

Examining psychopathy from an attachment perspective: The role of fear of rejection and abandonment

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Abstract: 145 words.

Text only: 4,866 words.

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Abstract (144 words)

A key feature of psychopathy, a self-centered orientation towards others and a failure to truly connect, is poorly understood. The attachment framework can be used to examine underlying interpersonal mechanisms. Because of the overall failure to connect we anticipated, and found, in a large undergraduate sample ($n=1,074$), that both affective-interpersonal traits and impulsive-irresponsible psychopathy facets were positively related to attachment avoidance. Different dynamics may underlie this distancing from others, as evidenced by the fact that callous-unemotionality was negatively related to attachment anxiety, whereas grandiose-manipulative and impulsive-irresponsible traits were positively related to attachment anxiety. Although effect sizes were small and are of correlational nature, our results are in line with a dual deficit model that differential developmental trajectories, largely heritable callousness versus neglecting and abusive parenting, may lead to adult psychopathy. The differentiating role of fear of rejection and abandonment for the psychopathy construct is discussed.

3-6 Keywords: psychopathy, attachment, fear of rejection, intimate relationships, callous-unemotional, antisocial.

Introduction

A key feature of psychopathy, a self-centered orientation towards others and a failure to truly connect, is poorly understood. Attachment theory is a framework in which mechanisms underlying bonding with others can be studied. In this study we examine associations between psychopathy and attachment to shed light on the attachment dimensions underlying interpersonal deficits in psychopathy.

Psychopathy

Psychopathy is a complex, multifaceted construct expressing itself in affectively cold, interpersonally deceptive, behaviorally reckless and often overtly antisocial behavior (Hare & Neumann, 2010). In DSM-5 psychopathy is not defined as an independent construct, but is most closely related to Antisocial Personality disorder (APD; DSM-5, 2013). A core characteristic that distinguishes psychopathy from APD is a lack of emotional sensitivity and social relatedness (Patrick, Bradley & Lang, 1993). Taxometric analyses show that psychopathy is a dimensional concept (Edens, Marcus, Lilienfeld, & Poythress, 2006). Self-report measures of psychopathy capture this dimensionality and are validated in both forensic and non-forensic samples (Lilienfeld & Fowler, 2006). Based upon factor-analysis on a popular psychopathy instrument, the PCL-R (Harpur, Hare & Hakstian, 1989), psychopathy has long been conceptualized as consisting of two broad facets: on the one hand an affective-interpersonal facet encompassing such traits as lack of empathy, grandiosity and superficial charm, and on the other hand a behavioral-lifestyle facet encompassing irresponsible, antisocial and impulsive behaviors. Cooke and Michie (2001) called this structure into question, and proposed to (1) break down the affective-interpersonal facet into separate affective and interpersonal facets, resulting in a 3-facet solution, and, (2) exclude explicit antisocial items from the behavioral-lifestyle facet, arguing that antisocial behavior is a

consequence of psychopathy rather than a defining feature. Most recently, a 4-facet solution has been proposed, with an affective, interpersonal, lifestyle and antisocial facet (Hare, 2003).

Whereas there remains debate on whether a 2-, 3-, or 4-factor structure best captures the variance (in some instruments) of psychopathy (Hare & Neumann, 2010; Skeem & Cooke, 2010a, 2010b), there does exist a consensus that psychopathy is characterized by both affective-interpersonal (separate or combined) as well as behavioral-lifestyle (in- or excluding antisociality) features.

The two facets of psychopathy show different correlates with outcome measures. For example, the affective-interpersonal facet is negatively related to fear and anxiety (Benning, Patrick, Blonigen, Hicks & Iacono, 2005; Benning, Patrick, Hicks, Blonigen, & Krueger, 2003; Patrick et al., 1993), whereas the behavioral-lifestyle facet shows positive correlations with anxiety and depression (Benning et al., 2003; 2005). The dual-deficit model of psychopathy (Fowles & Dindo, 2006; Fowles & Dindo, 2009) explains these findings by the notion that two distinct dispositions in childhood may lead to the same psychopathic phenotype in adulthood. Thus, both the low fear temperament (affective-interpersonal facet) and the impulsive temperament (behavioral-lifestyle facet) may lead to adult psychopathy in interaction with environmental risk factors such as harsh parenting. Moreover, recent theories point out that the affective-interpersonal facet might result from an inborn deficit, whereas the behavioral-lifestyle facet might be more under the influence of environmental risk factors like neglecting or abusive parenting (Lykken, 1995; Skeem et al., 2003; Poythress & Skeem, 2006). Whereas such theorizing remains somewhat speculative and is in need of rigorous empirical testing, there is preliminary evidence in support of a differential etiology underlying the affective-interpersonal and behavioral-lifestyle facets. Viding, Blair, Moffitt and Plomin (2005), who had assessed a large twin sample ($n = 3,687$) on antisocial behavior and callous-unemotional traits, found that the antisocial behavior of children scoring high on callous-unemotionality was predominantly under genetic influence whereas the antisocial behavior of children scoring low on callous-

unemotionality was under modest genetic and shared environmental influence.

Psychopathy is associated with relationship distress and breakdown (Han, Weed & Butcher, 2003). Psychopathic individuals quickly engage into relationships with others but fail to authentically commit to the relationship. Thus, it seems likely that psychopathy is related to difficulties in forming and maintaining close relationships, namely attachment.

Attachment

Bowlby defined attachment as a ‘lasting psychological connectedness between human beings’ (1969, p.194). He argued that parent-child interactions early in life partly determine cognitive and behavioral aspects of social connectedness later on. Interactions with parents shape expectations of future interactions and views of self and others in the context of relationships. A child is securely attached when it has a mental representation of the attachment figure as available and responsive when needed as a source of protection, comfort or validation. Insecurely attached children experience caregivers who are either inconsistently available and responsive, or consistently *unavailable* and neglecting (Fraley, 2002).

There are two dimensions underlying (in)secure attachment: avoidance of intimacy and anxiety about rejection and abandonment. Attachment avoidance is related to a preference for emotional distance, discomfort with closeness or dependency on attachment figures, and an urge for relying on one’s own. Attachment anxiety is related to self-doubt about one’s own value in the eyes of attachment figures, intense worries about the availability and responsiveness of attachment figures and a strong desire for closeness (Mikulincer & Shaver, 2007). In a distressing context, securely attached individuals seek proximity to their attachment figure for support. Anxiously attached individuals, who perceive the attachment figure as inconsistently available and responsive, develop a hyperactivating attachment strategy characterized by clinging and begging for attention and by putting pressure in order to get an attachment figure to provide support and

validation. However, when these attachment needs remain unmet, anger may substitute clinging and begging. Avoidantly attached individuals perceive proximity seeking as dangerous, because they experience others as neglectful and rejecting, and therefore adopt a deactivating attachment strategy as a self-protective strategy. This includes denial of attachment needs, distrust of, and distance to others and consequently compulsive self-reliance (Mikulincer & Shaver, 2007).

Psychopathy and attachment

Already in 1944 Bowlby published 'forty-four juvenile thieves', his classic study on attachment and psychopathy. He observed that young criminals, who exhibited cold, affectionless psychopathy and showed delinquent behavior, were far more likely to have experienced maternal deprivation, i.e. a separation of 6 months or longer in their first two years of life, compared to non-psychopathic criminals or non-criminal controls. Ever since, surprisingly few studies have examined the relationship between psychopathy and attachment.

Bakermans-Kranenburg and Van IJzendoorn (2009) reviewed studies applying the Adult Attachment Interview (AAI) a semi-structured interview that taps into adult representations of attachment by assessing recollections from childhood. The interview's scoring is based on quality of the discourse and results in an attachment category (Autonomous, Preoccupied, Dismissing and Unresolved/Disorganized). They found that psychopathy-related disorders (antisocial and conduct disorders) were associated with insecure attachment, in particular dismissing, but preoccupied attachment as well. Three other studies dealt with forensic samples. Frodi, Dernevik, Sepa, Philipson and Bragesjo (2001) administered the AAI in 14 prisoners. All individuals appeared insecurely attached (65% dismissing), yet there was no association found with the Psychopathy Checklist (PCL) which is scored on basis of a semi-structured interview along with information extracted from official records. Schimmenti, Passanisi, Pace, Manzella, Di Carlo and Caretti (2014) examined the relationship between psychopathy measured with the Psychopathy Checklist-

Revised (PCL-R) and attachment. In the whole sample of 139 offenders they found an association between severity of psychopathy with devaluation of attachment. Subsequently, 10 offenders were categorized into attachment styles (based on interview excerpts and following the scoring rules of the AAI), this resulted in exclusively insecure (dismissing or disorganized) attachment. Finally, Flight and Forth (2007) administered the PCL-Youth Version and the Inventory of Parent and Peer Attachment (IPPA), measuring degree of insecure attachment without differentiation within insecurity, to 51 male adolescent prisoners and found psychopathy to be related to insecure attachment to fathers.

Unfortunately, none of these studies report associations between facets of psychopathy and categories or dimensions of attachment. Bakermans-Kranenburg and Van IJzendoorn (2009) did differentiate within insecure attachment (AAI) but not within psychopathy, Flight and Forth (2007) differentiated within psychopathy (PCL) but not within insecure attachment (IPPA), and although Frodi et al. (2001) and Schimmenti et al. (2014a) differentiated within psychopathy (PCL) and attachment (AAI), their sample sizes may have lacked the power to obtain significant associations. Only two studies administered instruments differentiating within both psychopathy and attachment in substantial samples.

Mack, Hackney and Pyle (2011) administered in a student sample ($n=209$) the Experiences in Relationships Scale Revised (ECR-R), a self-report questionnaire measuring partner attachment differentiating between the two widely accepted attachment dimensions: avoidance of intimacy and anxiety about rejection and abandonment, and the Levenson Self-Report Psychopathy Scale (LSRP), measuring psychopathic emotional affect and lifestyle. They found that both psychopathy facets were positively related to attachment avoidance, yet only in students who also reported high scores on attachment anxiety. Finally, Craig, Gray and Snowden (2013) administered the original ECR, also measuring avoidance of intimacy and anxiety about rejection and abandonment, and the Triarchic Psychopathy Measure (TriPM) to 214 students. The TriPM measures disinhibition (a

behavioral-lifestyle facet), meanness (an affective-interpersonal facet assessing callous aggression), and boldness (an affective-interpersonal facet that is associated with personal and social efficacy). They found boldness was negatively related to both attachment avoidance and anxiety, disinhibition was positively related to both attachment avoidance and anxiety, and meanness was positively correlated with attachment avoidance and unrelated to anxiety.

In sum, psychopathy seems related to insecure attachment, but results concerning associations between facets of both concepts are scarce and inconsistent. Reasons for this are several. First, as mentioned several studies did not apply measures that enable differentiation within both psychopathy and attachment. Second, some studies did use too small samples resulting in too low power to detect true relationships between psychopathy and attachment. Third, some of the applied instruments suffer from limitations. Although, many see the AAI as a gold standard, categorical measurement of attachment results in reduction of statistical power. A limitation of the ECR-R is the high correlation between its subscales making it difficult to differentiate within psychopathy from an attachment perspective. Fourth, the use of different populations (e.g. offenders vs. non-offenders, and age differences) might cause inconsistencies in the results.

The current study

The present study reassesses the relation between psychopathy and attachment taking into account limitations of earlier studies. First, the sample size of the present study ($n=1,074$) should allow for more reliable findings and picking up small effects compared to previous studies with relative small sample sizes (n varying between 14 and 214). With regard to the assessment of attachment our reliance upon the Experiences in Close Relationships (ECR) has clear advantages compared to previous studies. The ECR has convincing and well-established psychometric properties and is currently among the most widely used self-report measure to assess adult attachment (Mikulincer

and Shaver, 2007). An important advantage of the ECR is that it does not have the mentioned undesirable high intercorrelation between its subscales like the ECR-R as was shown in a recent meta-analysis (Cameron, Finnegan & Morry, 2012). Therefore, we join other researchers like Mikulincer and Shaver (2007), in their preference for the original ECR with its relatively independent subscales making it possible to differentiate within the relation with psychopathy facets with more confidence. Further, administering the AAI in the large sample we aimed at is simply not feasible. Moreover, the categorical nature of the scoring reduces power; a disadvantage the dimensional ECR has not. Finally, in contrast with the IPPA the ECR does differentiate between the insecure attachment strategies of hyper- and deactivation, which are of clear interest in the understanding of psychopathy.

Our theorizing on the relation between psychopathy and attachment also differs from previous studies. We hypothesize both the affective-interpersonal and the behavioral-lifestyle facets to relate positively to attachment avoidance, because individuals with psychopathic traits can be affectively cold, interpersonally deceptive, and anti-social (Craig, Gray, & Snowden, 2013; Hare & Neumann, 2010; Patrick, Bradley, & Lang, 1993). This suggests a preference for not seeking proximity to attachment figures, if they have one at all, but choosing to stay emotionally distant and relying on themselves instead of depending on attachment figures.

At the same time, we expect the two psychopathy facets to relate differently to attachment anxiety about rejection and abandonment. In individuals scoring high on the affective-interpersonal facet, which has been argued to be largely independent from environmental influences or even be inborn (Poythress & Skeem, 2006; Skeem et al., 2003), attachment avoidance is believed to reflect unemotional or fearless detachment from others meaning a strong deactivation, or even absence of attachment needs. Therefore, we anticipate a negative association of the affective-interpersonal facet with attachment anxiety.

Conversely, in individuals scoring high on the behavioral-lifestyle facet, attachment avoidance may be partly driven by fear of rejection. In contrast with the affective-interpersonal facet, the behavioral-lifestyle facet is believed to be more under influence of environmental factors (Poythress & Skeem, 2006; Skeem et al., 2003). Important environmental risk factors in the development of children are unavailable, unresponsive, even rejecting, neglecting or abandoning attachment figures. This may result in hyperactivation of the attachment system in order to force attachment figures to allow proximity and give supportive and validating attention. When attachment figures do not provide this attention, children can get angry at them (Ainsworth, Blehar, Waters, & Wall, 1978). This is in line with the empirical finding that the behavioral-lifestyle facet relates to anxiety and anger components in personality measures (Benning et al., 2005). However, when seeking proximity is not perceived as an option, children may adopt attachment-deactivating strategies to avoid or suppress the intense painful feelings of rejection and abandonment. The impulsive, irresponsible and anti-social behaviors of individuals scoring high on the behavioral-lifestyle facet can therefore be seen as a reflection of alternating hyperactivating and deactivating strategies (cf. Schimmenti, et al., 2014a). Hence, a positive correlation of the behavioral-lifestyle facet with attachment anxiety is anticipated.

Materials and Methods

We have reposted our data along with the syntaxes to the Open Science Framework:

<https://osf.io/p3xwr/>

Participants

Our sample consisted of 1,074 undergraduate psychology students (71.2% female). Their mean age was 20.12 years ($SD=2.41$), ranging between 17 and 44.

Materials

The *Youth Psychopathic Traits Inventory* (YPI; Andershed, Kerr, Stattin & Levander, 2001; Dutch version, Hillege, Das & de Ruiter, 2010) consists of 50 items scored on a 4-point Likert-scale ranging from 1 (does not apply at all) to 4 (applies very well). Confirmatory factor analyses showed that the YPI items cluster into three dimensions: *Callous-unemotional* (e.g., “I think that crying is a sign of weakness, even if no one sees you”), *Grandiose-manipulative* (e.g., “I have the ability to con people by using my charm and smile”) and *Impulsive-irresponsible* traits (e.g., “I consider myself as a pretty impulsive person”). The Grandiose-manipulative dimension consists of 20 items, and the other two dimensions consist of 15 items. The Callous-unemotional and Grandiose-manipulative dimensions represent the affective-interpersonal facet, and the Impulsive-irresponsible traits represent the behavioral-lifestyle facet. The YPI items are worded in a positive direction in order to eliminate the effect of social desirability (e.g., ‘I like to exaggerate when I tell about something’). Hillege et al. (2010) tested the construct validity and the inter-item reliability of the Dutch YPI in a large adolescent sample ($n=776$). The Dutch version has good internal consistency and is a valid indicator of psychopathic-like traits (Hillege et al., 2010).

The *Experiences in Close Relationships* (ECR) questionnaire (Brennan, Clark, & Shaver, 1998; Dutch version, Conradi, Gerlsma, Van Duijn, & De Jonge, 2006) measures adult attachment in partner relationships in the past and the present. It contains two subscales: *Anxiety about rejection and abandonment* (e.g., “I worry about being abandoned”) and *Avoidance of intimacy* (e.g., “I prefer not to be too close to romantic partners”). Each dimension consists of 18 items. A 7-point Likert scale ranging from 1 (disagree strongly) to 7 (agree strongly) and a middle position 4 (neutral/mixed) was used to score the items. The Cronbach’s alpha’s for Anxiety and Avoidance of the Dutch ECR are .93 and .88 respectively and external validity in both student and community samples is clearly satisfying (Conradi et al., 2006).

Procedure

The participants completed the ECR and the YPI in the context of fulfillment of course requirements. Data were obtained as part of a bigger test battery that is annually conducted in first year psychology undergraduates at the University of Amsterdam. The current data set consists of the data obtained in 2011 ($n=406$), 2012 ($n=326$), and 2013 ($n=342$). The Ethics Committee of the Department of Psychology of the University of Amsterdam did approve this study.

Analytic Strategy

Main analytic strategy applied was calculation of the zero order correlations between the ECR subscales Anxiety about rejection and abandonment and Avoidance of Intimacy on the one hand and the YPI subscales Callous-unemotional, Grandiose-manipulative and Impulsive-irresponsible on the other. Next, we tested whether the obtained correlations differed significantly from each other by means of Steiger's Z test for dependent correlations. At first, however, we did preliminary analyses in order to check for covariance between age and gender and the target variables attachment and psychopathy. In the case of a significant correlation, the variable concerned was controlled for using partial correlations.

Results

The original data are accessible via the following link to the Open Science Framework data deposit: <https://osf.io/p3xwr/>

Preliminary analyses

We first assessed whether age and gender were related to both psychopathy and attachment. When

this was the case we relied upon partial correlations, where we assessed the relation between psychopathy and attachment dimensions, controlling for age and gender. Age was positively related to psychopathic traits as well as to attachment avoidance (r 's between .07 to .12, all p 's < .05). Independent t-tests showed gender differences on all psychopathy and attachment subscales (Table 1). We report Cohen's d as a measure of effect size for gender differences, which we calculated as $d = (M_{males} - M_{females}) / \sqrt{((n_{males} - 1) * SD_{(males)}^2 + (n_{females} - 1) * SD_{(females)}^2) / (n_{males} + n_{females} - 2)}$ with .2, .5, and .8, serving as benchmarks to designate effects as small, moderate, and large, respectively. Men tended to report higher scores on psychopathy traits and attachment avoidance and lower on attachment anxiety than women. We therefore controlled for age and gender in the analyses. Moreover, as expected the correlation between the ECR dimensions was low ($r = .11, p < .001$). The YPI subscales showed moderate inter-correlations (r 's between .31 to .47, all p 's < .001).

Insert Table 1 here

Bivariate correlation analyses

As can be seen in Table 2, Pearson's correlations revealed that all three psychopathy scales were positively related to attachment Avoidance. As predicted, the Callous-unemotional dimension was negatively related to attachment Anxiety and the Impulsive-irresponsible dimension was positively related to attachment Anxiety. The positive relation between the Grandiose-manipulative dimensions and attachment Anxiety was unexpected. We found the same pattern of correlations in men and women when conducting the analyses separately for gender. The only difference was that for men, the associations between psychopathy and attachment Anxiety did not reach significance. Exclusion of outliers, defined as 3 SDs from the sample's mean, did not affect statistical significance nor direction of the correlations reported in Table 2.

Next, we tested by means of Steiger's Z-test whether the negative correlation between the

Callous-unemotional dimension and attachment Anxiety on the one hand differed significantly from both positive correlations between the Grandiose-manipulative dimension and attachment Anxiety and the Irresponsible-impulsive dimension and attachment Anxiety on the other hand. Because these correlations are dependent, i.e. the common variable being attachment Anxiety, one needs to account for the correlation between the two psychopathy variables, which statistically restricts the level of deviation between the other two correlations. Steiger's Z-tests showed that the correlations between Callous-unemotional and attachment Anxiety versus Grandiose-manipulative and attachment Anxiety differed significantly, $Z = 5.13, p < .001$. The correlation between Callous-unemotional and attachment Anxiety and versus Irresponsible-impulsive and attachment Anxiety differed significantly too, $Z = 4.75, p < .001$.

Insert Table 2 here

Discussion

The primary aim of this study was to examine psychopathy from an attachment perspective. Both psychopathy facets were expected to relate positively to attachment avoidance. Further, we expected a negative association between the affective-interpersonal facet and attachment anxiety because of either an absence or strong deactivation of attachment needs and associated attachment fears. In contrast, we anticipated a positive relationship between the behavioral-lifestyle facet and attachment anxiety because hyperactivation alternated with deactivation of the attachment system may be a way to protect oneself. We found empirical support for these predictions.

As expected the callous-unemotional traits were positively related to attachment avoidance and negative to attachment anxiety. Callous-unemotional or affectively cold people who are interpersonally deceptive tend to avoid and devalue intimate relationships (e.g. Schimmenti,

Passanisi & Caretti, 2014) while not experiencing anxiety about rejection. Blair, Mitchell and Blair (2005) suggest that an inborn affective deficit might interfere with the development of attachment in some individuals with psychopathic traits. This deficit is related to amygdala hypoactivity (Birbaumer et al., 2005; Marsh et al., 2008; Viding et al., 2014). Recent studies corroborate this by showing that adequate amygdala activity is related to attachment security (Lemche et al., 2006; Riem et al., 2012; Vrtička, Andersson, Grandjean, Sander, & Vuilleumier, 2008).

We expected a positive association between the behavioral-lifestyle facet and attachment avoidance and anxiety. We found support for these predictions. The impulsive and irresponsible traits seem to be related to experiences of anxiety about rejection in intimate relationships. These attachment fears may be dealt with by hyperactivation in order to gain attention and approval of significant others alternated with deactivation of the attachment system meaning avoidance of intimate relationships and related anxiety about rejection. Both hyper- and deactivation, likely to be motivated by suppression of attachment anxiety, may partly explain the impulsive, irresponsible and antisocial behavior.

Our findings showed unexpectedly that the grandiose-manipulative facet was positively correlated with attachment avoidance and anxiety, indicating underlying experiences of fear about rejection relationships. This may suggest that grandiose-manipulative traits are from an attachment perspective more comparable to the behavioral-lifestyle facet than the affective-interpersonal facet. In contrast to individuals scoring high on callous-unemotional traits who are described as unemotional and lacking sense of guilt or empathy, one may speculate that individuals scoring high on the grandiose-manipulative facet may manipulate others, who they perceive as untrustworthy and insignificant, by using their charm and glibness. They may develop grandiose feelings to distance from or avoid intimate relationships with others, and thereby protect themselves from fear of being rejected in relationships and associated feelings of low self-worth at

the cost of failing to engage in genuine relationships. Their grandiosity echoes the original observation by Bowlby (1969) of dismissing-avoidant people who seem to inflate their self-worth in order to reduce dependency needs and related fear of rejection.

The associations between psychopathy and attachment appeared largely gender-invariant. The fact that some associations, i.e. between YPI scales and attachment anxiety, reached significance in the female but not the male subsample can be due to limited statistical power in the smaller male sample. It may also be due to the fact that women in our sample report higher anxiety than men, or that they are more sensitive to anxiety than men (Feingold, 1994; Deacon, Abramowitz, Woods & Tolin, 2003). Moreover, because males score higher on avoidance than women in our sample, it may be that they suppress attachment anxiety from awareness by deactivating strategies leaving them simply unable to self-report their fear of rejection and need for proximity. Their much higher score on callous-unemotional traits is another indication of this..

Despite the fact that the correlations with attachment anxiety are low, they are remarkable because of several reasons. First, the use of self-report questionnaires, especially in individuals with psychopathic traits may elicit social desirable responding resulting in underreporting of fear of rejection. Second, such underreporting may be further enhanced by the fact that the questionnaire was administered in absence of attachment-related stress. Under such circumstances deactivation may result in suppression of fear of rejection. Third, our sample scored compared to population norms low on psychopathy, average on attachment avoidance and average (men) to somewhat above average (women) on attachment anxiety. This means a restriction of range, thereby possibly underestimating the relation between psychopathy and attachment. Fourth, the correlations that supported our hypotheses (between the affective-interpersonal facet and attachment anxiety versus the behavioral-lifestyle facet and attachment anxiety) differed statistically significant from each other.

Converging with the studies mentioned in the Introduction (Bowlby, 1944; Frodi et al.,

2001; Flight & Forth, 2007; Bakermans-Kranenburg & Van IJzendoorn, 2009; Mack et al., 2011; Craig et al., 2013; Schimmenti et al., 2014), we found associations between psychopathy and insecure attachment. As stated in the introduction only two studies, Mack et al. (2011) and Craig et al. (2013), reported associations between facets of psychopathy and dimensions of current attachment in substantial samples. In contrast to the Mack et al. study, who found both attachment anxiety and avoidance positively associated with the two psychopathy facets, we found different associations with attachment anxiety. As mentioned in the Introduction it is likely that this difference is due to the high correlation between the attachment avoidance and anxiety scales of the ECR-R in the Mack et al. study, whereas in our study attachment avoidance and anxiety as measured with the ECR show a low correlation, making it possible to detect less confounded associations.

Although the Craig et al. study (2013) applied the ECR as well, they used a psychopathy measure with a different conceptualization compared to ours. Results partially converged. Concerning disinhibition (the behavioral-lifestyle facet, corresponding to YPI Impulsive-irresponsible), our results completely converge as we both found the predicted positive association with attachment avoidance and anxiety. Concerning meanness (that corresponds mostly with YPI Callous-unemotional because both scales focus on callousness), Craig et al. found a positive correlation with avoidance like we did. They did not find an association between meanness and anxiety, and acknowledged that may have been due to a lack of power. Our analyses support that reasoning, as we did obtain the predicted negative relation between meanness callous-unemotional traits and attachment anxiety in our well-powered sample. To corroborate this reasoning, we rescored the YPI according to the triarchic conceptualization into Boldness, Meanness, and Disinhibition according to the scoring guidelines of Drislane et al., (2015). With our large sample we indeed found the expected negative relation between meanness and attachment anxiety, see Table 3. Finally Craig et al.'s and our study findings diverge regarding the third aspect of

psychopathy measured, i.e. boldness versus grandiose-manipulative traits respectively. Whereas Craig finds boldness to be negatively associated with attachment anxiety and avoidance, we found YPI Grandiose-manipulative to be positively associated with attachment anxiety and avoidance. Although both concepts have common characteristics, they have a very different focus. Boldness focuses on those interpersonal aspects of psychopathy that can be considered socially desirable, e.g., stress-resilience, self-confidence, and social dominance. YPI Grandiose-manipulative focuses on the more antisocial interpersonal side: deception, manipulation and *dishonest* charm. The different associations with attachment strengthen this differential focus with boldness relating to social efficacy and YPI Grandiose-manipulative relating to poor social relatedness. Still, Table 3 shows that there remain inconsistencies in findings, with Boldness in our sample relating positively to attachment avoidance and being unrelated to attachment anxiety. In sum, (1) Disinhibition/ Impulsive-irresponsible relates positively to attachment avoidance, which can be related to the fear of rejection and abandonment. (2) Meanness/ Callous-unemotional relates positively to attachment avoidance, but this is related to an absence or strong deactivation of attachment needs and associated attachment fears. (3) The results for Boldness /Grandiose-manipulative remain inconsistent and require further investigation.

Insert Table 3 here

This study is not without limitations. First, a clinical diagnosis of psychopathy is quite rare (<1%) in the general population (Blair, Mitchel, & Blair, 2005). Although this does not invalidate our design given that psychopathy is best understood as a dimensional concept (Edens et al., 2006), it restricts as stated above the range in psychopathy scores in our sample, thereby possibly underestimating the relation between psychopathy and attachment. Second, the cross-sectional nature of our findings precludes any conclusions regarding the direction of the relation between psychopathy and attachment. Future studies with a longitudinal design may help us. Third, the

YPI was developed to measure psychopathy in youth, and it is primarily used and validated in juveniles. However, the items (e.g., “I usually feel calm when other people are scared”) are not youth-specific, and the few instances where youth-specific terms are used, the item is rephrased such that it is also applicable to adults (e.g., “If I won a lot of money in the lottery I would quit school *or work* and just do things that are fun”). It is therefore that the YPI has also appeared reliable and valid in undergraduate samples (e.g., Sherman, Lynam & Heyde, 2014) and in adults (e.g., Uzieblo et al., 2010), and that its factors showed adequate internal consistency in the present study. Concerning the interpretation of our results, one has to be aware that the YPI does not explicitly assess antisocial or criminal behavior, preventing us from to examine whether and to what extent the relation between the behavioral-lifestyle facet of psychopathy and attachment is related to antisociality.

Despite the limitations of this study, our findings may provide a more fine-grained understanding of psychopathy. Several conclusions may be drawn. Both men and women who report psychopathic traits tend to avoid intimate relationships. Interestingly, the attachment perspective seems able to differentiate between attachment avoidance in callous-unemotional psychopathy, which is negatively related to fear of rejection (e.g. the fearless temperament), and attachment avoidance in both impulsive-irresponsible and grandiose-manipulative psychopathy, which are seemingly driven by fear of rejection. This may have conceptual and clinical implications. Conceptually, the observation that the affective (callous-unemotional) and the interpersonal facet (grandiose-manipulative) of psychopathy show opposing relations with attachment anxiety, supports the distinction of the affective-interpersonal factor in two separate factors, as conceptualized in both Cooke and Michie’s (2001) 3-factor model as well as Hare’s (2003) 4-factor model. Clinically, the differential associations with attachment anxiety we observed might further help to improve assessment and treatment of the failure to connect in impulsive-irresponsible and grandiose-manipulative psychopathy. Accessing fear of rejection

underlying avoidance of intimacy may help to build adaptive strategies to attach to others and to reduce maladaptive attachment strategies as violence associated with hyperactivation, or drug abuse associated with deactivation. Recognition of the possibility that fear of rejection drives attachment avoidance in people scoring high on the grandiose-manipulative or impulsive-irresponsible dimensions of psychopathy might also have implications for establishing an adequate working alliance with the therapist. Overall we conclude that attachment may help to further understand psychopathy by uncovering motivational differences in the characteristic failure to connect.

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Table 1 Descriptive statistics of psychopathy (YPI) and attachment (ECR) dimensions for males, females, and the entire sample.

	<i>Total</i> <i>n=1,074</i>		<i>Men</i> <i>n=309</i>		<i>Women</i> <i>n=765</i>		<i>Gender</i> <i>difference</i>
	<i>M</i> <i>(SD)</i>	<i>Cronbach's</i> <i>α</i>	<i>M</i> <i>(SD)</i>	<i>Cronbach's</i> <i>α</i>	<i>M</i> <i>(SD)</i>	<i>Cronbach's</i> <i>α</i>	
ECR Avoidance	46.64 (17.07)	.93	48.21 (16.64)	.92	46.01 (17.21)	.93	<i>p</i> = .05 <i>d</i> = .13
ECR Anxiety	65.98 (16.53)	.89	62.07 (17.49)	.90	67.57 (15.86)	.88	<i>p</i> < .001 <i>d</i> = .34
YPI Callous-unemotional	23.86 (5.83)	.81	28.19 (6.12)	.79	22.11 (4.69)	.74	<i>p</i> < .001 <i>d</i> = 1.18
YPI Grandiose-manipulative	34.10 (9.11)	.90	39.50 (9.35)	.88	31.92 (8.05)	.88	<i>p</i> < .001 <i>d</i> = .90
YPI Impulsive-irresponsible	31.73 (6.99)	.81	34.34 (6.68)	.77	30.67 (6.83)	.81	<i>p</i> < .001 <i>d</i> = .54

Note. *M* = mean, *SD* = standard deviation, *N* = sample size

Table 2 *Correlations between Callous-unemotional, Grandiose-manipulative, and Impulsive-irresponsible (YPI) and attachment anxiety and avoidance (ECR).*

	Total ¹		Men ²		Women ²	
	<i>N</i> =1,074		<i>N</i> =309		<i>N</i> =765	
	Avoidance	Anxiety	Avoidance	Anxiety	Avoidance	Anxiety
YPI Callous-unemotional	.30**	-.08*	.29**	-.06	.30**	-.08*
YPI Grandiose-manipulative	.13**	.09**	.11*	.05	.13**	.10**
YPI Impulsive-irresponsible	.19**	.09**	.15*	.06	.21**	.10**

Note. * $p < .05$, ** $p < .01$, ¹ = controlled for age and gender, ² = controlled for age. Significant correlations are in bold.

Table 3 *Correlations between Boldness, Meanness, and Disinhibition (YPI) and attachment anxiety and avoidance (ECR).*

	Total ¹		Craig et al.	
	N=1,074		N=214	
	Avoidance	Anxiety	Avoidance	Anxiety
YPI Meanness	.27**	-.06*	.27**	.09
YPI Boldness	.14**	-.01	-.20**	-.36**
YPI Disinhibition	.20**	.10**	.34**	.40**

Note. * $p < .05$, ** $p < .01$, ¹ = controlled for age and gender. Significant correlations are in bold.