

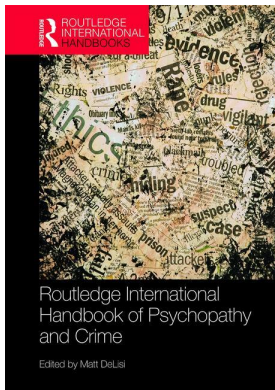
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### **Structural models of personality and psychopathy**

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# Structural models of personality and psychopathy

Donald R. Lynam and Joshua D. Miller

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## Introduction

We work with a simple definition of personality: personality refers to an individual's characteristic pattern of thinking, feeling, and acting. Although simple, this definition has many implications. Personality is internal; it refers to characteristics that reside within the individual. Personality has broad effects; it is manifested in how individuals think, feel, get along with others, and behave. Personality accounts for stable behavior patterns across time and situations. It is our contention that psychopathy can be understood as a particular personality pattern.

Although we might say it most explicitly, the idea of psychopathy as a personality configuration is not new. All classic descriptions of psychopathy reference personality traits (Miller & Lynam, 2015). Personality runs throughout Cleckley's seminal descriptions in *The Mask of Sanity* (1941/1988). Based on his work with psychopathic individuals, Cleckley offered 16 criteria for psychopathy. At least ten of these are obvious personality traits: superficial charm and good "intelligence," absence of "nervousness," unreliability, untruthfulness and insincerity, lack of remorse or shame, poor judgment and failure to learn by experience, pathologic egocentricity and incapacity for love, general poverty in major affective reactions, unresponsiveness in general interpersonal relations, and failure to follow any life plan. The remaining six criteria reference more specific behaviors or states, many of which are likely influenced by personality dispositions (e.g., inadequately motivated antisocial behavior, suicide rarely carried out, and sex life impersonal, trivial, and poorly integrated).

Drawing on and expanding Cleckley's description, Hare's model of psychopathy – Psychopathy Checklist–Revised (PCL–R; Hare, 2003) – identifies 20 constructs as central to psychopathy. These 20 constructs collapse into four more specific facets. The interpersonal facet includes glibness/superficial charm, grandiose sense of self-worth, pathological lying, and conning/manipulative. The affective facet is made up of lack of remorse/guilt, shallow affect, callous/lack of empathy, and failure to accept responsibility. The erratic lifestyle facet includes need for stimulation/proneness to boredom, parasitic lifestyle, lack of realistic long-term goals, impulsivity, and irresponsibility. The antisocial behavior facet is composed of poor behavioral controls, early behavioral problems, juvenile delinquency, revocation of conditional release, and

criminal versatility. Only four of these fail to directly reference personality – early behavioral problems, juvenile delinquency, revocation of conditional release, and criminal versatility.

## Structural models of personality

We believe that psychopathy is personality. Specifically, we believe that psychopathy is a particular personality configuration. To demonstrate this, we utilize the Five Factor Model of Personality (FFM) – one of several structural models of personality that might be employed. In general, structural models use multiple dimensions or superfactors to organize the vast array of personality traits (Wiggins & Pincus, 1992). They share fundamental assumptions: (1) traits are the basic building blocks, (2) there are a finite number of traits, and (3) traits provide full coverage of human personality. There are multiple benefits to using these models to understand clinical or criminological constructs. First, these models were developed in research efforts to identify and organize the primary building blocks of personality. Traits from these models are based in the science of personality and not in the minds of psychopathy observers and theorists. Second, because these models were identified in basic science efforts and not in efforts to predict specific criteria, problems with predictor–criterion overlap are minimized. Third, each of these models has been widely used and well validated in various kinds of research.

Several structural models have been examined in relation to psychopathy, including Eysenck's Psychoticism, Extraversion, and Neuroticism (PEN) model, Tellegen's three-factor model, and the FFM/Big Five. Eysenck's PEN model includes factors of Neuroticism, Extraversion, and Psychoticism (Eysenck & Eysenck, 1970): Neuroticism entails emotional stability and adjustment; Extraversion reflects traits related to sociability and agency; and Psychoticism encompasses egocentricity, (lack of) interpersonal warmth, (lack of) empathy, and impulsiveness. Tellegen's (1985) model also posits three basic dimensions: Positive Emotionality, which refers to the tendency to be positively engaged with others and the world; Negative Emotionality, which reflects an individual's tendency to experience negative emotions (e.g., fear, anxiety, and anger) and his or her tendency to break down under stress; and Constraint, which assesses an individual's ability to control impulses, act deliberately, avoid potentially dangerous situations, and endorse traditional values and standards.

The FFM was derived from studies of the English language undertaken to identify the domains of personality functioning most important in describing oneself and others (Digman, 1990; John & Srivastava, 1999; Wiggins & Pincus, 1992). This lexical research emphasized five broad domains, identified as Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience (John & Srivastava, 1999). Extraversion entails an individual's proneness to positive emotions and sociability. Agreeableness is concerned with an individual's interpersonal relationships and strategies; people high in Agreeableness tend to be trusting, straightforward, and empathic, whereas those who score low tend to be manipulative, arrogant, and unconcerned about others. Conscientiousness relates to the "control of impulses," as well as to the ability to plan, organize, and complete behavioral tasks. The domain of Neuroticism entails emotional adjustment and stability. The fifth domain, Openness to Experience, refers to an individual's interest in culture and the preference for and interest in experiencing and exploring new activities, ideas, and emotions. Each of these five broad domains can be further divided into finer-grained facets or components. Costa and McCrae (1995a) proposed six facets within each domain on the basis of their research with the NEO Personality Inventory–Revised (NEO PI–R; Costa & McCrae, 1992). For example, they parse the domain of Agreeableness (vs. Antagonism) into more specific facets of trust (vs. suspicion), straightforwardness (vs. deception), altruism (vs. exploitation), compliance (vs. aggression), modesty (vs. arrogance),

and tender-mindedness (vs. tough-mindedness). The domains and facets of the FFM, along with sample items, are given in Table 3.1 from one particular instantiation – the International Personality Item Pool – Neuroticism, Extraversion, and Openness to Experience IPIP–NEO (Maples, Guan, Carter, & Miller, 2014).

Despite being derived independently and including different numbers of basic traits, there is substantial agreement across the models. All include explicit representations of the “Big

Table 3.1 FFM domains and facets with example items from the IPIP–NEO

<i>Domain/Facet</i>	<i>Descriptors from IPIP–NEO</i>
<b>Neuroticism (vs. Emotional Stability)</b>	
N1: Anxiety	+ Am afraid of many things – Am relaxed most of the time
N2: Angry Hostility	+ Lose my temper – Am not easily annoyed
N3: Depression	+ Dislike myself – Seldom feel blue
N4: Self-Consciousness	+ Am afraid to draw attention to myself – Am not easily embarrassed
N5: Impulsiveness	+ Do things I later regret – Am able to control my cravings
N6: Vulnerability	+ Become overwhelmed by events – Am calm in tense situations
<b>Extraversion (vs. Introversion)</b>	
E1: Warmth	+ Make friends easily – Often feel uncomfortable around others
E2: Gregariousness	+ Enjoy being part of a group – Want to be left alone
E3: Assertiveness	+ Take control of things – Don’t like to draw attention to myself
E4: Activity	+ Am always on the go – Like a leisurely lifestyle
E5: Excitement-Seeking	+ Am willing to try anything once – Would never go hang gliding or bungee jumping
E6: Positive emotions	+ Look at the bright side of life – Am not easily amused
<b>Openness (vs. closedness) to experience</b>	
O1: Fantasy	+ Love to daydream – Have difficulty imagining things
O2: Aesthetics	+ Believe in the importance of art – Do not like art
O3: Feelings	+ Experience my emotions intensely – Am not easily affected by my emotions
O4: Actions	+ Prefer variety to routine – Don’t like the idea of change
O5: Ideas	+ Enjoy thinking about things – Avoid difficult reading material
O6: Values	+ Believe there is no absolute right and wrong – Believe laws should be strictly enforced

<i>Domain/Facet</i>	<i>Descriptors from IPIP-NEO</i>
<b>Agreeableness (vs. Antagonism)</b>	
A1: Trust	+ Believe that others have good intentions – Suspect hidden motives in others
A2: Straightforwardness	+ Stick to the rules – Use others for my own ends
A3: Altruism	+ Am concerned about others – Am indifferent to the feelings of others
A4: Compliance	+ Hate to seem pushy – Get back at others
A5: Modesty	+ Consider myself an average person – Believe that I am better than others
A6: Tender-Mindedness	+ Feel sympathy for those who are worse off – Believe people should fend for themselves
<b>Conscientiousness (vs. Disorder/Dyscontrol)</b>	
C1: Competence	+ Know how to get things done – Have little to contribute
C2: Order	+ Want everything to be “just right” – Often forget to put things back in their place
C3: Dutifulness	+ Try to follow the rules – Break my promises
C4: Achievement-Striving	+ Do more than what’s expected of me – Put little time and effort into my work
C5: Self-Discipline	+ Carry out my plans – Need a push to get started
C6: Deliberation	+ Choose my words with care – Jump into things without thinking

Two” – Extraversion (Positive Emotionality) and Neuroticism (Negative Emotionality). Additionally, the FFM and Tellegen’s model both contain dimensions related to control of impulses and orientation to convention – Conscientiousness from the FFM and Constraint from Tellegen’s model. Eysenck’s model does include Conscientiousness, although not as a unique and single factor: research indicates that Eysenck’s Psychoticism dimension can be considered a blend of low Conscientiousness and low Agreeableness (Costa & McCrae, 1995b). All models also include Agreeableness. In Eysenck’s model, it is a component of the Psychoticism dimension. In Tellegen’s model, it is represented primarily by subscales of the Negative Emotionality dimension (i.e., aggression and alienation). Thus, these structural models are far from discrepant with one another. In fact, Watson, Clark, and Harkness (1994:24) have argued that

the Big Three and Big Five models define a common “Big Four” space in which (a) two traits are equivalent (Neuroticism and Extraversion), (b) the third Big Three dimension (Constraint or Psychoticism) represents some combination of two Big Five factors (Conscientiousness and Agreeableness), and (c) the final Big Five trait (Openness, or imagination) is excluded.

They go on to label the Big Four as Neuroticism (or Negative Emotionality), Extraversion (or Positive Emotionality), Conscientiousness (or Constraint), and Agreeableness.

## The Five Factor Model and psychopathy

In what follows, we use the FFM as the organizing structure to integrate various findings on psychopathy and personality. Our preference for the use of the FFM is driven by several factors. First, the FFM was derived from the natural language, ensuring that important aspects of personality are represented (John & Srivastava, 1999). Second, the FFM provides an extensive and comprehensive lexicon of 30 facets versus the 11 subscales of the Multidimensional Personality Questionnaire (MPQ) or the three factors of the PEN model. Third, the FFM, at both the domain and facet levels, enjoys considerable empirical support in the form of convergent and discriminant validation across self, peer, and spouse ratings (Costa & McCrae, 1988), temporal stability (Roberts & DelVecchio, 2000), cross-cultural support (Church, 2001; McCrae, Martin, & Costa, 2005), and behavior genetics (Yamagata et al., 2006). The FFM is the model of choice for both individual studies and meta-analytic reviews on the relations between basic personality traits and critical outcomes, including academic achievement (Poropat, 2009), work performance (Barrick & Mount, 1991) and satisfaction (Judge, Heller, & Mount, 2002), leadership (Judge, Bono, Ilies, & Gerhardt, 2002), physical (Bogg & Roberts, 2004) and psychological health (Malouff, Thorsteinsson, & Schutte, 2005; Samuel & Widiger, 2008), subjective well-being (DeNeve & Cooper, 1998), and relationship satisfaction (Malouff, Thorsteinsson, Schutte, Bhullar, & Rooke, 2010). With regard to behavioral outcomes of most relevance to psychopathy, the FFM has also been used to meta-analytically characterize the relations between personality and antisocial behavior (Jones, Miller, & Lynam, 2011; Miller & Lynam, 2001), substance use and abuse (Kotov et al., 2011), and risky sexual behavior (Hoyle, Fejfar, & Miller, 2000).

Fourth, in addition to the research base supporting the FFM, there is a substantial research base emanating from this model. Researchers have used the FFM to study the development and continuity of personality over time (e.g., Caspi, Roberts, & Shiner, 2005; De Clerq & De Fruyt, 2012; Tackett et al., 2012), as well as the levels of these traits as a function of gender, age, and culture (e.g., Allik & McCrae, 2004; Schmitt, Realo, Voracek, & Allik, 2008; Soto & John, 2012). Similarly, the FFM framework has been used to study the processes underlying and outcomes attributable to specific personality domains, such as the basic processes underlying Agreeableness. For example, Robinson, Meier, and Wilkowski have used a basic science approach to examine the way in which (dis)agreeable individuals interpret interpersonal and contextual cues and behave in more or less adaptive ways (Meier, Robinson, & Wilkowski, 2006, 2007; Robinson, Wilkowski, Meier, Moeller, & Fetterman, 2012). Meier and colleagues (2006) found that individuals high in Agreeableness were less susceptible to aggression-related cues and more likely to activate prosocial thoughts in response to such cues than were individuals low in Agreeableness. Roberts and colleagues have worked to delineate the basic composition (e.g., Roberts, Chernyshenko, Stark, & Goldberg, 2005), correlates (e.g., Roberts, Jackson, Burger, & Trautwein, 2009), and consequences of Conscientiousness (e.g., Bogg & Roberts, 2004). DeYoung has systematically explored the broad domain of Openness/intellect, specifying its relation to cognitive ability (DeYoung, Quilty, Peterson, & Gray, 2014), describing its broad outlines (DeYoung, 2015), and identifying its sources (DeYoung, Peterson, & Higgins, 2005) and biological underpinnings (DeYoung et al., 2011). There are also multiple programs of research aimed at the basic processes underlying the facet-level traits within the FFM, including the work of Whiteside and Lynam (2001) on diverse personality pathways to impulsive behavior. Understanding psychopathy from the perspective of the FFM allows this large body of basic research to inform theorizing on assessment, etiology, course, and treatment.

Fifth, and perhaps most important, substantial research exists on personality and psychopathy employing the FFM framework. Expert ratings of prototypical cases of psychopathy have been

conducted using the FFM (Miller, Lynam, Widiger, & Leukefeld, 2001). Similarly, the FFM has been used as a tool to translate prominent psychopathy assessments into a basic trait perspective (Widiger & Lynam, 1998). Empirically, the FFM has been examined in relation to all major psychopathy instruments (see meta-analyses by Decuyper, De Pauw, De Fruyt, De Bolle, & De Clerq, 2009; Lilienfeld, Watts, Smith, Berg, & Latzman, 2015; Lynam & Derefinko, 2006). In their recent meta-analysis, O’Boyle, Forsyth, Banks, Story, and White (2015) identified between 76 and 86 studies that reported on relations between one or more of the Big Five dimensions and one or more psychopathy instruments.

The advantages of the FFM in conceptualizing, assessing, and diagnosing personality disorders (PDs) are such that this approach has been included in the two most prominent psychiatric nosologies, the Diagnostic and Statistical Manual of Mental Disorders–5th edition (DSM–5; APA, 2013) and the International Classification of Diseases–11th edition (ICD–11; see Tyrer, 2013). For example, the DSM–5 Personality and Personality Disorder Work Group proposed a model in which PDs are diagnosed on the basis of personality-related impairment in self and interpersonal functioning, as well as elevated scores on one or more traits from a pathological trait version of the FFM. Although the new approach did not replace the traditional approach in DSM–5, it was placed in Section III on “emerging measures and models” and may become the predominant or only approach in future iterations.

### **Meta-analysis**

Conceptualizing psychopathy from the FFM involves identifying the FFM traits that characterize it. One of the most compelling approaches involves correlating explicit measures of psychopathy with measures of the FFM. The logic of this approach is straightforward. Multiple psychopathy assessments have been derived from various conceptualizations and using divergent approaches; looking across these conceptions allows points of agreement to emerge and idiosyncratic aspects to be blunted. In their meta-analyses of the relations between elements of the Dark Triad (i.e., psychopathy, narcissism, and Machiavellianism) and the domains (i.e., higher-order factors) and facets of the FFM, O’Boyle and colleagues (2015) identified between 76 and 86 studies (with *N*s ranging from 23,216 to 25,465) reporting on the relations between at least one FFM domain and one psychopathy measure.

At the domain level, psychopathy is characterized by very low scores on Agreeableness (corrected  $r = -.53$ ) and moderately low scores on Conscientiousness (corrected  $r = -.39$ ); effect sizes were statistically significant but very small for Neuroticism (corrected  $r = .06$ ), Extraversion (corrected  $r = .05$ ), and Openness to experience (corrected  $r = .05$ ). These results are consistent with earlier meta-analyses by Lynam and Derefinko (2006), Decuyper and colleagues (2009), and Lilienfeld and colleagues (2015). Lilienfeld and colleagues found that PCL-assessed psychopathy was most strongly related to Agreeableness ( $r = -.32$ ) and Conscientiousness ( $r = -.14$ ), and unrelated to Neuroticism ( $r = .06$ ), Extraversion ( $r = .02$ ), and Openness ( $r = .01$ ).

More relevant to our purposes, however, O’Boyle and colleagues (2015) also meta-analyzed between 11 and 19 studies (with *N*s ranging from 2,267 to 4,733) that reported on the relations between at least one of 30 facets of the FFM and psychopathy. Corrected, average correlations are reported in the second column of Table 3.2. As with the domain-level analyses, facet-level analyses highlight the role of traits from Agreeableness and Conscientiousness and reveal mixed relations for Neuroticism (e.g., high anger and impulsiveness) and Extraversion (e.g., low warmth; high excitement seeking). Taking any facet with an absolute correlation greater than or equal to .25 as characteristic, 14 FFM facets describe the psychopathic individual. The psychopathic person is low in all facets of Agreeableness; he/she is distrustful, lying and manipulative,

Table 3.2 FFM profiles of psychopathy derived using different approaches

NEO PI-R	O'Boyle et al.	W & L transl.	Expert
N1: Anxiety	-.03	.00	<b>1.47</b>
N2: Angry Hostility	<b>.37</b>	<b>1.00</b>	3.87
N3: Depression	.10	<b>-1.00</b>	<b>1.40</b>
N4: Self-Consciousness	-.01	.00	<b>1.07</b>
N5: Impulsiveness	<b>.39</b>	<b>1.00</b>	<b>4.53</b>
N6: Vulnerability	.08	.00	<b>1.47</b>
E1: Warmth	-.24	<b>-1.00</b>	<b>1.73</b>
E2: Gregariousness	.00	.00	3.67
E3: Assertiveness	.09	.00	<b>4.47</b>
E4: Activity	.06	.00	3.67
E5: Excitement Seeking	<b>.28</b>	<b>1.00</b>	<b>4.73</b>
E6: Positive Emotions	-.17	<b>-1.00</b>	2.53
O1: Fantasy	.09	.00	3.07
O2: Aesthetics	-.04	.00	2.33
O3: Feelings	-.07	.00	<b>1.80</b>
O4: Actions	.09	.00	<b>4.27</b>
O5: Ideas	.04	.00	3.53
O6: Values	.06	.00	2.87
A1: Trust	<b>-.35</b>	.00	<b>1.73</b>
A2: Straightforwardness	<b>-.56</b>	<b>-2.00</b>	<b>1.13</b>
A3: Altruism	<b>-.40</b>	<b>-2.00</b>	<b>1.33</b>
A4: Compliance	<b>-.47</b>	<b>-2.00</b>	<b>1.33</b>
A5: Modesty	<b>-.25</b>	<b>-2.00</b>	<b>1.00</b>
A6: Tendermindedness	<b>-.36</b>	<b>-2.00</b>	<b>1.27</b>
C1: Competence	-.23	.00	<b>4.20</b>
C2: Order	<b>-.25</b>	.00	2.60
C3: Dutifulness	<b>-.41</b>	<b>-2.00</b>	<b>1.20</b>
C4: Achievement-Striving	<b>-.26</b>	<b>-2.00</b>	3.07
C5: Self-discipline	<b>-.31</b>	<b>-2.00</b>	<b>1.87</b>
C6: Deliberation	<b>-.46</b>	<b>-2.00</b>	<b>1.60</b>
	Similarity indices		
Translation	.84		
Experts	.67	.67	

selfish, oppositional, immodest, and callous. He/she is low on five of six Conscientiousness facets, described as disorganized, unreliable, unmotivated, unrestrained, and rash. Finally, he/she is high in angry hostility, impulsiveness, and excitement seeking.

### Other approaches

This empirically derived FFM description agrees well with other available descriptions. Widiger and Lynam (1998) “translated” the PCL-R into the language of the FFM. Beginning with narrative descriptions of the 20 PCL-R items, Widiger and Lynam identified NEO PI-R facets that captured the content of the descriptions. The third column in Table 3.2 provides the FFM profile from this exercise, in which scores of 0 are assigned to facets that did not appear in any item translation (e.g., anxiety), scores of +1 (high) or -1 (low) are given to facets that appear



in the translation of only one PCL–R item (e.g., angry hostility), and scores of +2 (high) or –2 (low) are given to facets that appear in the translation of more than one item. From this PCL–R–based profile, psychopathic individuals are viewed as being low in: depression from the domain of Neuroticism; warmth and positive emotions from Extraversion; all facets of Agreeableness except trust; and four of six facets of Conscientiousness (dutifulness, achievement–striving, self-discipline, and deliberation). Additionally, psychopathic individuals are rated as somewhat high in angry hostility and impulsiveness from the Neuroticism domain and high in excitement seeking from Extraversion. No facets from the domain of Openness characterized psychopathy.

In yet a third approach, Miller, Lynam, Widiger, and Leukefeld (2001) invited psychopathy experts to describe the personality of the prototypic Cleckley psychopath using the language of the FFM. Miller et al. (2001) wrote to 21 psychopathy researchers and asked each to “rate the prototypical, classic Cleckley psychopath” on each of 30 bipolar scales which corresponded to the 30 facets of the FFM. For example, to assess the facet of straightforwardness (a facet of Agreeableness), experts were asked “to what extent is the male psychopath honest, genuine, and sincere versus deceptive and manipulative?” Response choices ranged from 1 (extremely low) to 5 (extremely high). Fifteen experts returned the ratings. Aggregating the ratings across experts served to bring out the aspects on which experts agree and blunt the idiosyncratic elements of each description. The experts’ mean ratings for each of the facets are given in the fourth column of Table 3.2. Taking any facet with an average rating less than 2 or greater than 4 as characteristic, the prototypical psychopathic individual is low in anxiety, depression, self-consciousness, and vulnerability from Neuroticism; low in warmth from Extraversion; low in openness to feelings from Openness; low in all facets of Agreeableness; and low in dutifulness, self-discipline, and deliberation from Conscientiousness. The prototypical psychopathic individual is also high in impulsiveness from Neuroticism; assertiveness and excitement seeking from Extraversion; openness to actions from Openness; and competence from Conscientiousness – a finding likely due to asking experts to report how the psychopathic person sees himself.

There is general agreement on the FFM description of the psychopathic individual across the three different approaches, as can be seen in the similarity indices at the bottom of the table. The psychopathic individual is low in all facets of Agreeableness and most facets of Conscientiousness. He/she is also high in two other facets dealing with impulsivity: impulsiveness from Neuroticism (referencing difficulty resisting cravings) and Excitement-seeking from Extraversion. There is also some suggestion that the psychopathic person is rather high in angry hostility and low in depression. In sum, across approaches there is a clear consensual trait description of the psychopathic person.

### Using the FFM to assess psychopathy

In addition to demonstrating a consistent and robust FFM profile of psychopathy, research shows that psychopathy can be assessed using the FFM. If the nomological network that surrounds explicit assessments of psychopathy can be recreated by FFM-assessed indices of psychopathy, then the argument that psychopathy is these traits is strengthened. Results from multiple studies (Derfinko & Lynam, 2006; Miller et al., 2001; Miller, Jones, & Lynam, 2011; Ross, Benning, Patrick, Thompson, & Thurston, 2009) show high convergence between FFM-assessed psychopathy and explicit indices of psychopathy, including the Levenson Self-Report Psychopathy scale (LSRP; Levenson, Keihl, & Fitzpatrick, 1995), Hare Self-Report Psychopathy Scale (SRP–III; Williams, Paulhus, & Hare, 2007), the Psychopathic Personality Inventory–Revised (PPI–R; Lilienfeld & Widows, 2005), and the Youth Psychopathic Traits Inventory (YPI; Andershed, Ker, Stattin, & Levander, 2002). Using the original data from Lynam, Gaughan, Miller, Mullins-Sweatt,

and Widiger (2011) for the PPI, SRP, and LSRP, from Sherman, Lynam, and Heyde (2013) for the YPI, and from Few, Miller, and Lynam (2013) for DSM-5, Lynam and Miller (2015) examined the convergent correlations between these five psychopathy scales and FFM psychopathy scores computed from the NEO PI-R; these convergent correlations ranged from .63 for the YPI to .72 for the PPI with an average of .66. Additionally, across samples of undergraduates (Miller & Lynam, 2003), community participants (Miller et al., 2011; Miller et al., 2001), and drug abusers (Derefinko & Lynam, 2007), relations of FFM psychopathy scores to external criteria (e.g., anti-social behavior, aggression, substance use, and other forms of psychopathology) mirror those found when explicit assessments of psychopathy are used.

More recently, two studies have examined the outcomes of an FFM-based psychopathy measure in a nationally representative sample of over 15,000 men and women. In the first, Beaver et al. (2014) examined the relations between FFM-assessed psychopathy and a variety of health outcomes. These authors found that higher scores on FFM-assessed psychopathy were associated with significant reductions in general health and significant increases in chronic diseases and neurological disorders. Specifically, higher scores on FFM-assessed psychopathy were associated with increased odds of diabetes, high blood pressure, high cholesterol, and an assortment of neurological disorders. These results held generally across men and women. More recently, Beaver, Boutwell, Barnes, Vaughn, and DeLisi (2017) examined the relations between an FFM-based psychopathy assessment and criminal justice outcomes. After controlling for gender, age, and race, Beaver et al. found that FFM-psychopathy had a statistically significant and positive effect on the odds of being arrested, incarcerated, and sentenced to probation and on the level of self-reported delinquency. These results held for both men and women.

In an alternative approach, Lynam et al. (2011) developed an explicit assessment of psychopathy built on the FFM – the Elemental Psychopathy Assessment (EPA). This was done in response to concerns that instruments developed in the general population to assess personality in that population (e.g., the NEO PI-R) may not be optimal for assessing pathological personality traits. In creating the EPA, Lynam et al. used the basic structure of the FFM to build new scales that remain tied to basic personality science yet better assess the more pathological ends of basic trait dimensions (see Lynam, 2012). For the EPA, Lynam et al. (2011) began with a consensus profile of psychopathy (Lynam & Widiger, 2007a) that included 18 traits. All six facets from Agreeableness were included (trust, straightforwardness, altruism, compliance, modesty, tender-mindedness), as were the six facets of Neuroticism, although some represented high levels (i.e., angry hostility and impulsiveness) whereas others reflected low levels (i.e., anxiety, depression, self-consciousness, and vulnerability). Three facets from Conscientiousness were also included (i.e., dutifulness, self-discipline, and deliberation), along with three facets from Extraversion representing, like the facets from Neuroticism, both high (i.e., assertiveness and excitement seeking) and low levels of Extraversion (i.e., warmth). We will only note that the EPA shows good reliability, good convergence with other extant psychopathy scales, and good predictive utility. Importantly, these characteristics are maintained in the 18-item, super short form of the EPA (Collison, Miller, Gaughan, Widiger, & Lynam, 2016) developed specifically for use in criminology where large, broad survey assessments are the norm and assessment space is at a premium.

## **Advantages to understanding psychopathy using the FFM**

There are a number of advantages to understanding psychopathy as a constellation of traits from the FFM that derive from the breadth and articulation of the FFM itself and the enormous research base that supports it. We detail these advantage below; one is specific to criminology, whereas others are more general.

### ***Criminology-specific issue***

The strong theoretical and empirical overlap between psychopathy and criminal and antisocial behavior (e.g., Hare, 1999) has led to increased interest in psychopathy within the field of criminology (e.g., Polaschek & Daly, 2013). DeLisi (2009) has even argued that psychopathy should be considered the unified theory of crime because of its embodiment of the “pejorative essence of antisocial behavior” as well as its ability to accommodate both dimensional and categorical conceptualizations of antisocial behavior across diverse populations. Research has shown that psychopathy may be useful in identifying the prolific but small group of offenders identified as “career criminals” (Wolfgang, Figlio, & Sellin, 1972; Tracy, Wolfgang, & Figlio, 1990; Hare, 1999). Vaughn and DeLisi (2008) found that psychopathic traits nearly doubled the total explanatory power for career criminality when demographic and mental health variables had been taken into account. In addition, psychopathic traits demonstrated 70–88 percent accuracy when predicting career criminal membership.

A long-standing objection to using psychopathy to understand the etiology of criminal behaviors has been that some measures include explicit assessments of antisocial and other externalizing behaviors. Such predictor–criterion overlap leads to a potential tautology in which one measure of antisocial behavior is used to predict another measure of antisocial behavior. This is certainly true of the most widely used psychopathy measure in forensic research – Hare’s Psychopathy Checklist–Revised (PCL–R; Hare, 1991, 2003). The PCL–R consists of 20 items that are rated by an interviewer following an interview and a review of records. Several items explicitly assess antisocial behavior – early behavior problems, juvenile delinquency, revocation of conditional release, and criminal versatility. Several more items instruct the interviewer to rely on certain types of antisocial behavior when making a rating; for example, interviewers are instructed to look for criminal charges for fraud and embezzlement in rating Conning/Manipulative or for charges and convictions that involve spontaneous and unprovoked violence to rate Poor Behavioral Controls. This problem with predictor–criterion overlap is also present for the self-report scales that are based on the conception of psychopathy inherent in the PCL–R, including the commonly used Self-Report Psychopathy Scale (SRP; Hare, 1985; SRP–II; Paulhus, Neumann, & Hare, in press), which includes four subscales, one of which, antisocial, is assessed by reference to explicitly antisocial acts. This problem is also present in the more recently developed Triarchic Psychopathy Measure (TriPM; Patrick, 2010), which is based on a three-factor conceptualization of psychopathy that includes Boldness, Meanness, and disinhibition. Unfortunately, multiple disinhibition items reference frankly antisocial behavior (e.g., “I have robbed someone” and “I have stolen something out of a vehicle”).

This problem does not exist with psychopathy measures that use the elements of the Five Factor Model, including the NEO PI–R (Costa & McCrae, 1992) and the International Personality Item Pool NEO–120 (Maples et al., 2014). These are basic personality inventories that ask about characteristic ways of thinking, feeling, and acting and do not reference explicitly antisocial acts. Similarly, predictor–criterion overlap is absent in all versions of the Elemental Psychopathy Assessment (EPA; Lynam et al., 2011; EPA Short Form; Lynam et al., 2013; EPA Super Short Form; Collison et al., 2016); Table 3.3 provides the items from the super short form of the EPA.

### **Issues related to psychopathy**

Understanding psychopathy as a collection of traits from a general model of personality also has implications for the study of psychopathy generally. These advantages include, among others,

Table 3.3 Items from the EPA super short form

<i>Subscale</i>	<i>Item</i>
Antagonism factor	
Arrogance	I deserve special treatment
Coldness	I care a lot about my relationships with others. (R)
Callousness	Feeling sorry for others is a sign of weakness.
Distrust	When someone does something nice for me, I wonder what they want from me.
Disobliged	People would say I am reliable and dependable. (R)
Impersistence	I quit things pretty easily.
Manipulative	I could make a living as a con artist.
Self-centered	I have more important things to worry about than other people's feelings.
Disinhibition factor	
Anger	My temper has gotten me into trouble.
Opposition	I am known as a bit of a rebel.
Rashness	"Act first, think later" describes me well.
Thrill-seeking	I like doing things that are risky or dangerous.
Urgency	When I am upset, I will do things that I later regret.
Emotional Stability factor	
Unconcern	I am a bit of a worrier. (R)
Self-contentment	I am not the type to be depressed about things I've done wrong.
Invulnerable	I remain cool, calm, and collected when things get stressful.
Dominance	I often emerge as the leader in a group.
Self-assured	I am pretty comfortable when meeting new people.

*Note.* Respondents are instructed: "The following statements deal with how you think, feel, and act. Please read each item carefully and fill in the bubble on the bubble sheet that best corresponds to your agreement or disagreement. If you disagree strongly blacken 1, if you disagree a little blacken 2, if you neither agree nor disagree blacken 3, if you agree a little blacken 4, and if you strongly agree blacken 5. There are no right or wrong answers, and you need not be an expert to complete this questionnaire." (R) indicates that an item is reverse-scored.

accounting for the factor structures of various inventories, making sense of available epidemiological data pertaining to psychopathy and antisocial behavior, and interpreting the putative etiologically relevant deficits associated with psychopathy.

### ***Factor structures of psychopathy inventories***

The FFM can be used to understand the factor structures of various established inventories of psychopathy. Items/subscales cohere with one another and factors correlate with each other to the extent that they assess similar FFM traits, and they diverge to the extent that the traits they assess are different. The PCL-R serves as an excellent example. The FFM translation of the PCL-R shows that Factor 1 is mostly a measure of low Agreeableness, whereas Factor 2 is a measure of low Agreeableness and low Conscientiousness, with some aspects measuring low and high elements of Neuroticism and Extraversion (Widiger & Lynam, 1998). The factors correlate highly because both assess Agreeableness but are not isomorphic because Factor 2 also includes a substantial amount of Conscientiousness. Similar patterns have been found using the two factors of the Child Psychopathy Scale (CPS; Lynam et al., 2005), the three factors of the Youth Psychopathy Traits Inventory (YPI; Sherman, Lynam, & Heyde, 2013), the two factors of the

Levenson Self-Report Psychopathy scales, and the four factors of the Self-Report Psychopathy scale (SRP; Lynam & Miller, 2015). In each of these cases, low Agreeableness suffused all subscales and accounted for much of the subscale overlap within a given inventory. Subscales were distinguished from each other by their differential relations to Conscientiousness, Neuroticism, and Extraversion.

In the case of measures including subscales that do not share variance with one another, the FFM serves to explain this phenomenon as well. For example, the Psychopathic Personality Inventory (PPI; Lilienfeld & Andrews, 1996; Revised version: Lilienfeld & Widows, 2005) includes two higher-order factors – Self-Centered Impulsivity (SCI) and Fearless Dominance (FD). FD is unrelated to SCI, most other indicators of psychopathy, and antisocial behavior, but is positively related to a variety of positive outcomes (Lynam & Miller, 2012). This state of affairs is easily understood when viewed through the lens of the FFM. Almost all indicators of psychopathy are suffused with low Agreeableness and low Conscientiousness; these are the basic building blocks of psychopathy (Lynam, & Miller, 2015). The SCI factor of the PPI is similarly infused and bears the expected relations to antisocial behavior. FD, however, primarily assesses low Neuroticism and high Extraversion; it is unrelated or slightly positive to Agreeableness and Conscientiousness. Thus, it is unrelated to its PPI counterpart (i.e., SCI), most other measures of psychopathy, and antisocial behavior. The case is similar for Patrick, Fowles, and Krueger's (2009) Triarchic Psychopathy Measure (TriPM), which posits that psychopathy consists of three components: Meanness, Boldness, and disinhibition. As with the PPI, however, the TriPM lacks a general positive manifold in that Meanness and disinhibition are highly positively correlated with one another but uncorrelated with Boldness. Boldness appears to be another indicator of FD, uncorrelated with most measures of psychopathy and antisocial outcomes but highly correlated with FD and salubrious outcomes (Miller, Lamkin, Maples-Keller, & Lynam, 2016). Again, the FFM provides a compelling explanation. The strongest correlates of Meanness and disinhibition are Agreeableness ( $r = -.82$  for Meanness and  $-.40$  for disinhibition) and Conscientiousness ( $r = -.36$  for Meanness and  $-.62$  for disinhibition), but the strongest correlates of Boldness are Neuroticism ( $r = -.73$ ), Extraversion ( $r = .70$ ), and Conscientiousness ( $r = +.40$ ). Thus, Meanness and disinhibition are highly correlated with one another but uncorrelated with Boldness.

### ***The epidemiology of psychopathy***

Understanding psychopathy using traits from the FFM provides a parsimonious and compelling explanation for many of the epidemiological facts that surround psychopathy, specifically its relations to other personality disorders and its distribution across gender and age. This explanation makes use of the vast empirical literature on the FFM, which provides the FFM coordinates for all PDs, gender differences in each of the facets, and the relations between age and mean trait levels.

In terms of comorbidity, psychopathy and other PDs should be comorbid to the extent that they assess similar traits. Lynam and Derefinko (2006) generated correlations between the FFM profiles for psychopathy and the other PDs, providing a comorbidity estimate for psychopathy with each PD. Some PDs were predicted to be highly comorbid with psychopathy, whereas others were predicted to be very distinct. For example, psychopathy and antisocial PD should be highly comorbid (i.e., predicted  $r = .88$ ) as both are characterized by low scores on all facets of Agreeableness, several facets of Conscientiousness, anxiousness, and self-consciousness, and high scores on impulsiveness, assertiveness, and excitement seeking. In contrast, psychopathy should

not co-occur with dependent PD (i.e., predicted  $r = -.84$ ) as they are characterized by opposite poles of the Agreeableness facets, several Neuroticism facets (i.e., anxiousness, self-consciousness, and vulnerability), and two facets of Extraversion (i.e., assertiveness and excitement seeking). When compared to meta-analytically derived comorbidities, the predicted comorbidities aligned very well.

With regard to gender differences, Lynam and Miller (2015), extending work by Lynam and Widiger (2007b), used what is known about gender differences in FFM traits to predict gender differences in personality disorders, including psychopathy. Sex differences are predicted to be large for PDs that are characterized by FFM facets exhibiting large sex differences. For example, men score lower than women on all facets of Agreeableness, anxiousness, self-consciousness, and vulnerability; both Antisocial Personality Disorder (ASPD) and psychopathy are characterized by low scores on all of these facets as well. Thus, ASPD and psychopathy were predicted to be more common among men than women. In contrast, dependent personality disorder (DPD) is characterized by high scores on anxiety, self-consciousness, vulnerability, trust, compliance, and modesty; women score higher than men on each of these facets. Thus, DPD was expected to be more common among women than among men. These FFM-based estimates were then compared to empirical results from studies of sex-differences in the PDs. Across the PDs, the estimated differences were quite similar to the observed differences.

Using similar logic, Vachon et al. (2013) examined the ability of the FFM to account for age-related changes in psychopathy assessed via the PCL-R (Hare, 2003). These authors posited that the prevalence of psychopathy will change across the life course in synchrony with normative changes in the FFM traits underlying psychopathy. Normative changes in absolute levels of the traits that comprise psychopathy were obtained from a large sample of adolescents and adults (McCrae et al., 2005). Using FFM profiles of overall psychopathy, Factor 1, Factor 2, and antisocial PD as a comparison, the authors used the normative information on trait changes to make specific predictions about changes in psychopathy across the life course. These predicted changes were compared to prevalence estimates based on the explicit assessment of psychopathy in a forensic setting. Results demonstrated that the FFM trait information (1) predicted the rate of decline for psychopathy over the life span, (2) discriminated the decline of psychopathy from that of a similar disorder, Antisocial Personality Disorder, and (3) accurately predicted the differential decline of two psychopathy factors.

### ***Possible etiologically relevant deficits***

Much research in psychopathy is aimed at identifying *the* core deficit underlying the disorder. Many candidate deficits have been proposed; unfortunately, these various deficits are not easily subsumed under a single construct. This is exactly the state of affairs expected if psychopathy were a constellation of diverse traits from a general model of personality; different researchers are focusing on different elements or domains of the larger psychopathy–personality profile. Several theories suggest that psychopathy is rooted in deficient fear conditioning (Lykken, 1995; Patrick, 1994), which has been related to the broad domain of negative affectivity; in contrast to deficient fear conditioning, Newman's (1998) response modulation model is focused on a different area of functioning. Newman has offered that psychopaths have a difficult time suspending a reward-based response set in order to assimilate feedback from the environment. This deficit is more likely to be linked to aspects of psychopathy related to impulse control – impulsiveness, excitement seeking, and facets from Conscientiousness. Still other researchers have focused on deficits in empathic responding as a core deficit of psychopathy (Blair, 2001). These deficits in empathy would seem to align fairly straightforwardly with low Agreeableness.

## Conclusion

Not only is there a tremendous research base supporting the FFM, but there is also a tremendous research base emanating from it. Understanding psychopathy from this framework allows this massive body of basic research to be brought to bear on psychopathy to inform assessment, etiology, course, and treatment. Multiple researchers are studying the development and continuity of FFM traits over time (e.g., Caspi et al., 2005; De Clercq & De Fruyt, 2012). Other researchers study the processes underlying and outcomes attributable to specific domains within the FFM. Several researchers are studying the basic processes underlying Agreeableness (e.g., Meier et al., 2006; Graziano & Tobin, 2002) and Conscientiousness (e.g., Roberts et al., 2005). Others are examining negative affective traits, including anxiety, depression, and shame or guilt, and how these emotions relate to behavior (e.g., Beer, Heerey, Keltner, Scabini, & Knight, 2003). To the extent that psychopathy can be connected to this vast literature, this empirical literature can be leveraged to increase our understanding of psychopathy.

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