criminal psychopaths from the community. *Journal of Abnormal Psychology*, 110(3), 423-32.
- Johns, J. H., & Quay, H. C. (1962). The effect of social reward on verbal conditioning in psychopaths and neurotic military offenders. *Journal of Consulting Psychology*, 26, 217-220.
- Kahn, R. E., Hansberry, H., Harenski, C. Shane, M., & Kiehl, K. A. (2008). *Improving the emotional profile of a psychopath: The relationship between psychopathy and emotional intelligence*. Poster session presented at the 20th convention of the Association for Psychological Science, Chicago.
- Kaukiainen, A., Björkqvist, K., Lagerspetz, K., Österman, K., Salmivalli, C., Rotherberg, S., et al. (1999). The relationships between social intelligence, empathy, and three types of aggression. *Aggressive Behavior*, 25, 81-89.
- Kroner, D. G., & Forth, E. (1995). The Toronto Alexithymia Scale with incarcerated offenders. *Personality and Individual Differences*, 19, 625-634.
- Krystal, H. (1979). Alexithymia and psychotherapy. *American Journal of Psychotherapy*, 33, 17-31.
- Langevin, R., & Hare, R. D. (2001). Psychopathie et alexithymie chez un groupe de jeunes contrevenants [Psychopathy and alexithymia in a group of young offenders]. *Revue de Psycho-Education*, 30(2), 227-236.
- Loas, G., Otmani, O., Fremaux, D., Lecercle, C., Dufлот, M., & Delahousse, J. (1996). Etude de la validité externe, de la fiabilité et détermination des notes seuils des échelles d'alexithymie de Toronto (TAS et TAS-20) chez un groupe de malades alcooliques [External validity, reliability and basic score

- determination of the Toronto Alexithymia Scales (TAS and TAS-20) in a group of alcoholic patients]. *L'encéphale*, 22, 35-40.
- Loas, G., Parker, J. D. A., Otmani, O., Verrier, A., & Fremaux, D. (1997). Confirmatory factor analysis of the French translation of the 20-item Toronto Alexithymia Scale. *Perceptual and Motor Skills*, 83, 10-18.
- Louth., S. M., Hare, R. D., & Linden, W. (1998). Psychopathy and alexithymia in female offenders. *Canadian Journal of Behavioural Science*, 30, 91-98.
- Luminet, O. (2002). *Psychologie des émotions : Confrontation et évitement* [Emotional psychology: Confrontation and avoidance]. Brussels: De Boek Université.
- Luminet. O., Rimé. B., Bagby, R. M., & Taylor. G. J. (2004). A multimodal investigation of emotional responding in alexithymia. *Cognition and Emotion*, 18, 741-766.
- Malterer, B., Glass, S., & Newman, J. P. (2008). Psychopathy and trait emotional intelligence. *Personality and Individual Differences*, 44, 735-745.
- Marty, P., & de M'Urzan, M. (1963). La pensée opératoire [Externally oriented thinking]. *Revue Française de Psychanalyse*, 27, 345-356.
- McDougall, J. (1989). *Theaters of the body: A psychoanalytic approach to psychosomatic illness*. New York: Norton.
- MacLean, P. (1949). Psychosomatic disease and the "visceral brain": recent developments bearing on the papez theory of emotion. *Psychosomatic medicine*, 11, 338-353.

- Mealey, L. (1995). The sociobiology of sociopathy: An integrated evolutionary model. *Behavioral and Brain Sciences*, 18, 523-599.
- Mikolajczak, M., Luminet, O., Leroy, C., & Roy, E. (2007). Psychometric properties of the Trait Emotional Intelligence Questionnaire: Factor structure, reliability, construct, and incremental validity in a French-speaking population. *Journal of Personality Assessment*, 88(3), 338-353.
- Mikolajczak, M., Luminet, O., & Menil, C. (2006). Predicting resistance to stress: Incremental validity of trait emotional intelligence over alexithymia and optimism. *Psicothema*, 18, 79-88.
- Ochsner, K. N., & Gross, J. J. (2005). The cognitive control of emotion. *Trends in Cognitive Sciences*, 9(5), 242-249.
- O'Connor, R. M., & Little, I. S. (2003). Revisiting the predictive validity of emotional intelligence: Self-report versus ability-based measures. *Personality and Individual Differences*, 35, 1893-1902.
- Parker, J. D. A., Taylor, G. J., & Bagby, M. (2001). The relationship between emotional intelligence and alexithymia. *Personality and Individual Differences*, 30, 107-115.
- Patrick, C. J., Cuthbert, B. N., & Lang, P. J. (1994). Emotion in the criminal psychopath: Fear image processing. *Journal of abnormal Psychology*, 103, 523-534.
- Patrick, C. J. (2006). *Handbook of psychopathy*. New York: Guilford Press.
- Pérez, J. C., Petrides, K. V., & Furnham, A. (2005). Measuring trait emotional

intelligence. In R. Schulze & R. D. Roberts (Eds.), *Emotional intelligence: An international handbook* (pp. 181-201). Ashland (OH), U.S.: Hogrefe & Huber Publishers.

Petrides, K. V. (2001). A psychometric investigation into the construct of emotional intelligence. Unpublished doctoral dissertation, University of College London, London, England.

Petrides, K. V., & Furnham, A. (2003). Trait emotional intelligence: Behavioural validation in two studies of emotion recognition and reactivity to mood induction. *European Journal of Personality, 17*, 39-57.

Petrides, K. V., Frederickson, N., & Furnham, A. (2004). The role of trait emotional intelligence in academic performance and deviant behavior at school. *Personality and Individual Differences, 36*, 277-293.

Pham, H. T. (1995). Psychopathie et alexithymie chez les sujets incarcérés. *Journal de Thérapie Comportementale et Cognitive. Thérapie Comportementale et Cognitive, 5*, 4, 109-116.

Pham, H. T., Chevrier, I., Nioche, A., Ducro, C., & Réveillère, C. (2005). Psychopathie, évaluation du risque, prise en charge [Psychopathy, risk assessment, treatment]. *Annales Médico-Psychologiques, 163*, 878-881.

Pham, H. T., Remy, S., Dailliet, A., & Lienard, L. (1998). Psychopathie et prédiction des comportements violents: Evaluation en milieu psychiatrique fermé [Psychopathy and violence prediction: Assessment in closed psychiatric settings]. *L'encéphale, 24*, 173-179.

Pham, H. T. (1998). Evaluation psychométrique du questionnaire de la psychopathie de Hare auprès d'une population carcérale belge [Psychometric evaluation of

the Hare Psychopathy Checklist with a Belgian inmate population]. *L'encéphale*, 24, 435-441.

Pham, H. T. (submitted). Psychopathy and traumatic stress in forensic hospitals.

Pham, H. T., Malingrey, F., Ducro, C. & Saloppé, X. (2007). Psychopathie et troubles mentaux graves chez les patients internés. *Annales Médico-Psychologiques*, 165, 511-516.

Robins, L. N., & Marcus, S. C. (1987). The Diagnostic Screening Procedure Writer: A tool to develop individualized screening procedures. *Medical Care*, 25, 106-122.

Salovey, P., & Mayer, J. D. (1990). Emotional intelligence: Imagination. *Cognition, and Personality*, 9, 185-211.

Salovey, P., Mayer, J. D., Goldman, S. L., Turvey, C., & Palfai, T. P. (1995). Emotional attention, clarity and repair: Exploring emotional intelligence using the trait meta-mood scale. In J. Pennebaker (Ed.). *Emotion, disclosure and health* (pp. 125-154). Washington, DC: American Psychological Association.

Scheier, M. F., & Carver, C. S. (1985). Optimism, coping and health: assessment and implications of generalized outcome expectancies. *Health Psychology*, 4(3), 219-247.

Sifneos, P. E. (1973). The prevalence of alexithymic characteristics in psychosomatic patients. *Psychotherapy and Psychosomatics*, 49, 205-211.

Taylor, G. J. (1984). Alexithymia: concept: Measurement and implications for treatment. *American Journal of Psychiatry*, 141, 725-731.

- Taylor, G. J., & Bagby, R. M. (1988). Measurement of alexithymia: Recommendations for clinical practice and future research. *Psychiatric Clinics of North America*, 11, 351-366.
- Taylor, G. J., Bagby, R. M., & Parker, G. (1997). Disorders of affect regulation: alexithymia in medical and psychiatric illness. Cambridge: Cambridge University Press.
- Taylor, G. J., Ryan, D., & Bagby, R. M. (1985). Toward the development of a new self-report alexithymia scale. *Psychotherapy and Psychosomatics*, 44, 191-199.
- Thome, A. (1990). Alexithymia and the acquired immune deficiency syndrome. *Psychotherapy and Psychosomatics*, 54, 40-43.
- Triffaux, J.M., Anseau, M., Wauthy, J., Schuerch, M., & Bertrand, J. (1994). Traduction française et validation de l'échelle d'alexithymie de Toronto à 20 items. [French translation and validation of the 20 items Toronto Alexithymia Scale]. Unpublished manuscript, University of Liège, Belgium.
- Wechsler, D. (1997). *Echelle d'Intelligence de Wechsler pour Adultes (3ème édition) (WAIS-III) [Wechsler Adult Intelligence Scale – Third edition (WAIS-III)]*. Paris: Les Editions du Centre de Psychologie Appliquée.
- Wise, T. S., Mann, L. J., & Hill, B. (1990). Alexithymia and depressive mood in the psychiatric patient. *Psychotherapy and Psychosomatics*, 54, 26-31.
- Zachary, R. A. (1986). Shipley institute of living scale: Revised manual. Los Angeles: Western Psychological Services.

Table 1

PCL-R Mean Scores and Standard Deviations

PCL-R	Psychopaths (n = 20)		Controls (n = 19)			
	M	SD	M	SD	<i>t</i>	<i>P</i>
Total	30.05	3.09	12.55	4.44	-14.35	.00
Factor 1: Interpersonal	12.10	1.94	4.95	2.55	-9.89	.00
Factor 2: Antisocial	14.06	2.36	6.52	3.35	-8.16	.00
Facet 1: Interpersonal	5.48	1.71	1.28	1.56	-7.69	.00
Facet 2: Affective	6.56	1.46	3.78	1.73	-5.19	.00
Facet 3: Impulsive	7.54	1.84	3.80	1.95	-5.92	.00
Facet 4: Antisocial	8.36	2.06	2.94	2.43	-6.53	.00

Table 2

Control Variables: Intelligence Quotient, Age and Social Desirability

PCL-R	Psychopaths (n = 20)		Controls (n = 19)				
	M	SD	M	SD	t(37)	P	range
IQ total score (WAIS)	78.38	14.09	79.28	15.66	0.18	.86	55-120
Age	39.01	10.35	42.78	11.17	1.09	.28	23-67
Crowne-Marlowe total	18.42	3.78	19.87	5.48	-0.78	.44	11-31

Table 3

TAS-20 Mean Scores and Standard Deviations of Both Groups of Participants: 1) difficulty identifying and distinguishing emotional states; (2) difficulty describing feeling to others; (3) externally oriented thinking.

TAS-20	Psychopaths (n =		Controls (n = 19)		<i>t</i> (37)	<i>P</i>
	M	SD	M	SD		
Identifying emotions	15.35	3.54	19.47	6.83	-2.39	.022
Describing feeling	15.75	3.09	16.89	4.87	0.88	ns
Externally oriented thinking	19.40	5.02	24.53	4.44	3.37	.002
Total score	50.50	8.35	60.89	12.85		

Table 4

Correlations between Alexithymia and Psychopathy Scores

	TAS total score	Identifying emotions	Describing feeling	Externally oriented thinking
PCL-R total score	-.44**	-.38*	-.22	-.43**
Factor 1: Interpersonal	-.44**	-.36*	-.30	-.39**
Factor 2: Antisocial	-.37*	-.33*	-.11	-.42**
Facet 1: Interpersonal	-.34*	-.29	-.26	-.26*
Facet 2 : Affective	-.42**	-.32*	-.25	-.42*
Facet 3 : Impulsive	-.37*	-.34*	-.13	-.38*
Facet 4 : Antisocial	-.27	-.26	-.02	-.34*

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

Table 5

TEIQue EI Mean Scores and Standard Deviations

TEIQue	Psychopaths (n = 20)		Controls (n = 19)		<i>t</i> (37)	<i>P</i>
	M	SD	M	SD		
Emotional perception	45.70	8.16	38.79	11.16	2.27	.03
Emotional expression	37.55	10.40	36.32	10.52	0.37	ns
Emotional regulation	59.55	10.60	48.74	11.30	3.09	.004
Emotional management	34.95	11.17	31.63	9.75	0,99	ns
Stress management	43.40	10.64	39.68	10.84	1.08	ns
Relational aptitudes	42.20	7.72	42.74	6.10	-0.24	ns
Total score	262.35	37.72	239.05	40.30	1.86	.07

Table 6

Correlations between EI and psychopathy scores

	TEIQue total score	Emotional perception	Emotional expression	Emotional regulation	Emotional management	Stress management	Relational aptitudes
PCL-R total score	.29	.42**	.06	.37*	.30	.05	-.05
Factor 1: Interpersonal	.31	.34*	.03	.47**	.24	.15	-.03
Factor 2: Antisocial	.21	.37*	.05	.24	.24	.01	-.04
Facet 1: Interpersonal	.18	.21	-.02	.35*	.21	.07	-.08
Facet 2: Affective	.36*	.39*	.07	.44**	.20	.17	.04
Facet 3: Impulsive	.09	.34*	.05	.17	.07	-.12	-.10
Facet 4: Antisocial	.21	.31	-.01	.20	.33*	.06	-.01

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