Emotional Intelligence: Painting Different Paths for Low-Anxious and High-Anxious Psychopathic Variants

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Abstract Psychopathic individuals may be disaggregated into low-anxious (emotionally stable "primary psychopaths") and high-anxious (emotionally disturbed "secondary psychopaths") variants that may differ in their capacity for adaptive behavior. In turn, the skills encompassed by emotional intelligence (EI) predict social and business success. Based on a sample of 188 male undergraduates, we evaluate the performance of low-anxious psychopathic, high-anxious psychopathic, and low psychopathic comparison groups on a measure of EI. High-anxious psychopaths manifested significantly lower EI than the other two groups, particularly with respect to managing emotions and facilitating thoughts. In contrast, low-anxious psychopaths manifested intact EI, with skill in facilitating thoughts. High-anxious (but not low anxious) psychopaths were more likely than low psychopathic comparisons to manifest violence. These results are consistent with the notion that primary psychopaths have greater capacity to attain success in traditional society than secondary psychopaths, and invite a direct test of this hypothesis in future research.

Keywords Psychopathy · Variants of psychopathy · Emotional intelligence

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Measures of psychopathy, particularly those derived from the Revised Psychopathy Checklist (PCL-R, Hare, 2003), feature two general groups of characteristics: emotional detachment and impulsive, antisocial behavior. However, classic theories of psychopathy more narrowly emphasize core emotional detachment, highlighting such interpersonal and affective traits as superficial charm, deceitfulness, egocentricity, callousness, remorselessness, and lovelessness (Cleckley, 1988; Karpman, 1941; McCord & McCord, 1964). Cleckley (1941) highlighted the inability of psychopathic individuals to experience such complex human emotions as anxiety, shame, and remorse.

Beyond theory, there is some empirical support for placing emotional detachment at the heart of this disorder. PCL-psychopathic inmates manifest significantly less emotional priming (for affective word valence) than non-psychopathic inmates, even though they manifest similar levels of semantic priming (for word meaning; Blair et al., 2006). When PCL scales are examined, emotional detachment typically relates more strongly to laboratory measures of such deficits than antisocial behavior (see Skeem & Cooke, in press). For example, when presented with pictures designed to elicit such emotions as fear and distress, individuals with higher scores on the emotional detachment scales of the PCL are particularly likely to manifest hyporeactivity in the form of reduced fear-potentiated startle and lower skin conductance (Bare, Hopko, & Armento, 2004; Benning, Patrick, & Iacono, 2005; Patrick, Bradley, & Lang, 1993; Patrick, Cuthbert, & Lang, 1994; Sutton, Vitale, & Newman, 2002).

In a rare study of nonoffenders, Vanman, Mejia, Dawson, Schell, and Raine (2003) found that the PCL's emotional detachment scale related to reduced startle potentiation, whereas its antisocial behavior scale related to *increased* startle potentiation that seemed indicative of

"emotional sensitivity" (p. 2019). The latter finding is notable, given that emotional sensitivity seems incompatible with Cleckleyan and other unitary conceptualizations of psychopathy. In their entirety, Vanman et al.'s (2003) findings suggest that the PCL may identify an emotionally heterogeneous group as psychopathic.

EMOTIONAL FUNCTIONING AND VARIANTS OF PSYCHOPATHY

Although psychopathy typically is construed as a homogeneous diagnostic category, both theory and research suggest that there are *primary* and *secondary* variants of psychopathy that differ in their emotional stability (see Poythress & Skeem, 2006; Skeem, Poythress, Edens, Lilienfeld, & Cale, 2003). According to Karpman's (1941, 1949) classic theory, primary psychopaths are "born" with the core interpersonal and affective features of the disorder; whereas secondary psychopaths develop similar traits in response to such adverse environmental experiences as parental rejection and abuse. Although their behavior may appear similar, that of the primary psychopath theoretically reflects a genetically based lack of conscience, whereas that of the secondary psychopath reflects an experience-based emotional reaction, or neurosis (depression, anxiety, guilt, and pronounced hostility). For secondary psychopaths, an otherwise intact conscience is "prevented from functioning by the intrusion of an unusually large element of antipathic emotions, most often hostility" (Karpman, 1948a, p. 457). Although Karpman's etiological distinctions lie beyond the scope of the present article, his phenotypic distinctions relate to emotional functioning. In essence, primary psychopathy may be understood as an emotional *deficit*; whereas secondary psychopathy may be understood as an emotional *disturbance*. Primary psychopaths lack the capacity to experience complex emotions, but secondary psychopaths occasionally experience guilt, empathy, love, or a wish for acceptance. Still, "in secondary psychopathy the guilt may lie deeply buried, overlaid for the most part with so much aggression and hostility that it is brought to surface only with great difficulty" (Karpman, 1949, p. 174). As this quote suggests, Karpman (1948b) often cast the secondary psychopath as the more aggressive and impulsive of the two variants. The primary psychopath "often coolly and deliberately plans his actions" (p. 528), rather than aggressing in the more characteristically "hot-headed," impulsive, reactive manner of the secondary psychopath (see also Karpman, 1955).

These principles are developed and extended by Blackburn's (1996, 1998) work. Briefly, Blackburn observed that secondary psychopaths manifest characteristics of borderline personality disorder, including pronounced dysphoria, impulsivity, hostility, and reactive aggression. In contrast, primary psychopaths' lack of anxiety relates to social dominance, potency, and confidence that may bode well for living a relatively adaptive and successful life.

There is some empirical support for such distinctions between primary and secondary variants of psychopathy (Skeem, Johansson, Andershed, Kerr, & Eno Louden, 2007; Swogger & Kosson, 2007; Vassileva, Kosson, Abramowitz, & Conrod, 2005). For example, Hicks, Markon, Patrick, Krueger, and Newman (2004) selected 123 incarcerated adults with high PCL-R scores and applied model-based cluster analysis to their responses to a general measure of personality traits. The authors identified two different groups: an "emotional stable" group that parallels primary psychopathy and a larger "aggressive" group that parallels secondary psychopathy. Relative to the secondary group, the primary group manifested lower anxiety, stress reactivity, impulsiveness, and aggression, and showed higher dominance and well-being. Importantly, there is some evidence that these variants generalize to nonoffender populations. Falkenbach, Poythress, and Creevy (2008) cluster analyzed 96 male undergraduates' scores on self-report measures of psychopathy and anxiety. They identified two groups that resemble primary (low anxiety) and secondary (high anxiety) psychopathy.

In research conducted to date, the trait that most consistently distinguishes between primary and secondary variants of psychopathy is anxiety. Although it may be tempting to equate high scores on the PCL's emotional detachment and impulsive antisociality scales with primary and secondary psychopathy, respectively, there is little empirical basis for doing so. Cluster analytic studies often indicate that the two variants obtain similar profiles across PCL scales (e.g., Hicks et al., 2004; Kimonis et al., 2008; Skeem et al., 2007). In such studies, secondary psychopathic clusters consistently manifest high scores on measures of anxiety, whereas primary psychopathic clusters manifest low scores (e.g., Falkenbach et al., 2008; Hicks et al., 2004; Kimonis et al., 2008; Skeem et al., 2007; Vassileva et al., 2005). This finding is consistent with the notion that secondary psychopaths are neurotic (Karpman, 1941), whereas primary or Cleckleyan "psychopaths are very sharply characterized by a lack of anxiety" (Cleckley, 1964, p. 271). High-anxious (secondary) psychopaths often fail to show the cognitive-affective deficits that characterize low-anxious (primary) psychopaths (e.g., deficits in passive avoidance learning, modulation of responses to emotional and neutral stimuli, and fear-potentiated startle response) (Arnett, Smith, & Newman, 1997; Hiatt, Lorenz, & Newman, 2002; Lorenz & Newman, 2002; Newman & Schmitt, 1998; Newman, Schmitt, & Voss, 1997; Sutton, Vitale, & Newman, 2002). Because it includes no

assessment of anxiety, the PCL-R captures both low-anxious and high-anxious psychopathic individuals.

For the purposes of this article, we conceptualize primary and secondary variants of psychopathy not as sharply divided categories, but instead as dimensional configurations that share high psychopathic traits, but differ in their degree of trait anxiety. We do so because there is compelling evidence that psychopathy is distributed as a dimensional trait rather than a categorical taxon (Marcus, John, & Edens, 2004). That is, despite the availability of traditional "threshold scores" for diagnosing psychopathy, available data suggest that psychopathic individuals differ from us more in *degree* than in *kind*. As Lykken (1995) observed, "[h]uman nature being as complex as it is, …even an ideal taxonomy will yield 'fuzzy' and overlapping types." (p. 42).

THE POTENTIAL ROLE OF EMOTIONAL INTELLIGENCE

Emotional intelligence may be defined as the "mental processes involved in the recognition, use, understanding, and management of one's own and others' emotional states to solve problems and regulate behavior" (Brackett & Salovey, 2006, p. 34; see also Mayer & Salovey, 1997 and Salovey & Mayer, 1990). Emotional intelligence is associated with social and interpersonal competency (e.g., use of effective strategies to resolve conflict; Brackett, Rivers, Shiffman, Lerner, & Salovey, 2006; Winters, Clift, & Dutton, 2004), good psychological functioning (e.g., low stress; Tsaousis & Nikolauou, 2005), and a healthy lifestyle (e.g., physical exercise, limited smoking and drinking; Tsaousis & Nikolaou, 2005). At work, emotional intelligence relates to (a) supervisor's higher ratings of stress tolerance, interpersonal sensitivity, and sociability, and (b) higher salary and more promotions (Lopes, Grewal, Kadis, Gall, & Salovey, 2006).

Logically, there is a distinction between the *experience* of emotion (which may be tapped by laboratory measures typically used to study psychopathy) and emotional *skills* relevant to emotional intelligence. Mental processes figure prominently in emotional intelligence. Thus, it is possible that individuals with primary (low anxious) psychopathy have emotional deficits that prevent them from experiencing emotions as others do, but compensate by learning emotional skills that allow them to perform relatively well on tests of emotional intelligence. Using Johns and Quay's (1962) language, primary psychopaths may "*know* the words, but not the music" of emotion. In contrast, individuals with secondary (high anxious) psychopathy may perform poorly on tests of emotional intelligence, given their basic emotional disturbance. These notions are

consistent with the principle that primary or "emotionally stable" psychopathy serves an adaptive function, insulating individuals against stress, whereas secondary or "aggressive" psychopathy places individuals at risk for emotional distress and dysregulation. Given these points, we expect low-anxious psychopaths to manifest greater emotional intelligence than high-anxious psychopaths. However, these hypotheses are tentative, given that the adaptive or "successful" side of psychopathy is relatively infrequently studied (see Patrick, 2006; Skeem & Cooke, in press).

In past research, the relation between emotional intelligence and psychopathy chiefly has been examined at the level of total scores (not scales) and full samples (not variants). For example, based on a sample of 439 inmates, Malterer, Glass, and Newman (2008) found that high PCL-R scores were associated with low emotional intelligence scores on the Trait-Meta Mood Scale (TMMS; Salovey, Mayer, Goldman, Turvey, & Palfai, 1995). It is possible that this overall inverse relationship reflects the PCL-R's saturation with indices of past violent and other criminal behavior (see Skeem & Cooke, in press). Emotional intelligence scores are inversely associated with criminal behavior, including use of illegal drugs and involvement in physical fights (Brackett & Mayer, 2003).

THE PRESENT STUDY

Despite the centrality of emotional capacities to theoretical distinctions between primary and secondary psychopathy, we could not locate any published investigations of how these variants differ in their patterns of emotional *skills* and *abilities*. In the present study, we address this gap in the literature using a nonoffender sample and multifaceted measures of emotional intelligence that assess abilities to recognize, use, understand, and manage one's own and others' emotions. The study has three primary aims. Aim one is to assess the relation between psychopathy and emotional intelligence. Based on prior research, we expect total psychopathy scores to relate inversely to emotional intelligence scores, and expect most of this inverse relation to be attributable to the psychopathy measure's assessment of antisocial and impulsive behavior. Aim two is to compare the emotional intelligence of low-anxious and high-anxious variants of psychopathy. We expect low-anxious variants to exhibit better performance on tests of emotional intelligence than high-anxious variants, both with respect to understanding and managing emotions. Aim three is to assess whether low-anxious and high-anxious variants of psychopathy differ with respect to aggressive and violent dating behavior, which is relatively prevalent on college campuses (see Wasserman, 2004). Given theory and past research, we expected high-anxious psychopathy to relate

more strongly to this maladaptive outcome than low-anxious psychopathy.

METHOD

To address these three aims, we administered self-report measures of psychopathic traits, anxiety, and aggression to a sample of male undergraduates, as well as a performance-based test of emotional intelligence. Then, we classified each participant into one of three groups (i.e., high-anxious psychopathy, low-anxious psychopathy, or low psychopathy) based on their psychopathy and anxiety scores.

Participants

Participants were 188 adult male undergraduates drawn from the subject pool of a large western university who were fluent in English. We restricted the sample to male participants because (a) we observed gender differences on measures of both psychopathy (women < men) and emotional intelligence (women > men), and (b) psychopathy measures generally are better validated for men, and there may be gender-based differences in manifestations of psychopathy (see Cale & Lilienfeld, 2002; Hamburger, Lilienfeld, & Hogben, 1996). Participants were young (mean = 19.9, SD = 2.7), largely White (54%; 13% African American; 12% Hispanic; 16% Asian; 5% other) men with an average GPA of 3.09 (SD = 0.43). Their average psychopathy scores (PPI-R Total, Mdn = 315) are consistent with, if slightly higher than, normative data on college men (Mdn = 301–303; Lilienfeld & Widows, 2005)

Procedure

Advertisements for this study were placed on the psychology subject pool website and students were able to sign up for appointments via the Internet. Interested participants reviewed the informed consent and received instruction from a research assistant. Subjects were given up to 3 h to complete the measures and were then awarded course credit. All study procedures were approved by the university institutional review board.

Measures

Psychopathy

The Psychopathic Personality Inventory—Revised (PPI-R; Lilienfeld & Widows, 2005; see also Lilienfeld & Andrews, 1996) is a 154-item self-report measure designed to assess the core traits of psychopathy in nonreferred populations. The measure largely was developed and validated with undergraduate samples. Clinical and empirical literature on personality characteristics related to psychopathy were reviewed, and new items were constructed to assess over 30 focal constructs thought relevant to psychopathy (e.g., lack of guilt, disloyalty, poor impulse control, risk taking, externalization of blame). PPI-R items are scored on a four-point Likert Scale (true, mostly true, mostly false, and false) and summed to yield a total score as well as eight subscale scores (these subscales emerged in successive factor analyses conducted with three large undergraduate samples).

PPI-R total and subscale scores have been shown to be internally consistent in previous research ($\alpha = .78–.92$; Lilienfeld & Widows, 2005), and were internally consistent in this study ($\alpha = .67–.68$). Test–retest reliability over a 26-day period ranges from .82 to .94 in a community adult sample (Lilienfeld & Widows, 2005). The PPI and PPI-R are moderately correlated with interview ratings of psychopathy based on Cleckleyan criteria ($r = .60$; Lilienfeld & Widows, 2005), measures of antisocial personality disorder ($r = .59$; Lilienfeld & Andrews, 1996), and scores on the PCL-R ($r = .54$; Poythress, Edens, & Lilienfeld, 1998), including its emotional detachment scale ($r = .54$; Poythress et al., 1998). PPI-R scores demonstrate discriminant validity with respect to measures of psychosis-proneness, depression, and social desirability (see Lilienfeld & Fowler, 2006, for a review).

Exploratory factor analyses of the PPI-R's eight lower-order scales in community samples have yielded a two-factor solution roughly analogous to the emotional detachment and antisocial behavior scales of the PCL-R (Benning, Patrick, Hicks, Blonigen, & Krueger, 2003). These factors are "Fearless Dominance" (e.g., low anxiety, social dominance, and fearlessness) and "Impulsive Antisociality" (e.g., impulsiveness, aggressiveness, egocentricity, and alienation from others). The PPI-R Coldheartedness scale, which taps callousness, guiltlessness, and unsentimentality, does not load on either factor (Benning, Patrick, Salekin, & Leistico, 2005). The two-factor structure has been replicated using exploratory factor analysis with Procrustes rotation in offender (Patrick, Edens, Poythress, Lilienfeld, & Benning, 2006; Ross, Benning, Patrick, Thompson, & Thurston, 2009) and student samples (Benning, Patrick, Salekin et al., 2005; Ross et al., 2009).

Still, there is controversy regarding the factor structure of the PPI-R. Using confirmatory factor analysis (CFA), Neumann, Malterer, and Newman (2008) found inadequate fit for the Benning et al.'s (2003) two-factor model to offenders' PPI data. However, CFA has been critiqued as overly stringent as a method for evaluating the fit of personality inventories (see McCrae, Zonderman, Costa, Bond, & Paunonen, 1996). Because such issues are not easily resolved and lie outside the study's primary aims, we

do not revisit the issue of model fit here. Factor structure is merely one index of a measure's construct validity; arguably, convergent and discriminant relationships with external measures are more important (Loevinger, 1957; Skinner, 1981). Fearless Dominance negatively correlates with measures of depression and anxiety, whereas Impulsive Antisociality positively correlates with these variables as well as measures of antisocial behavior and substance abuse (Benning, Patrick, Salekin et al., 2005; Blonigen, Hicks, Krueger, Patrick, & Iacono, 2005; Patrick et al., 2006). Here, we report the relation between emotional intelligence and three PPI-R scales: Fearless Dominance, Impulsive Antisociality, and Coldheartedness.

The PPI-R differs from the more commonly used PCL-R in two major respects. Unlike the PCL-R, the PPI-R (a) does not explicitly assess criminal behaviors because it is designed to provide a relatively "pure" measure of the personality characteristics of psychopathy uncontaminated by behavioral deviance that may not be specific to psychopathy, and (b) assesses for low anxiety ("Stress Immunity"), which is emblematic of Cleckleyan or primary psychopathy (see above). The latter point is critical for the present study, given our goals to identify both low-anxious (primary) and high-anxious (secondary) psychopathy. Because the PPI-R includes low anxiety (Stress Immunity) in its definition of psychopathy, PPI-R total scores often may fail to identify high anxious or secondary psychopaths. To remedy this problem and make the PPI-R more similar to the PCL-R, which has been shown to identify emotionally heterogeneous groups of individuals as psychopathic, we removed anxiety from total PPI-R scores before creating psychopathic subgroups. Specifically, we modified PPI-R total scores by subtracting Stress Immunity subscale scores from PPI-R total scores. Participants were split at the median on this modified PPI-R total to identify "high-psychopathy" ($n = 97$) and "low-psychopathy" ($n = 91$) groups, as shown in Fig. 1.
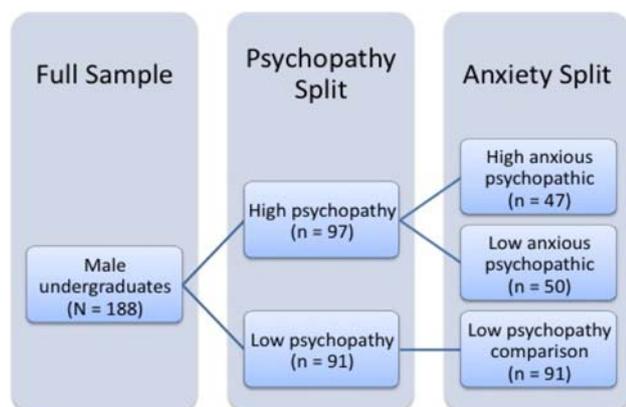

Fig. 1 Composition of high-anxious psychopathic, low-anxious psychopathic, and low psychopathic subgroups

Anxiety

Anxiety was assessed with the PPI-R Stress Immunity (SI) subscale. The SI subscale correlates strongly with external measures of anxiety (e.g., $-.76$, PAI Anxiety subscale, Morey, 1991). Members of the "high-psychopathy" group (see above) were split at the median on the SI subscale to create low-anxious ($n = 50$) and high-anxious psychopathic variants ($n = 47$), as shown in Fig. 1. The low-psychopathy group served as a comparison group.

Proxy for General Intelligence: Grade Point Average

Research suggests that general intelligence is weakly to moderately associated with overall emotional intelligence ($r = .25$) and understanding emotions ($r = .32$), and moderately to strongly associated with regulating ($r = .76$) and perceiving ($r = .56$) emotions (Lam & Kirby, 2002). Thus, it is important to control for general intelligence when assessing the relation between psychopathy and emotional intelligence. We used grade point average (GPA) as the best available proxy for general intelligence, given that GPA is moderately associated with several measures of general intelligence, .39–.49 (e.g., Thorndike Intelligence, Army Alpha, Terman, Otis, Miller, Resource Associate's General Intelligence Scale; see Bridges, 1920; Grauer & Root, 1927; Jordan, 1922; Ridgell & Lounsbury, 2004).

Emotional Intelligence

The Mayer–Salovey–Caruso Emotional Intelligence Test (MSCEIT) is a 141-item ability-based scale designed to assess emotional intelligence (Mayer, Salovey, & Caruso, 2002). It was developed based on the Multifactor Emotional Intelligence Scale (MEIS; Mayer, Caruso, & Salovey, 1999), the "first comprehensive ability measure of emotional intelligence" (Mayer et al., 2002, p. 1). The MSCEIT is the best validated measure of emotional intelligence to date. It is significantly, but modestly associated with the Trait Meta-Mood Scale (TMMS, Salovey et al., 1995; $r = .29$, Gohm & Clore, 2000) and Bar-On Emotional Intelligence Inventory (Bar-On, 1997; $r = .21$, Brackett & Mayer, 2003). As shown earlier, the MSCEIT is associated with external indices of social and interpersonal competency (Brackett et al., 2006; Winters et al., 2004), negative relationships (Furman & Buhrmester, 1985), professional performance (Lopes et al., 2006), good psychological functioning (Tsaousis & Nikolaou, 2005), and healthy lifestyles (Tsaousis & Nikolaou, 2005). There also is evidence for the discriminant validity of the MSCEIT as a measure of emotional *skill* rather than emotional *traits*: MSCEIT branch scores are unassociated with conscientiousness (n.s.), and

inconsistently and weakly associated with extraversion, agreeableness, and neuroticism (maximum $r = -.11$ to $-.16$; Day & Carroll, 2004).

The MSCEIT full scale has been shown to have an internal consistency of .91 (Mayer et al., 2002) and with the branch scores, were internally consistent in this study ($\alpha = .81$). In addition, the MSCEIT has a test–retest reliability of .86 (Brackett & Mayer, 2001) and branch scores have been shown to have high reliabilities ranging from .74 to .91 (Mayer et al., 2002, 2003). In this study, the MSCEIT was scored based on general consensus, meaning that each participant's performance was compared to the normative database of over 5,000 people.

The MSCEIT is comprised of eight tasks that measure four different aspects or "branches" of emotional intelligence. Beyond total MSCEIT scores, we used scores on the four branches described below in the present study.

Perceiving Emotions The perceiving emotions branch assesses the ability to identify and recognize different emotions in oneself and others. Participants were asked to rate on a 5-point Likert scale how much certain emotions (i.e., happiness, sadness, fear, surprise, excitement) are depicted in photographs of human faces, and in other pictures pertaining to music, abstract art, and the environment.

Facilitating Thoughts The facilitating thoughts branch measures the ability to use emotion to improve reasoning and thinking. Using a 5-point Likert-type scale, participants were asked to (a) rate the usefulness of various emotions in facilitating certain behaviors (e.g., "What mood(s) might be helpful to feel when composing and inspiring military march?" [anger, excitement, frustration]), and (b) compare emotions experienced in certain situations to color, temperature, and sensations (e.g., "Imagine feeling content on a wonderful day, with terrific news about your job and family. How much is the feeling of contentment like each of the following sensations?" [warm, purple, salty]).

Understanding Emotions The understanding emotions branch assesses a person's ability to understand the meanings of different emotions and the way that emotions change over time. Participants were asked to choose among five multiple choice responses (a) the most likely emotional reaction in a given situation or the next stage in an emotional "chain" (e.g., "Marjorie felt more and more ashamed, and began to feel worthless. She then felt _____." [overwhelmed, depressed, ashamed, self-conscious, jittery]) and (b) the components of basic and complex emotions (e.g., "Sadness, guilt, and regret combine to form _____." [grief, annoyance, depression, remorse, misery]).

Managing Emotions The managing emotions branch measures the ability to manage or regulate emotions in oneself and others. Participants were asked to read vignettes and then rate on a 5-point Likert scale the effectiveness of certain actions in managing a particular emotion in either (a) oneself (e.g., "Mara woke up feeling pretty well[…] How well would each action [Actions 1–4] help her preserve her mood?" [Action 1: She got up and enjoys the rest of the day]) or (b) others (e.g., "Roy's teacher has just called Roy's parents to say that Roy is doing poorly in school[…] The parents feel very angry. How helpful to their son is each of these reactions [Responses 1–3]" [Response 3: Roy's parents hung up on the teacher and called the principal[…]).

Dating Aggression and Violence

Psychopathy—as assessed by the PCL measures and their derivatives—is reliably associated with violence (see Patrick & Zempolich, 1998). However, little is known about the association between variants of psychopathy and violence, particularly in nonoffender community samples. In this study, we begin to address this issue, using a modified version of the revised Conflict Tactics Scale (CTS–2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996). The CTS-2 is a widely used 78-item self-report measure of dating aggression developed for college samples. It has strong psychometric properties, with internal consistency coefficients ranging from .86 to .95 (Newton, Connelly, & Landsverk, 2001; Straus et al., 1996), and moderate levels of correspondence with external reports of violence (for a review, see Suris, Lind, Kashner, Borman, & Petty, 2004). The CTS was the foundation for the measure of violence used in such well-regarded studies as the MacArthur Violence Risk Assessment Study (MVRAS; Monahan et al., 2001).

We focused specifically on violence against dating partners, given the relatively high prevalence of this form of violence on college campuses (Wasserman, 2004). Specifically, we asked men to focus on the dating partner with whom they had had the longest romantic relationship, which was defined as a "relationship in which you are mutually involved with another person (seeing each other, dating, or committed) and in which you show affection to the other person (holding hands, kissing, etc.)."

Dating aggression was operationalized as total scores on the CTS-2, which reflects a sum of scores across the five subscales. *Dating violence* was operationalized using the definition of violence applied in the MVRAS (Monahan et al., 2001). That is, participants were classified as violent against their dating partner when they reported committing an act of physical aggression that resulted in injury,

committing sexual assault, using a weapon, or making a threat with a weapon in hand.

RESULTS

Recall that the aims of the study were to (a) assess the relationship between psychopathy and emotional intelligence, (b) compare the emotional intelligence of potential variants of psychopathy, and (c) assess the relationship between variants of psychopathy and aggressive and violent dating behavior. To address these aims, three sets of analyses were conducted. First, we performed correlations to assess the relationship between measures of psychopathy and emotional intelligence. Second, we examined differences in emotional intelligence among psychopathy variants and the comparison group by conducting ANOVA and discriminant function analyses. Third, the three groups were compared in dating aggression and violence using chi-square and ANOVA analyses.

Aim 1: Is There a Relationship Between Psychopathy and Emotional Intelligence?

As shown in Table 1, in the full sample, unmodified PPI-R total scores were not significantly associated with MSCEIT scores ($r = -.14$, $p = .06$). However, also shown in Table 1, PPI-R total scores modified by removing the anxiety scale were significantly inversely associated with MSCEIT scores, in keeping with our PCL-based predictions. Specifically, those who have high PPI-R total scores show deficits in understanding and managing emotions. These relationships remained significant even after controlling for GPA.

Next, we examined the relationship between PPI-R scale scores and emotional intelligence. The Fearless Dominance scale correlated positively with facilitating thoughts, whereas the Impulsive Antisociality scale correlated inversely with total MSCEIT scores, facilitating thoughts, understanding emotions, and managing emotions (see Table 1). Coldheartedness, on the other hand, was unrelated to the MSCEIT total and branch scores. In keeping with predictions, then, much of the inverse association between total psychopathy scores and emotional intelligence appears attributable to the measure's assessment of impulsive antisociality, not emotional detachment.

Aim 2: Do Psychopathy Variants Differ with Respect to their Emotional Intelligence?

An ANOVA was conducted to compare the three groups (i.e., low-anxious psychopathic, high-anxious psychopathic, and low psychopathy comparisons) in their total emotional intelligence scores. Descriptive statistics and group comparison scores are described in Table 2. The results indicated that the three groups differ in emotional intelligence, $F(2, 172) = 6.63$, $p < .01$ (partial $\eta^2 = .07$). Post hoc tests conducted with Tukey's HSD indicated that the high-anxious psychopathy group had significantly lower emotional intelligence than both the low-anxious psychopathy and low psychopathy comparison groups. There was no significant difference between the low-anxious psychopathy and low psychopathy comparison groups in their emotional intelligence scores. These results remained the same even after controlling for GPA.

As shown in Table 3, the four branches of MSCEIT (i.e., facilitating thoughts, understanding emotions, managing emotions, and perceiving emotions) were positively correlated. To control for the correlation among these scales and determine the aspects of emotional intelligence on which the groups maximally differed, we conducted a stepwise discriminant function analysis using the four branches of MSCEIT as predictors of membership in the low-anxious psychopathic, high-anxious psychopathic, or low psychopathy comparison group. This analysis yielded two discriminant functions that significantly predicted

Table 1 Associations between PPI-R scores and MSCEIT scores

	Total MSCEIT	Branch 1: Perceiving emotions	Branch 2: Facilitating thought	Branch 3: Understanding emotions	Branch 4: Managing emotions
PPI-R Total (Unmodified)	−.14	−.03	.04	−.14	−.24**
PPI-R Total (Modified)	−.21**	−.05	−.03	−.19*	−.30**
PPI-R Fearless Dominance	.13	.05	.19*	.07	.10
PPI-R Impulsive Antisociality	−.30**	−.07	−.17*	−.23**	−.38**
PPI-R Coldheartedness	−.06	−.05	.10	−.03	−.13

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

Table 2 Group comparisons in emotional intelligence

	Low-anxious psychopathic Mean (SD)	High-anxious psychopathic Mean (SD)	Low psychopathy comparison Mean (SD)	Pairwise differences, $p < .05$
Total MSCEIT	88.43 (11.20)	81.74 (12.74)	89.56 (11.34)	High anxious < Low anxious & Low psychopathy
Branch 1: Perceiving emotion	96.98 (16.10)	95.05 (13.42)	98.24 (14.81)	None
Branch 2: Facilitating thoughts	96.74 (13.60)	85.88 (13.77)	92.71 (13.44)	High anxious < Low anxious & Low psychopathy
Branch 3: Understanding emotions	87.65 (11.15)	81.95 (12.85)	87.55 (10.77)	High anxious < Low anxious & Low psychopathy
Branch 4: Managing emotions	86.33 (11.23)	81.86 (10.84)	90.58 (11.04)	High anxious < Low anxious < Low psychopathy

Table 3 Associations among MSCEIT subscales

	Perceiving emotion	Facilitating thoughts	Understanding emotions
Facilitating thoughts	.46**		
Understanding emotions	.10	.30**	
Managing emotions	.21**	.41**	.50**

** $p < .01$

Table 4 Correlations between MSCEIT branches and discriminant functions that distinguish primary, secondary, and comparison groups

MSCEIT branches	Function	
	1	2
Branch 4 Managing emotions	.91	−.42
Branch 2 Facilitating thought	.74	.67
Branch 3 Understanding emotions[a]	.46	−.13
Branch 1 Perceiving emotions[a]	.36	.29

[a] This variable was not used in the analysis

group membership (Function 1, $\chi^2(4) = 27.07$, $p < .001$; Function 2, $\chi^2(3) = 9.26$, $p < .01$).

The first discriminant function, which accounts for 66.4% (Canonical $R^2 = .10$) of the between group variance, maximally separates high-anxious psychopathic (centroid = −.57) from the low psychopathy comparison (centroid = .23) and low-anxious psychopathic (centroid = .13) groups. The structure matrix of correlations between predictors and discriminant functions suggests that lower scores on the *managing emotions* and *facilitating thoughts* branches maximally distinguish high-anxious psychopathy from the other two groups (see structure matrix in Table 4). Descriptive statistics and group comparison scores are described in Table 2.

The second discriminant function, which accounts for 33.6% (Canonical $R^2 = .05$) of the between-group variance, maximally separates the low-anxious psychopathic (centroid = .37) from the low psychopathy comparison (centroid = −.19) and, to a lesser extent, high-anxious psychopathic (centroid = −.06) groups. As shown in Tables 2 and 4, higher scores on the *facilitating thoughts* chiefly distinguished low-anxious psychopathy from the other two groups.

Aim 3: Do Psychopathy Variants Differ with Respect to Dating Aggression and Violence?

First, a chi-square analysis was used to determine whether the three groups differed in dating violence. The results revealed that 17% ($n = 32$) of our sample committed violence against their partners, and the likelihood of violence varied by group membership, χ^2 (2, $N = 187$) = 5.99, $p = .05$. Of the 32 individuals who had been violent toward their partners, 41% were high-anxious psychopathic, 28% were low-anxious psychopathic, and 31% were low psychopathy comparisons. Although the difference between low-anxious and high-anxious psychopathic groups was not statistically significant, high-anxious psychopathic—but not low-anxious psychopathic—individuals were significantly more likely than low psychopathy comparisons to be violent, χ^2 (1, $N = 137$) = 6.05, $p < .01$. The results, then, were only partially consistent with our hypothesis that high-anxious psychopathy relates more strongly than low-anxious psychopathy to this maladaptive behavior.

Second, an ANOVA was conducted to compare the low-anxious psychopathic ($M = 41.5$, $SD = 19.9$), high-anxious psychopathic ($M = 41.7$, $SD = 20.6$), and low psychopathy comparison ($M = 34.1$, $SD = 15.0$) groups in aggression as reflected by their total CTS-2 score. The results indicated that the three groups differ significantly in

overall dating aggression, $F(2, 187) = 4.15$, $p < .05$ (partial $\eta^2 = .04$). Post hoc tests conducted with Tukey's HSD revealed that the high-anxious psychopathic—but not low-anxious psychopathic—variant had significantly greater dating aggression than the low psychopathy comparison group. These results remained significant even after controlling for GPA.

DISCUSSION

This study is among the first to compare the emotional intelligence of individuals with low-anxious (primary) and high-anxious (secondary) psychopathy. Primary psychopathy appears to be a more emotionally stable and potentially adaptive variant than secondary psychopathy (Patrick, 2006). Emotional intelligence—the mental processes involved in recognizing, using, understanding, and managing emotions (Brackett & Salovey, 2006)—relate to such positive outcomes as success in social interactions and in business (see Salovey & Grewal, 2005). We hypothesized that the emotional deficit of primary psychopathy would interfere less with these mental processes than the emotional disturbance of secondary psychopathy.

The study yielded three chief findings that generally are in keeping with our hypotheses. First, total PPI-R psychopathy scores are inversely associated with emotional intelligence, but only when low anxiety is excluded from the measure (as it is in the PCL-R). Much of the modified PPI-R's inverse association with emotional intelligence relates to its assessment of impulsive antisociality (not emotional detachment). Second, the high-anxious psychopathic group (secondary) has significantly lower emotional intelligence than both the low-anxious psychopathic group (primary) and low psychopathy comparison group, particularly with respect to facilitating thoughts and managing emotions. Conversely, the low-anxious psychopathic group (primary) possesses relative intact emotional intelligence and manifests some skill in facilitating thoughts, or reasoning about emotions. Third, the high-anxious—but not low-anxious—psychopathic group is more likely than the low psychopathy comparison group to manifest dating violence and aggression. In the next section, we discuss these findings and their implications for future research and practice.

Before turning to that section, we note three study limitations to bear in mind when interpreting these findings. First, this study focuses on men. Given the potential gender-related differences in psychopathy, emotional intelligence, and violence (some of which were noted earlier), the extent to which these findings will generalize to women is an option question for future research. Second,

although we used a performance-based test of emotional intelligence, the measures of psychopathy and violence were based on self-report. Thus, (a) some of the association between the latter measures likely reflects method, rather than construct variance, and (b) we may not have detected some incidents of violence given motivation to underreport this behavior, despite the fact that more incidents of violence are revealed via self-report than via records or collateral informants (Monahan et al. 2001). Moreover, our violence was measured concurrently, rather than prospectively. To correct for these limitations, future research should apply a measure of violence based on multiple sources of information, using a prospective design. Third, our psychopathic subgroups were limited in size, which prevented us from (a) testing whether emotional intelligence mediated the relation between psychopathy variants and aggression, and (b) employing model-based cluster analysis to identify psychopathy variants. The latter concern—and our use of dimensional psychopathy and anxiety scores to define variants—is partially mediated by theory and research indicating that (a) psychopathy is distributed as a dimension rather than category (Marcus et al., 2004) and (b) anxiety reliably distinguishes between primary and secondary variants (e.g., Hicks et al., 2004; Falkenbach et al., 2008; Skeem et al., 2007).

Dimensions of Psychopathy and Emotional Intelligence

PPI-R total scores relate inversely to emotional intelligence, but only when low anxiety (the Stress Immunity subscale) is excluded from those total scores. In operationalizing psychopathy, the PPI-R differs from the PCL-R not only in its inclusion of low anxiety, but also in its exclusion of criminality. Relative to the PCL-R (see Patrick, 2006), the PPI-R generally may paint a more psychologically adjusted, less aggressive, and more "Cleckleyan" picture of psychopathy.

As we hypothesized, most of the inverse association between modified PPI-R total scores and emotional intelligence appears attributable to the PPI-R's assessment of impulsive antisociality. Although the present study appears to be the first of its kind, these results generally are consistent with those of Mullilns-Nelson, Salekin, and Leistico (2006), who administered a short form of the PPI to 174 students, and also tested their empathic skills (i.e., perspective-taking and affective empathy). The authors found that impulsive antisociality (but not fearless dominance) predicted an impaired ability to recognize emotions in other people and to show empathic concern. Similarly, we found that high impulsive antisociality predicted difficulty in facilitating thoughts, managing emotions, and understanding emotions. In contrast, high fearless dominance

scores predicted *skill* in facilitating thought. This pattern of divergent, and sometimes opposite correlates for the PPI-R factors, is consistent with other research suggesting that it assesses psychopathy as a compound trait (see Lilienfeld & Fowler, 2006). For example, unlike fearless dominance scores, impulsive antisociality scores relates to lower education, income, and verbal intelligence (Benning et al., 2003). Generally, fearless dominance may relate to resilience and skill, and impulsive antisociality, to externalizing and maladaptive behavior (Benning et al., 2003). This is compatible with Cleckley's (1941) conceptualization of psychopathy as "an inherently paradoxical syndrome – one in which severe behavioral maladjustment and positive psychological adjustment go hand in hand" (Patrick, 2006, p. 611).

However, it is also possible that these findings reflect differences among individuals with psychopathic traits. As shown next, the divergent relations between the PPI-R factors and emotional intelligence parallel those found for low-anxious and high-anxious variants of psychopathy.

Variants of Psychopathy and Emotional Intelligence

Compared to the low-anxious psychopathic group *and* the low psychopathy comparison group, the high-anxious psychopathic group manifests significantly lower emotional intelligence, particularly with respect to facilitating thoughts and managing emotions. Conversely, low-anxious psychopathic individuals are about as emotionally intelligent as low psychopathy comparisons and manifest skill in facilitating thoughts or reasoning about emotion. Secondary (high anxious) psychopaths' negative affect, hostility, impulsivity—their basic emotional disturbance—may impair their ability to analyze feelings and to regulate their own and others' emotional states. Primary (low anxious) psychopaths' fearlessness or basic emotional deficit, in contrast, does not seem to impair the mental processing required to recognize, use, understand, and, to a lesser extent, manage emotions.

Low-Anxious Psychopathy

In fact, our discriminant function analysis indicates that the low-anxious psychopathic group has a modestly enhanced ability to think logically and effectively about emotions, relative to the low psychopathy comparison group (facilitating thoughts; see also Tables 2 and 4). Although this effect must be replicated in future research, it is remarkable, given that this study does not involve an extreme group design. Rather than comparing nonoverlapping groups, we are comparing those above the sample median on psychopathy and below the median on anxiety with those below the sample median on psychopathy.

Conceptually, this difference is consistent with our finding that fearless dominance is positively associated with facilitating thoughts. The difference suggests that those with primary psychopathy can skillfully identify moods that would be useful in particular situations, and draw analogies between emotions on the one hand, and colors, sensations, and temperatures on the other. In short, good performance on tests of emotional intelligence may mask the emotional deficit detected with more primitive measures of the *experience* of emotion (e.g., priming, startle potentiation). If these individuals "know the words but not the music" (Johns & Quay, 1962) of emotion, they may compensate by learning the words particularly well. Such compensation may serve them well, given that emotional intelligence relates to positive social and business outcomes (see Salovey & Grewal, 2005).

Our finding that the low-anxious psychopathic group has similar levels of general emotional intelligence as the low psychopathy comparison and somewhat higher levels of facilitating thought is consistent with the notion that primary psychopaths can make successful characteristic adaptations (e.g., heroism, political leadership, business success) to basic psychopathic tendencies (see Lilienfeld, 1998; Lykken, 1995). To date, much of the literature on psychopathy has focused narrowly on only one (unsuccessful) adaptation: criminal behavior (see Skeem & Cooke, in press). As Cleckley (1988) suggested, however, "the true difference between [the successful psychopath] and the psychopaths who continually go to jails or to psychiatric hospitals is that [successful psychopaths] keep up a far better and more consistent outward appearance of being normal" (p. 191).

Lykken (2006) observed that the psychopath may "[cultivate] his innate charm and other talents to win success and status in legitimate society" (p. 11). In theory, primary psychopaths who are particularly emotionally intelligent could use their skills to manipulate others and advance their own interests. Indeed, Carr (2000) asserted that emotional intelligence "is not clearly distinguishable from emotional cunning or cleverness" (p. 31). Nevertheless, there is little support for this proposition. In fact, measures of Machiavellianism and emotional intelligence are inversely related (Austin, Farrelly, Black, & Moore, 2007). Whether emotional intelligence facilitates primary psychopaths' success—and does so through traditional or "darker" means—is an open and important question for future research.

High-Anxious Psychopathy

Unlike the low-anxious psychopathic group, the high-anxious psychopathic group manifests distinct impairments in their general emotional intelligence, which may bode

poorly for social and business success. They manifest specific impairment in their abilities to facilitate thought with emotion and to manage emotion. In addition to impeding their ability to think logically and effectively about emotions ('facilitate thoughts,' see above), high-anxious psychopaths' emotional disturbance or emotional sensitivity (see Vanman et al., 2003) also seems to impair their ability to manage and regulate their own and others' emotions. Poor emotion management skills hinder an individual's ability to express socially appropriate emotions and behave in socially acceptable ways (Gross, 1998). In fact, studies of college students indicate that individuals with poor emotion management skills have limited social interactions and low quality social relationships (Lopes et al., 2004; Lopes, Salovey, Cote, & Beers, 2005; Lopes, Salovey, & Straus, 2003).

This emotion management deficit makes sense in light of several defining features of secondary or high-anxious psychopathy. As Blackburn (1996) suggested, secondary psychopaths are "predominantly borderline personalities" (p. 19): dysphoric, emotionally labile, hostile-reactive, and impulsive. Emotion management and distress tolerance are conceptualized as key problems and important treatment targets for individuals with borderline features (Linehan, 1993). It is possible that empirically supported treatment programs for borderline personality may generalize to secondary psychopathy, but this proposition remains to be tested.

Variants of Psychopathy and Dating Aggression and Violence

Conceptually, poor emotion regulation abilities relate not only to secondary psychopathy, but also to violence. For example, Davidson, Putnam, and Larson (2000) "contend that the propensity for impulsive aggression is associated with a low threshold for activating negative affect (a mixture of emotions and moods that include anger, distress, and agitation) and with a failure to respond appropriately to the anticipated consequences of behaving aggressively" (p. 289). The failure to restrain impulsive aggression because of potential consequences could reflect extraordinary appetitive urges thought to be associated with secondary psychopathy (see Lykken, 1995). Indeed, past theoretical and empirical work casts secondary psychopathy as a more hostile, impulsive, and aggressive variant than primary psychopathy (e.g., Blackburn, 1996, 1998; Hicks et al., 2004; Karpman, 1948a, 1955; Kimonis et al., 2008).

These principles could help explain why we found that violence and aggression against romantic partners were significantly more likely among the high-anxious psychopathic (but not low-anxious psychopathic) group,

compared to the low psychopathy comparison group. However, the relation between secondary psychopaths' emotional regulation abilities and violence—particularly impulsive aggression—was not assessed here and must be specifically tested in future research.

Although the high-anxious psychopathic group manifested more violence and aggression than the low-anxious psychopathic group, this difference was not statistically significant. Still, the low-anxious psychopathic group did not differ significantly from the low psychopathy comparison group in this maladaptive behavior. These findings are consistent with (a) Costa and Babcock's (2008) finding that men classified as intimate partner abusive are distinguished from their nonabusive counterparts more by borderline characteristics than psychopathic features of emotional detachment, and (b) meta-analytic findings that the antisocial behavior scales of PCL-based measures relate more strongly to violent and other antisocial behavior than emotional detachment scales (Guy, Edens, Anthony, & Douglas, 2005; Leistico, Salekin, DeCoster, & Rogers, 2008).

CONCLUSION AND IMPLICATIONS

As observed by MacDonald and Iacono (2006), "a great deal is known about antisocial personality disorder, criminality, and the psychopathic offender as defined by the PCL-R. Much less is known about psychopathy, especially outside prison populations" (p. 383). Most research examines psychopathy as a unitary construct in offender samples, focusing on the unsuccessful adaptation of violence and other crime. Nevertheless, compelling theory and a small body of research suggests that psychopathy can be disaggregated into primary and secondary variants, and secondary psychopathy is a more disturbed, more aggressive, less "Cleckleyan," and potentially less successful variant than primary psychopathy (e.g., Patrick, 2006). We found that (a) high-anxious (secondary) psychopaths perform more poorly on tests of emotional intelligence than both low-anxious (primary) psychopaths and low psychopathy comparisons, whereas low-anxious psychopaths' performance is intact, and (b) high-anxious (but not low anxious) psychopaths are more likely than the low psychopathy comparisons to manifest dating aggression and violence. These results are consistent with the notion that, unlike secondary psychopaths, primary psychopaths could use their interpersonal skills, emotional intelligence, and other talents to attain success in traditional society. We hope that future research examines directly whether this is the case, focusing on such successful adaptations as business success.

REFERENCES

Arnett, P. A., Smith, S. S., & Newman, J. P. (1997). Approach and avoidance motivation in incarcerated psychopaths during passive avoidance. *Journal of Personality and Social Psychology, 72*, 1413–1428. doi:10.1037/0022-3514.72.6.1413.

Austin, E. J., Farrelly, D., Black, C., & Moore, H. (2007). Emotional intelligence, Machiavellianism, and emotional manipulation: Does EI have a dark side? *Personality and Individual Differences, 43*, 179–189. doi:10.1016/j.paid.2006.11.019.

Bare, R. L., Hopko, D. R., & Armento, M. E. A. (2004). The relation of psychopathic characteristics and anxiety in noncriminals: Physiological and cognitive responses to guided imagery. *Journal of Psychopathology and Behavioral Assessment, 26*, 225–232. doi:10.1023/B:JOBA.0000045338.30129.17.

Bar-On, R. (1997). *Bar-On Emotional Quotient Inventory (EQ-i): A test of emotional intelligence*. Toronto: Multi-Health Systems.

Benning, S. D., Patrick, C. J., Hicks, B. M., Blonigen, D. M., & Krueger, R. F. (2003). Factor structure of Psychopathic Personality Inventory: Validity and implications for clinical assessment. *Psychological Assessment, 15*, 340–350. doi:10.1037/1040-3590.15.3.340.

Benning, S. D., Patrick, C. J., & Iacono, W. (2005). Psychopathy, startle blink modulation, and electrodermal reactivity in twin men. *Psychophysiology, 42*, 753–762. doi:10.1111/j.1469-8986.2005.00353.x.

Benning, S. D., Patrick, C. J., Salekin, R. T., & Leistico, A. R. (2005). Convergent and discriminant validity of psychopathy factors assessed via self-report: A comparison of three instruments. *Assessment, 12*, 270–289. doi:10.1177/1073191105277110.

Blackburn, R. (1996). Psychopathy, delinquency and crime. In A. Gale & J. A. Edwards (Eds.), *Physiological correlates of human behavior: Vol 3. Individual differences and psychopathology* (pp. 187–205). Orlando, FL: Academic Press.

Blackburn, R. (1998). Criminality and the interpersonal circle in mentally disordered offenders. *Criminal Justice and Behavior, 25*, 155–176. doi:10.1177/0093854898025002001.

Blair, K. S., Richell, R. A., Mitchell, D. G. V., Leonard, A., Morton, J., & Blair, R. J. R. (2006). They know the words, but not the music: Affective and semantic priming in individuals with psychopathy. *Biological Psychology, 73*, 114–123. doi:10.1016/j.biopsycho.2005.12.006.

Blonigen, D., Hicks, B., Krueger, R., Patrick, C., & Iacono, W. (2005). Psychopathic personality traits: Heritability and genetic overlap with internalizing and externalizing psychopathology. *Psychological Medicine, 35*, 637–648.

Brackett, M. A., & Mayer, J. D. (2001, October). *Measures of emotional intelligence*. Poster presented at the 3rd Annual Positive Psychology Summit, Washington, DC.

Brackett, M. A., & Mayer, J. D. (2003). Convergent, discriminant, and incremental validity of competing measures of emotional intelligence. *Personality and Social Psychology Bulletin, 29*, 1147–1158. doi:10.1177/0146167203254596.

Brackett, M. A., Rivers, S. E., Shiffman, S., Lerner, N., & Salovey, P. (2006). Relating emotional abilities to social functioning: A comparison of self-report and performance measures of emotional intelligence. *Journal of Personality and Social Psychology, 91*, 780–795. doi:10.1037/0022-3514.91.4.780.

Brackett, M. A., & Salovey, P. (2006). Measuring emotional intelligence with the Mayer-Salovey-Caruso Emotional Intelligence test (MSCEIT). *Psicothema, 18*(Suppl), 34–41.

Bridges, J. W. (1920). The correlation between college grades and the alpha intelligence tests. *Journal of Education & Psychology, 11*, 361–367. doi:10.1037/h0071462.

Cale, E. M., & Lilienfeld, S. O. (2002). Sex differences in psychopathy and antisocial personality disorder. A review and integration. *Clinical Psychology Review, 22*, 1179–1207.

Carr, D. (2000). Emotional intelligence, PSE, and self esteem: A cautionary note. *Pastoral Care in Education, 18*, 27–33. doi:10.1111/1468-0122.00169.

Cleckley, H. (1941, 1964, 1988). *The mask of sanity* (1st ed., 4th ed., 5th ed.). Oxford, England: Mosby.

Costa, D. M., & Babcock, J. C. (2008). Articulated thoughts of intimate partner abusive men during anger arousal: Correlates with personality disorder features. *Journal of Family Violence, 23*, 395–402. doi:10.1007/s10896-008-9163-x.

Davidson, R. J., Putnam, K. M., & Larson, C. L. (2000). Dysfunction in the neural circuitry of emotional regulation—A possible prelude to violence. *Science, 289*, 591–594. doi:10.1126/science.289.5479.591.

Day, A. L., & Carroll, S. A. (2004). Using an ability-based measure of emotional intelligence to predict individual performance, group performance, and group citizenship behaviours. *Personality and Individual Differences, 36*, 1443–1458. doi:10.1016/S0191-8869(03)00240-X.

Falkenbach, D., Poythress, N., & Creevy, C. (2008). The exploration of subclinical psychopathic subtypes and the relationship with types of aggression. *Personality and Individual Differences, 44*, 821–832. doi:10.1016/j.paid.2007.10.012.

Furman, W., & Buhrmester, D. (1985). Children's perceptions of the personal relationships in their social networks. *Developmental Psychology, 21*, 1016–1024. doi:10.1037/0012-1649.21.6.1016.

Gohm, C. L., & Clore, G. L. (2000). Individual differences in emotional experience: Mapping available scales to processes. *Personality and Social Psychology Bulletin, 26*, 679–697. doi:10.1177/0146167200268004.

Grauer, D., & Root, W. T. (1927). The Thorndike Intelligence tests and academic grades. *The Journal of Applied Psychology, 11*, 297–318. doi:10.1037/h0071028.

Gross, J. J. (1998). The emerging field of emotion regulation: An integrative review. *Review of General Psychology, 2*, 271–299. doi:10.1037/1089-2680.2.3.271.

Guy, L. S., Edens, J. F., Anthony, C., & Douglas, K. S. (2005). Does psychopathy predict institutional misconduct among adults? A meta-analytic investigation. *Journal of Consulting and Clinical Psychology, 73*, 1056–1064. doi:10.1037/0022-006X.73.6.1056.

Hamburger, M. E., Lilienfeld, S. O., & Hogben, M. (1996). Psychopathy, gender, and gender roles: Implications for antisocial and histrionic personality disorders. *Journal of Personality Disorders, 10*, 41–55.

Hare, R. D. (2003). *The Hare Psychopathy Checklist-Revised (PCL-R) manual* (2nd ed.). Toronto: Multi-Health Systems.

Hiatt, K. D., Lorenz, A. R., & Newman, J. P. (2002). Assessment of emotion and language processing in psychopathic offenders: Results from a dichotic listening task. *Personality and Individual Differences, 32*(7), 1255–1268. doi:10.1016/S0191-8869(01)00116-7.

Hicks, B., Markon, K., Patrick, C., Krueger, R., & Newman, J. (2004). Identifying psychopathy subtypes on the basis of personality structure. *Psychological Assessment, 16*, 276–288. doi:10.1037/1040-3590.16.3.276.

Johns, J. H., & Quay, H. C. (1962). The effect of social reward on verbal conditioning in psychopathic and neurotic military offenders. *Journal of Consulting and Clinical Psychology, 26*, 217–220.

Jordan, A. M. (1922). Correlations of four intelligence tests with grades. *Journal of Educational Psychology, 13*, 419–429. doi:10.1037/h0070371.

Karpman, B. (1941). On the need of separating psychopathy into two distinct clinical types: The symptomatic and the idiopathic. *Journal of Criminology and Psychopathology, 3*, 112–137.

Karpman, B. (1948a). The myth of the psychopathic personality. *American Journal of Psychiatry, 104*, 523–534.

Karpman, B. (1948b). Conscience in the psychopath: Another version. *American Journal of Orthopsychiatry, 18*, 455–491.

Karpman, B. (1949). Psychopathy as a form of social parasitism—A comparative biological study. *Journal of Clinical Psychopathology, 10*, 160–194.

Karpman, B. (1955). Criminal psychodynamics: A platform. *Archives of Criminal Psychodynamics, 1*, 3–100.

Kimonis, E., Frick, P., Skeem, J., Marsee, M., Cruise, K., Munoz, L., et al. (2008). Assessing callous-unemotional traits in adolescent offenders: Validation of the Inventory of Callous-Unemotional Traits. *International Journal of Law and Psychiatry, 31*, 241–252. doi:10.1016/j.ijlp.2008.04.002.

Lam, L. T., & Kirby, S. L. (2002). Is emotional intelligence an advantage? An exploration of the impact of emotional and general intelligence on individual performance. *The Journal of Social Psychology, 142*, 133–143.

Leistico, A. M., Salekin, R. T., DeCoster, J., & Rogers, R. (2008). A large-scale meta-analysis relating the Hare measures of psychopathy to antisocial conduct. *Law and Human Behavior, 32*, 28–45. doi:10.1007/s10979-007-9096-6.

Lilienfeld, S. (1998). Methodological advances and developments in the assessment of psychopathy. *Behaviour Research and Therapy, 36*, 99–125. doi:10.1016/S0005-7967(97)10021-3.

Lilienfeld, S. O., & Andrews, B. P. (1996). Development and preliminary validation of a self report measure of psychopathic personality traits in noncriminal population. *Journal of Personality Assessment, 66*, 488–524. doi:10.1207/s15327752jpa6603_3.

Lilienfeld, S. O., & Fowler, K. A. (2006). The self-report assessment of psychopathy: Problems, pitfalls, and promises. In C. J. Patrick (Ed.), *Handbook of psychopathy* (pp. 107–132). New York: Guilford Press.

Lilienfeld, S. O., & Widows, M. (2005). *Psychopathic Personality Inventory-Revised, Professional Manual*. Lutz, FL: Psychological Assessment Resources.

Linehan, M. M. (1993). *Cognitive behavioural treatment of borderline personality disorder*. New York: Guilford Press.

Loevinger, J. (1957). Objective tests as instruments of psychological theory. *Psychological Reports, 3*, 635–694.

Lopes, P. N., Brackett, M. A., Nezlek, J. B., Schutz, A., Sellin, I., & Salovey, P. (2004). Emotional intelligence and social interaction. *Personality and Social Psychology Bulletin, 30*, 1018–1034. doi:10.1177/0146167204264762.

Lopes, P. N., Grewal, D., Kadis, J., Gall, M., & Salovey, P. (2006). Evidence that emotional intelligence is related to job performance and affect and attitudes at work. *Psicotherma, 18*, 132–138.

Lopes, P. N., Salovey, P., Cote, S., & Beers, M. (2005). Emotional regulation abilities and the quality of social interaction. *Emotion, 5*, 113–118. doi:10.1037/1528-3542.5.1.113.

Lopes, P. N., Salovey, P., & Straus, R. (2003). Emotional intelligence, personality, and the perceived quality of social relationships. *Personality and Individual Differences, 35*, 641–658. doi:10.1016/S0191-8869(02)00242-8.

Lorenz, A. R., & Newman, J. P. (2002). Utilization of emotion cues in male and female offenders with antisocial personality disorder: Results from a lexical decision task. *Journal of Abnormal Psychology, 111*, 513–516. doi:10.1037/0021-843X.111.3.513.

Lykken, D. (1995). *The antisocial personalities*. Hillsdale, NJ: Erlbaum.

Lykken, D. (2006). Psychopathic personality: The scope of the problem. In C. J. Patrick (Ed.), *Handbook of psychopathy* (pp. 3–13). New York: Guilford Press.

MacDonald, A., & Iacono, W. (2006). Toward an integrated perspective on the etiology of psychopathy. In C. Patrick (Ed.), *Handbook of psychopathy* (pp. 375–386). New York: Guilford Press.

Malterer, M. B., Glass, S. J., & Newman, J. P. (2008). Psychopathy and trait emotional intelligence. *Personality and Individual Differences, 44*, 735–745. doi:10.1016/j.paid.2007.10.007.

Marcus, D. K., John, S. L., & Edens, J. F. (2004). A taxometric analysis of psychopathic personality. *Journal of Abnormal Psychology, 113*, 626–635. doi:10.1037/0021-843X.113.4.626.

Mayer, J. D., Caruso, D. R., & Salovey, P. (1999). Emotional intelligence meets traditional standards for an intelligence. *Intelligence, 27*, 267–298. doi:10.1016/S0160-2896(99)00016-1.

Mayer, J. D., & Salovey, P. (1997). What is emotional intelligence? In P. Salovey & D. Sluyter (Eds.), *Emotional development and emotional intelligence: Educational implications* (pp. 3–31). New York: Basic Books.

Mayer, J. D., Salovey, P., & Caruso, D. (2002). *Mayer-Salovey-Caruso Emotional Intelligence test user's manual*. Toronto: Multi-Health Systems.

Mayer, J. D., Salovey, P., Caruso, D., & Sitarenios, G. (2003). Measuring emotional intelligence with the MSCEIT V2.0. *Emotions, 3*, 97–105. doi:10.1037/1528-3542.3.1.97.

McCord, W., & McCord, J. (1964). *The psychopath: An essay on the criminal mind*. Princeton, NJ: Van Nostrand.

McCrae, R. R., Zonderman, A. B., Costa, P. T., Jr., Bond, M. H., & Paunonen, S. V. (1996). Evaluating replicability of factors in the Revised NEO Personality Inventory: Confirmatory factor analysis and procrustes rotation. *Journal of Personality and Social Psychology, 70*, 552–566. doi:10.1037/0022-3514.70.3.552.

Monahan, J., Steadman, H., Silver, E., Appelbaum, P., Robbins, P., Mulvey, E., et al. (2001). *Rethinking risk assessment: The MacArthur study of mental disorder and violence*. New York: Oxford University Press.

Morey, L. (1991). *Personality Assessment Inventory professional manual*. Odessa, FL: Psychological Assessment Resources.

Mullins-Nelson, J. L., Salekin, R. T., & Leistico, A. R. (2006). Psychopathy, empathy, and perspective-taking ability in a community sample: Implications for the successful psychopathy concept. *International Journal of Forensic Mental Health, 5*, 133–149.

Neumann, C. S., Malterer, M. B., & Newman, J. P. (2008). Factor structure of the Psychopathic Personality Inventory (PPI): Findings from a large incarcerated sample. *Psychological Assessment, 20*(2), 169–174. doi:10.1037/1040-3590.20.2.169.

Newman, J. P., & Schmitt, W. A. (1998). Passive avoidance in psychopathic offenders: A replication and extension. *Journal of Abnormal Psychology, 107*, 527–532. doi:10.1037/0021-843X.107.3.527.

Newman, J. P., Schmitt, W. A., & Voss, W. (1997). The impact of motivationally neutral cues on psychopathic individuals: Assessing the generality of the response modulation hypothesis. *Journal of Abnormal Psychology, 106*, 563–575. doi:10.1037/0021-843X.106.4.563.

Newton, R. R., Connelly, C. D., & Landsverk, J. A. (2001). An examination of measurement characteristics and factorial validity of the Revised Conflict Tactics Scale. *Educational and Psychological Measurement, 61*, 317–335.

Patrick, C. J. (2006). Back to the future: Cleckley as a guide to the next generation of psychopathy research. In C. J. Patrick (Ed.), *Handbook of psychopathy* (pp. 605–617). New York: Guilford Press.

Patrick, C. J., Bradley, M. M., & Lang, P. J. (1993). Emotion in the criminal psychopath: Startle reflex modulation. *Journal of Abnormal Psychology, 102*, 82–92. doi:10.1037/0021-843X.102.1.82.

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. doi:10.1037/0021-843X.103.3.523.

Patrick, C. J., Edens, J. F., Poythress, N. G., Lilienfeld, S. O., & Benning, S. (2006). Construct validity of the Psychopathic Personality Inventory two-factor model with offenders. *Psychological Assessment, 18*, 204–208. doi:10.1037/1040-3590.18.2.204.

Patrick, C. J., & Zempolich, K. A. (1998). Emotion and aggression in the psychopathic personality. *Aggression and Violent Behavior, 3*, 303–338. doi:10.1016/S1359-1789(97)00003-7.

Poythress, N. G., Edens, J. F., & Lilienfeld, S. (1998). Criterion-related validity of the Psychopathic Personality Inventory in a prison sample. *Psychological Assessment, 10*, 426–430. doi:10.1037/1040-3590.10.4.426.

Poythress, N. G., & Skeem, J. L. (2006). Disaggregating psychopathy: Where and how to look for subtypes. In C. Patrick (Ed.), *Handbook of psychopathy* (pp. 172–192). New York: Guilford Press.

Ridgell, S. D., & Lounsbury, J. W. (2004). Predicting academic success: General intelligence, "Big Five" personality traits, and work drive. *College Student Journal, 38*, 607–618.

Ross, S. R., Benning, S. D., Patrick, C. J., Thompson, A., & Thurston, A. (2009). Factors of the Psychopathic Personality Inventory: Criterion-related validity and relationship with the Five-Factor Model of personality. *Assessment, 16*(1), 71–87.

Salovey, P., & Grewal, D. (2005). The science of emotional intelligence. *Current Directions in Psychological Science, 14*, 281–285. doi:10.1111/j.0963-7214.2005.00381.x.

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.

Skeem, J., & Cooke, D. (in press). Is criminal behavior essential to psychopathy? Conceptual directions for resolving the debate. *Psychological Assessment*.

Skeem, J., Johansson, P., Andershed, H., Kerr, M., & Eno Louden, J. (2007). Two subtypes of psychopathic violent offenders that parallel primary and secondary variants. *Journal of Abnormal Psychology, 116*, 395–409. doi:10.1037/0021-843X.116.2.395.

Skeem, J. L., Poythress, N., Edens, J. F., Lilienfeld, S. O., & Cale, E. M. (2003). Psychopathic personality or personalities? Exploring

potential variants of psychopathy and their implications for risk assessment. *Aggression and Violent Behavior, 8*, 513–546. doi:10.1016/S1359-1789(02)00098-8.

Skinner, H. A. (1981). Toward the integration of classification theory and methods. *Journal of Abnormal Psychology, 90*, 68–87. doi:10.1037/0021-843X.90.1.68.

Straus, M. A., Hamby, S. L., Boney-McCoy, S., & Sugarman, D. B. (1996). The Revised Conflict Tactics Scales (CTS2). Development and preliminary psychometric data. *Journal of Family Issues, 17*, 216–283. doi:10.1177/019251396017003001.

Suris, A., Lind, L., Kashner, T. M., Borman, P. D., & Petty, F. (2004). Sexual assault in women veterans: An examination of PTSD risk, health care utilization and cost of care. *Psychosomatic Medicine, 66*(5), 749–756. doi:10.1097/01.psy.0000138117.58559.7b.

Sutton, S. K., Vitale, J. E., & Newman, J. P. (2002). Emotion among females with psychopathy during picture perception. *Journal of Abnormal Psychology, 111*, 610–619. doi:10.1037/0021-843X.111.4.610.

Swogger, M. T., & Kosson, D. S. (2007). Identifying subtypes of criminal psychopaths. *Criminal Justice and Behavior, 34*, 953–970. doi:10.1177/0093854807300758.

Tsaousis, I., & Nikolaou, I. (2005). Exploring the relationship of *emotional intelligence* with physical and psychological health functioning. *Stress and Health: Journal of the International Society for the Investigation of Stress, 21*, 77–86.

Vanman, E. J., Mejia, V. Y., Dawson, M. E., Schell, A. M., & Raine, A. (2003). Modification of the startle reflex in a community sample: Do one or two dimensions of psychopathy underlie emotional processing? *Personality and Individual Differences, 35*, 2007–2021. doi:10.1016/S0191-8869(03)00052-7.

Vassileva, J., Kosson, D. S., Abramowitz, C., & Conrod, P. (2005). Psychopathy versus psychopathies in classifying criminal offenders. *Legal and Criminological Psychology, 10*, 27–43. doi:10.1348/135532504X15376.

Wasserman, C. (2004). *Dating violence on campus: A fact of life*. Washington, D.C.: National Center for Victims of Crime. Retrieved August 3, 2008 from http://www.ncvc.org/ncvc/AGP.Net/Components/documentViewer/Download.aspxnz?DocumentID=37929.

Winters, J., Clift, R. J. W., & Dutton, D. G. (2004). An exploratory study of emotional intelligence and domestic abuse. *Journal of Family Violence, 19*, 255–267. doi:10.1023/B:JOFV.0000042076.21723.f3.