VALIDATION OF SUBCLINICAL PSYCHOPATHY

VIA PEER RATINGS AND CONCRETE BEHAVIOR

by

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ABSTRACT

Clinical psychopathy is characterized by cold affect, interpersonal manipulation, antisocial behavior, and impulsive thrill seeking. Recently, a similar but less extreme form of clinical psychopathy in 'normal' populations has been proposed -- 'subclinical psychopathy.' Although initial work has provided some understanding of subclinical psychopathy, the construct has not been fully validated. To this end, two studies were conducted to further validate the subclinical psychopathy using peer-ratings and concrete behavior as criteria. Study 1 examined whether knowledgeable raters could identify subclinical psychopaths and distinguish them from other dark personalities. Results indicated that subclinical psychopathy emerged as a distinct construct. That is, individuals who scored high on a self-report measure of subclinical psychopathy are rated similarly by those who know them well. To bolster previous research using self-report measures, Study 2 used a concrete measure of misbehavior, namely, exam cheating. Results indicated that self-report subclinical psychopathy was a strong independent predictor of cheating independent of cognitive ability and other personality measures. Taken together, these findings suggest that subclinical psychopathy is a valid and viable construct.

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INTRODUCTION

Although psychopathy has been researched in clinical and forensic psychology for decades, comparatively less research has been conducted into a less extreme manifestation of psychopathy in 'normal' populations – 'subclinical' psychopathy. This discrepancy is particularly odd given that early theorizing about psychopathy included many examples from normal populations such as doctors, lawyers, and psychiatrists (Cleckley, 1941/1982). Recent calls have been made to further understand the 'psychopaths among us' (Brinkley, Schmitt, Smith, & Newman, 2001; Hare, 2003b; Kirkman, 2002). Before discussing subclinical psychopathy in more detail, I will first discuss its conceptual and empirical antecedents

Clinical psychopathy[1]

Cleckley. Most influential of the early theorists, Hervey Cleckley (1941/1982) defined psychopathy as a distinct construct. In his influential book *The Mask of Sanity*, Cleckley proposed 16 characteristics that define psychopaths in terms of their "actions and apparent intentions" (1982, p. 204). These criteria included both desirable and undesirable characteristics. The desirable characteristics included charm, emotional stability, rational thinking, and a low likelihood of committing suicide. More numerous, the undesirable characteristics included unreliability, irresponsibility, lack of guilt, impulsivity, and 'irrational', antisocial behavior. As a clinician, Cleckley (1941/1982) never developed a measure of psychopathy: Nonetheless, his 16 criteria have since been used to develop psychometric instruments (e.g., Blackburn & Maybury, 1985; Hare, 1991).

Antisocial personality disorder. Around the same time as Cleckley's book was published, related conceptions were being formed. Most important of these was the classification of 'antisocial personality disorder (APD),' a disorder that has appeared in various forms in the various editions of the American Psychiatric Association's . Diagnostic and Statistical Manual (DSM; e.g., DSM-III; APA, 1980). APD is diagnosed by interview and criteria include a repeated pattern of illegal behaviors, lying (often for personal gain), impulsivity, and a disregard for the safety of others, all since the age of 15 (DSM-IV; APA, 1994).

Although the current conception of APD bears some relationship to clinical psychopathy -- both conceptually (Lyon & Ogloff, 2000) and empirically (e.g., Skilling, Harris, Rice, & Quinsey, 2002) -- the two conceptions are distinct (Steuerwald & Kosson, 2000). Hare (2003b) notes that the key difference between APD and clinical psychopathy is the absence of a personality component in APD. This distinction is especially noteworthy given the DSM-IV's tendency to conflate the two diagnoses (Hare, 1996, 2003b). Alternative explanations, such as APD being a 'male-typed' version of clinical psychopathy, have not been supported (Cale & Lilienfeld, 2002).

Psychopathic deviate. The first measure of psychopathy developed in clinical populations was the psychopathic deviate (Pd) scale of the Minnesota Multiphasic Personality Inventory (MMPI; McKinley & Hathaway, 1944). The 50 items on the Pd scale were empirically derived based on responses from a group of young offenders (aged 17 to 22 years) who had a history of delinquency (Greene, 1980). Pd includes items tapping boredom susceptibility, social alienation, complaints about authority figures, and arrogance (Greene, 1980; p.85). Validation by McKinley and Hathaway (1944) revealed

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[1] I will use the term clinical psychopathy to refer to psychopathy in both clinical and forensic populations.

that the Pd scale was able to identify about half of those already diagnosed as clinical psychopaths.

Pd was both traditional and novel. Pd carried on the traditional conception of psychopathy formulated by Cleckley (1941/1982) by conceiving of clinical psychopaths as impulsive and with a tendency to engage in antisocial behavior. However, Pd deviated from Cleckley's model in its conception of clinical psychopaths as neurotic, shy, and hypersensitive (Greene, 1980; Lilienfeld, 1999).

To the extent that the Pd is associated with clinical indicators, it has been found to be more strongly associated with the behavioral than personality aspects (Lilienfeld, 2000; Steuerwald & Kosson, 2000)[2]. The Pd scale is currently viewed somewhat like APD in that neither is useful in understanding clinical psychopathy.

Hare and the PCL-R. Aside from Cleckley's (1941/1982) initial work, the most influential model of clinical psychopathy has been that of Robert Hare. Mapping largely onto Cleckley's criteria, Hare's original model (1991) proposed a two-factor structure of clinical psychopathy. The first was a *personality factor* consisting of lack of guilt and the exploitation of others. The second was a *behavioral factor* representing social deviance (Harpur, Hare, & Hakstian, 1989). Hare's most recent model of clinical psychopathy (2003b) is a two-factor, four-facet model. In this model, the personality factor breaks down into *interpersonal* (e.g., charming, lying) and *affective* facets (e.g., shallow affect, lack of empathy). Similarly, the behavioral factor breaks down into *parasitic lifestyle* (e.g., impulsivity, irresponsibility) and *antisocial behavior* facets (e.g., frequency and diversity of antisocial behavior). This combination of callous emotionality and deviant

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[2] Similar results have been obtained in subclinical populations (Forth, Brown, Hart, & Hare, 1996).

behavior has been argued to be particularly dangerous (e.g., Andershed, Gustafson, Kerr, & Stattin, 2002).

Although the factor structure has changed somewhat over time, the measure used to assess clinical psychopathy – the Psychopathy Checklist-Revised (PCL-R) – has remained stable (Hare, 1991, 2003b). The PCL-R is conducted as a semi-structured interview with additional information provided by case history files. Trained raters evaluate the target on such items as charm, lying, callousness, impulsivity, irresponsibility, promiscuity, and diversity of offences committed. Individuals are classified as psychopaths if they score at least 30 on the 40 PCL-R items.

Empirically, the PCL-R has received a great deal of support and has become the 'gold standard' of clinical psychopathy assessment (Cooke & Michie, 2001). The affective component of clinical psychopathy has been validated using various neurophysiological (e.g., Blair, 2003; Kiehl, Smith, Hare, Mendrek, Forster, Brink, & Liddle, 2001) and interpersonal measures (Kosson, Gacono, & Bodholdt, 2000). The PCL-R has also been mapped onto the Five-Factor Model (FFM; Costa & McCrae, 1992) of personality. High scores on the PCL-R correlated with disagreeableness (.47) and low conscientiousness (-.12; Harpur, Hart, & Hare, 2002).[3]

PCL-R scores have also proven particularly valuable in predicting antisocial behavior (Hart & Hare, 1997). For example, PCL-R scores have shown consistently strong associations with recidivism (e.g., Hemphill, Hare, & Wong, 1998), substance use (e.g., Hemphill, Hart, & Hare, 1994), violence (e.g., Heilbrun, Hart, Hare, Gustafson,

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[3] PCL-R scores also correlated at .14 with Neuroticism, suggesting a role of anxiety in psychopathy. As the authors note, the role of anxiety in psychopathy is unclear (see Hare, 2003b). The correlation with overall neuroticism was attributable to a correlation with the Neuroticism facets of impulsiveness (.33) and

Nunez, & White, 1998; Serin, 1991), and number of offenses committed (Hart & Hare, 1997). In short, the PCL-R has been useful in clarifying the nature of clinical psychopathy.

Summary. A great deal of conceptual and empirical work has been conducted on psychopathy in clinical and forensic populations, guided largely by Cleckley's (1941/1982) original conception of the construct. At present, the most widely accepted model of psychopathy is Hare's, as assessed by measures like the PCL-R.

'Subclinical' psychopathy

Although Cleckley's (1941/1982) work is cited as the basis of clinical psychopathy, as noted earlier, many of the examples he cited were highly functioning individuals. To the extent that psychopathy is relevant to such successful individuals, this construct may have to be broadened to include individuals who are not incarcerated or under the care of a clinician. One way would be to conceive of psychopathy as a distinctive category of successful individuals with malevolent tendencies (Harris, Rice, & Quinsey, 1994). Although showing similar characteristics to clinical psychopaths, these individuals manage to get through everyday life. Their methods of attaining success may differ dramatically from accepted strategies but, one way or the other, they are still able to achieve socially desirable outcomes.

An alternative view is that the variable is continuous with degrees of psychopathy varying in a normal distribution (Costa & Widiger, 2002; Gustafson & Ritzer, 1995; Smith, 1978). That is, there may be no definitive threshold separating psychopaths from non-psychopaths. Instead, individuals can possess levels of psychopathic traits ranging all

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hostility (.41). That is, the anxiety facet of psychopathy suggested by a correlation with neuroticism is somewhat misleading.

the way from minimal to clinical levels. According to this notion, most people possess moderate degrees of psychopathy.

To date, several research programs have been pursued to measure and understand subclinical psychopathy. We will address the six most important in detail.

Eysenck: Psychoticism. Eysenck's model of personality produced the first questionnaire measure related to subclinical psychopathy. Eysenck's model included a factor termed Psychoticism, measured by the P-scale on the Eysenck Personality Questionnaire (Eysenck & Eysenck, 1975). Despite the label, Eysenck (1992) conceived the dimension as a higher-order factor made up of such traits as aggressiveness, coldness, impulsivity, and antisociality. However, traits that have no a priori association with subclinical psychopathy, such as creativity, were also argued to be part of psychoticism.

Studies using the P-scale have suggested that it measures the behavioral aspects of subclinical psychopathy better than the personality aspects. Individuals high on the P-scale are highly likely to engage in frequent and diverse criminal behaviors (Mak, Heaven, & Rummery, 2003). Deary and colleagues (Deary, Peter, Austin, & Gibson, 1998) found that P-scale scores correlated with (what they called) an "antisocial" factor of personality disorders that included poor behavioral controls. Others have replicated these results and shown that P-scale scores were not associated with the affective traits of subclinical psychopathy such as callousness. Larstone, Jang, Livesley, Vernon, & Wolf, 2002; see also Jang, Livesley, & Vernon, 1998; Mulder & Joyce, 1997). Similar results have been obtained in clinical samples (Hare, 1982; Harpur et al., 1989; Harpur et al., 2002). In short, the P-scale cannot be considered an sufficient measure of subclinical psychopathy – at least not the full conception laid out by Hare (2003b).

Widom's study. Widom (1977) was among the first to show that the pattern of correlates observed for clinical psychopathy could be demonstrated in a subclinical population. Participants were recruited through newspaper advertisements that called for "impulsive, carefree, and adventurous men". Widom found that participants were high in subclinical psychopathy based on high Pd scores and Robins' (1966) criteria for sociopathy such as poor work history, excessive drug use, and use of aliases. Participants were also found to be low in empathy and socialization. In addition, most of the sample had criminal records.

Although Widom's (1977) study was helpful in bringing clinical psychopathy into the subclinical domain, it is flawed in several areas. As discussed above, Pd is a dubious measure of clinical psychopathy, let alone subclinical psychopathy. That is, calling individuals with high Pd scores 'subclinical psychopaths' is questionable. In addition, Forth et al. (1996) have criticized the criteria used to define subclinical psychopathy. They argue that, like the P-scale, the criteria used were dominated by the behavioral aspects of subclinical psychopathy to the detriment of the personality aspects.

Hare's model and the SRP. Although designed for use in clinical populations, the PCL-R has been used to study psychopathy in normal populations.[4] PCL-R scores mapped onto the FFM in a highly similar manner to a clinical sample in a student population – for example, the usual strong correlations between PCL-R scores and disagreeableness (.26) and low conscientiousness (.38; Harpur et al., 2002). Forth and colleagues (1996) found that PCL-R:SV scores were highly predictive of reports of frequency and diversity of violent and nonviolent antisocial behavior, as well as

substance abuse (see also Belmore & Quinsey, 1994). Although measures like the PCL-R and PCL-R:SV have proven useful in assessing psychopathy in normal populations, they have been criticized for being impractical for that purpose (e.g., Brinkley et al., 2001; Lilienfeld & Andrews, 1996; Pethman & Erlandsson, 2002). Recall that PCL-R scores require trained raters and file information in a one-on-one interview.

To address this criticism, Hare (1985) has developed a self-report scale measuring subclinical psychopathy, the Self-Report Psychopathy scale (SRP). Unlike the PCL-R, the SRP has no cutoff score, treating subclinical psychopathy as a continuous variable. Psychometrically, the SRP appears to be a sound measure: Scores show good reliability (alpha = .74; Paulhus & Williams, 2002) and were found to correlate highly (.55, .62) with PCL-R:SV scores (Forth et al., 1996). Zagon and Jackson (1994) found that the SRP has similar correlates to the PCL-R, given that SRP scores were associated with low empathy, low anxiety, and greater levels of lying behavior. In addition, the SRP has exhibited discriminant validity from measures of various theoretically unrelated psychological disorders such as paranoia and obsessive-compulsive disorder (Lilienfeld & Andrews, 1996; Salekin, Trobst, & Krioukova, 2001).

The SRP has also proven useful in distinguishing subclinical psychopathy from other 'dark' personalities. Several researchers have argued that subclinical psychopathy is equivalent to other antisocial personalities such as Machiavellianism (McHoskey, Worzel, & Szyarto, 1998) and narcissism (Gustafson & Ritzer, 1995; Pethman & Erlandsson, 2002) in normal populations. These three constructs, collectively referred to as the 'Dark Triad', are intercorrelated due in part to common underlying features such as

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[4] The PCL-R is usually modified to be used in subclinical populations. For example, Belmore and Quinsey (1994) used only eight questions from the PCL-R in their assessment of psychopathy. These eight items

disagreeableness (Paulhus & Williams, 2002). However, research using the SRP has

indicated the Dark Triad are not equivalent in normal populations. Williams and

colleagues (Williams et al., 2001) found that SRP scores were the strongest and most

consistent predictor of reports of diversity of antisocial behavior (e.g., drug use, anti-

authority, violent crime) and overall antisocial behavior. Nathanson et al. (2003)

replicated these results and found that SRP scores predicted reported number of

'appearance anomalies' (e.g., tattoos, piercings, dyed hair). In sum, the SRP has proven

to be a useful instrument to assess subclinical psychopathy.[5]

Levenson's model and the Self-Report Psychopathy scale (LSRP). A competing

model to Hare's (1985) is that of Levenson, Kiehl, and Fitzpatrick (1995). In contrast to

Hare's model, which is based on Cleckley's (1941/1982) criteria, Levenson's model is

based on the work of Karpman (1948). The latter argued for two types of clinical

psychopaths: (1) primary psychopaths, described as callous, manipulative, and selfish, vs.

(2) secondary psychopaths, described as extremely impulsive due to severe neuroticism.

In short, the difference is the presence of trait anxiety in secondary psychopaths. This

conception of subclinical psychopathy led to the development of the LSRP.

The LSRP yields scores for primary and secondary psychopathy and a total score

(Lynam, Whiteside, & Jones, 1999). Both primary and secondary subclinical

psychopathy correlate with harm avoidance, disinhibition, and susceptibility to boredom

(Levenson et al., 1995). Only secondary psychopathy correlates with anxiety (Lynam et

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included proneness to boredom, callousness, early behavior problems, and impulsiveness.

[5] Recently, Hare and Babiak (Babiak, 2000; Hare, 1993, 2003a, b) have argued that subclinical psychopaths are particularly successful in industrial settings. These individuals have been characterized as 'white-collar psychopaths' (Hare, 2003b) who are 'without conscience' (Hare, 1993). Babiak (2000) tracked the progress of several individuals in a business setting in relation to their PCL-R scores. Babiak's observations of these individuals led him to propose a complex model by which psychopaths achieve success in organizations:

al., 1999; Levenson et al., 1995; see also Brinkley et al., 2001, for similar results in clinical samples.)

The LSRP is limited in several respects. Some of the items on the LSRP are problematic and require further investigation (Lynam et al., 1999). More important, although Levenson et al.'s (1995) claim that their factors of psychopathy map onto those of Hare (1991), this claim has not been supported empirically (Williams, Nathanson, & Paulhus, 2003). When results from the LSRP are compared to those with the SRP, it appears that the two scales are not measuring precisely the same construct. For example, although the SRP is positively correlated with Extraversion and Openness and negatively correlated with Neuroticism (Paulhus & Williams, 2002), the LSRP shows the opposite results (Lynam et al., 1999). Similarly, Lynam et al. report that SRP scores are more strongly correlated with primary psychopathy than secondary psychopathy.

Furthermore, the concept of the 'anxious psychopath' has recently come under question (Hare, 2003b). It is debatable whether the notion of psychopathy could reasonably include a high anxiety component. Given the importance of trait anxiety in Levenson's (1995) typology, the viability of secondary psychopathy as a meaningful construct is also debatable. It seems more likely that secondary psychopathy more closely resembles 'normal' criminals, in that although they engage in misbehavior, they subsequently experience guilt.

In sum, the LSRP appears to be a flawed measure, both empirically and conceptually. Because of these flaws, we have chosen not to use the LSRP as a measure of subclinical psychopathy.

Charm to gain entry, assess the power structure, manipulate, resolve confrontation, and, finally, ascend to power. Although this model is intriguing, it is based on only a few case studies.

Lilienfeld's Psychopathic Personality Inventory (PPI). The latest attempt to measure subclinical psychopathy has been that of Lilienfeld and Andrews (1996). The authors targeted a wide variety of constructs in the development of the PPI, including charm, Machiavellianism, fearlessness, inability to form close attachments, low ambition, and failure to delay gratification. After several rounds of testing, 187 items were chosen for the PPI. Scores on the PPI were found to be highly reliable (alphas ranged from .90 to .93). Factor analysis of the PPI suggested eight factors: Machiavellian Egocentricity, Social Potency, Coldheartedness, Carefree Nonplanfulness, Fearlessness, Blame Externalization, Impulsive Nonconformity, and Stress Immunity.

Research with the PPI total score suggests it is a valid index of subclinical psychopathy. Research comparing the PPI to the SRP suggests a high degree of convergent validity.[6] Lilienfeld and Andrews (1996) found that scores on the PPI correlated very highly with SRP scores (see also Cale & Lilienfeld, 2002). The PPI has also been shown to predict similar behaviors to the SRP, such as reports of substance abuse and antisocial / illegal behaviors (Hartzler & Fromme, 2003; Lilienfeld & Andrews, 1996). Finally, like the SRP, the PPI showed similar discriminant validity from measures of several unrelated psychological disorders (Lilienfeld & Andrews, 1996; Salekin et al., 2001). In sum, research involving the PPI suggests that it is a valid measure of subclinical psychopathy.

Lynam's 'successful' psychopaths. Lynam (2002; see also Lynam, Whiteside, & Jones, 1999) uses the term *successful psychopathy* to refer to "individuals who possess

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[6] PPI scores have also shown good convergent validity with PCL-R scores (e.g., Poythress, Edens, & Lilienfeld, 1998; Sandoval, Hancock, Poythress, Edens, & Lilienfeld, 2000). Unlike many other psychopathy measures, PPI scores have shown a strong correlation with the personality factor of the PCL-R (.40; Poythress et al., 1998).

the core personality traits of psychopathy but are not criminals" (p. 342). Lynam goes on to argue that, defined strictly, such individuals do not exist. That is, to be completely successful individuals could not have engaged in serious misbehavior.

To us, it seems that Lynam has set up a "straw man" argument. It seems unlikely that individuals with psychopathic traits have never misbehaved. Other researchers have argued that individuals belonging to high achievement groups, such as university students, are inherently successful. This is the same argument made by researchers who study subclinical psychopathy. Research with subclinical psychopaths has found high levels of reported misbehavior (Harpur et al., 2002; Williams, McAndrew, Learn, Harms, & Paulhus, 2001; Nathanson, Williams, & Paulhus, 2003).

In sum, the definition of the 'successful' psychopath by Lynam (2002) does not advance our understanding of milder versions of psychopathy. Accordingly, we have avoided confusion over this issue by adhering to the term subclinical psychopathy.

Summary. Researchers have begun migrating clinical psychopathy into the subclinical domain. However, many of these attempts have been only partially successful. Taken together, the extant research suggests that subclinical psychopathy is best measured by the SRP and the PPI. However, the SRP is a somewhat better measure given its logical conceptual structure. Studies with these measures suggest that subclinical psychopathy shares many features with its clinical counterpart such as similar placement in the interpersonal circumplex and a positive association with misbehavior. These studies have provided partial validation of subclinical psychopathy

The present research. However, further validation of subclinical psychopathy is required. Previous findings are somewhat limited due to the heavy reliance on self-report

criterion measures. To properly validate subclinical psychopathy, additional studies using more credible methodologies are required. Study 1 examined whether knowledgeable raters could identify subclinical psychopaths and distinguish them from other dark personalities. Study 2 used a concrete measure of misbehavior, namely, exam cheating, to demonstrate a real world example of the malevolent tendencies of subclinical psychopaths.

Study 1: Validation by Peer Ratings

Peer ratings are used widely in personality psychology for construct validation (Funder, 2000). These ratings are considered superior to self-ratings given that "they combine an external perspective with information aggregated over many occasions" (McCrae, Yik, Trapnell, Bond, & Paulhus, 1998, p. 1050). Peer ratings of personality are generally show consensus between raters (Funder, 2000; Kolar, Funder, & Colvin, 1996) and between raters and targets (McCrae, 1982). Peer ratings have also been validated in studies across different ethnicities (e.g., McCrae et al., 1998; Yik, Bond, & Paulhus, 1998).

Although subclinical psychopathy is particularly apparent in interactions with others (Kosson, Steuerwald, Forth, & Kirkhart, 1997) and has fundamental interpersonal components (e.g., Cleckley, 1941/1982; Hare, 1991), research investigating the interpersonal characteristics of subclinical psychopaths has received limited attention (Kosson et al., 2000). Research involving subclinical populations, both in isolation (Forth et al., 1996; Salekin et al., 2001) and in comparison with forensic samples (Hart & Hare, 1994; Kosson et al., 1997), has yielded generally consistent findings. When mapped onto the interpersonal circumplex of dominance-submissiveness and hostility-warmth (Leary,

1957), ratings tended to cluster in the hostility-dominance quadrant (see also Blackburn & Maybury, 1985; Harpur et al., 2002; Salekin, Trobst, & Krioukova, 2001). Similar results have been obtained when looking at ratings on the Big Five. Consistent with self-report results (Paulhus & Williams, 2002), psychopaths have also been rated as low in neuroticism and conscientiousness (Forth et al., 1996; Harpur et al., 2002; Hart & Hare, 1994; Lynam, 2002).

Perhaps the most direct precursor to the current study is that by Lilienfeld and Andrews (1996), as part of their validation of the PPI. Participants were asked to nominate knowledgeable raters that had known them for at least six months. Raters were asked to complete several questionnaires relating to targets' affectivity, personality, alcohol use, as well as Cleckley's (1941/1982) 16 criteria. Lilienfeld and Andrews found that high scorers on the PPI were rated as high on Cleckley's criteria and ratings of negative affectivity, aggression, and impulsivity. In short, Lilienfeld and Andrews demonstrated that knowledgeable raters are able to detect psychopathic traits in others.

Discriminant validity. As noted earlier, subclinical psychopathy shows much in common with a number of other dark personalities. Narcissists are characterized by self-centeredness, arrogance, bragging, and a derogatory, critical, and rude attitude towards others (Baumeister & Twenge, 2003; Baumeister, Campbell, Krueger, & Vohs, 2003; Bushman, Bonnaci, van Dijk, & Baumeister, 2003; Campbell, 1999; Campbell, Foster, & Finkel, 2002). Although initially well liked, probably due to their charm and confidence in social situations (Raskin & Terry, 1988), narcissists are gradually liked less (Paulhus, 1998). Machs are characterized by a distrustful and cynical view of others (Christie & Geis, 1970; Fehr, Samsom, & Paulhus, 1992; McHoskey, 1995, 2001a, 2001b;

McHoskey, Worzel, & Szyarto, 1998). Behaviorally, Machs are typified by lying about (Cherulnik, Way, Ames, and Hutto, 1981; Falbo, 1977; Geis & Moon, 1981) and successfully manipulating others (Christie & Geis, 1970; Fehr et al., 1992; Gunnthorsdottir, McCabe, & Smith, 2002), the latter often accomplished by flattery and deceit.

In short, there is much overlap between the construct of interest – subclinical psychopathy – and two other dark personalities, narcissism and Machiavellianism. Therefore any study of the former must address this issue of overlapping constructs.

The present study. Lilienfeld and Andrews' (1996) study suggested that knowledgeable raters are able to detect traits associated with subclinical psychopathy in others. However, that research did not examine this construct independently of other dark constructs. Ratings of subclinical psychopathy must demonstrate discriminant validity to be accepted as unique to this construct. The negative perceptions of subclinical psychopaths may simply be indicative of their general interpersonal aversiveness (Kosson et al., 2000) or disagreeableness. Study 1 addressed this issue by asking participants to rate targets on narcissism, Machiavellianism, and subclinical psychopathy and correlated these ratings with standard self-report measures of these constructs.

Method

Participants

Participants were 99 undergraduates (74% female, 26% male) at a large Canadian university. Fifty-five percent of participants were of European heritage and 24% were East Asian. All participants received course credit for participation.

Materials

Narcissism. Narcissism was assessed by the Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979). The NPI is a well established (e.g., Raskin & Terry, 1988) 40-item questionnaire. Using a forced-choice format, participants are asked to choose between two options for each item, one of which indicates narcissism. For example, in the item "I will be a success" or "I am not too concerned about success," the first option is the 'narcissistic' option.

Machiavellianism. Machiavellianism was assessed by the Mach-IV scale (Christie & Geis, 1970). The Mach-IV is a standard measure of Machiavellianism and uses a 5-point Likert scale format (1 = 'Strongly disagree'; 5 = 'Strongly agree'). The 20 items of the Mach-IV tap the manipulativeness and cynicism of Machiavellians. Items include such statements as "It is wise to flatter important people," and "It is hard to get ahead without cutting corners here or there."

Subclinical psychopathy. Subclinical psychopathy was assessed using two measures: The 40-item SRP (Paulhus, Hemphill, & Hare, in press) and the PPI. Items on both measures require participants to indicate their agreement using a 5-point Likert scale (1 = 'Strongly disagree'; 5 = 'Strongly agree'). On the latter measure, the items are composed of the seven highest loading items from each of the eight PPI factors.

Sample SRP items are "I enjoy drinking and doing wild things" and "I get a kick out of conning people." Sample PPI items are "I generally prefer to act first and think later" and "I tell many 'white lies.'"

Peer-rating measure. Rating items for subclinical psychopathy, narcissism, and Machiavellianism were drawn from a pool of 15 items for each construct (45 items total) created after a discussion with experts. Items were designed to be concise and easy to

understand. For each construct, five items that were thought to best capture the key features of that construct were selected (15 items total). Subclinical psychopathy items included "Always follows the rules" and "Is impulsive, risk-taking." Narcissism items included "Is modest" and "Likes to brag." Machiavellianism items included "Is loyal to their friends" and "Manipulates people to get what they want." Raters were asked to indicate the extent to which each statement was true of the target using a 5-point Likert scale (1 = 'Totally untrue' to 5 = 'Totally true').

As the sample items indicate, several items for each construct were worded in the opposite direction. The decision to include item reversals was made for two reasons. First, the inclusion of item reversals is meant to reduce acquiescence biases in responding (Nunnally & Bernstein, 1994). Second, including negative items is highly recommended when examining convergent and divergent validity of constructs (e.g., Campbell & Fiske, 1959; Nunnally & Bernstein, 1994; Samuelstuen, 2003).

Procedure

The data for this study were collected in three stages. First, psychopathy scores were collected as part of a take-home package that was billed as a study of 'personality and background factors.' Packages were distributed to participants after class and they were told to return it to class at a later date. The package also included a number of demographic questions (e.g., sex, ethnicity, university major) as well as student I. D. and birth date. Based on the information provided, we compiled a list of names and corresponding birth-dates that we would use to link the data collected in the first two stages.

This package also included a 'Contact Information' sheet, which asked participants to indicate at least two individuals that we could contact "for an outsider's perspective on your personality." Participants were asked to provide the name, e-mail address, and telephone number of each contact. Finally, participants were assured that the raters would not be asked for any embarrassing or sensitive information. Participants provided 319 contacts in total. Participants were debriefed en masse upon completion of this data collection.

The second stage was another questionnaire administration: The package included measures of narcissism and Machiavellianism. Billed as a study of 'personality and entertainment,' participants were again asked to complete the package at home. To encourage honest responding, we instructed participants to not indicate their student I. D. or names anywhere on the package or envelope. Instead, we asked for birth-dates.

At stage three, all raters were sent a form e-mail that contained the rating measure and several additional questions. To encourage responding, the e-mail message was designed to include both the rater's name and the target's name. Raters were completely blind to both the purpose of the experiment and targets' scores on the self-report measures.

The instructions to raters were as follows:

Dear (rater's name):
Your name has been offered by (target's name) as someone who knows something about their personality. If you help us out with a few ratings, then we will put your name in a lottery with five $50.00 prizes. These ratings will take no more than 5 minutes to complete.

To encourage forthrightness, raters were promised complete confidentiality, asked to make their ratings privately, and to not reveal them to the target. Raters could, however, give the target a general idea of their respective ratings at a later time.

The e-mail also included questions about the relationship between the target and the rater. Raters were asked to indicate for how long they have known the target and the nature of the relationship (e.g., friend, roommate, spouse). Rater sex and ethnicity were inferred from rater's name.

Raters were asked to press the "Reply" button in their e-mail program and type their answers directly into the e-mail immediately following each item. After responding to all items, raters were told to check over their answers and then press the "Send" button in their e-mail program. Finally, raters were thanked, informed that the winners of the lottery would be e-mailed, and informed of a future debriefing. Raters were later debriefed via e-mail.

Scoring the rating scales.

Each rating variable was the mean across items and raters. First, three scores for each rater were calculated by averaging the five items for each construct (i.e., perceived narcissism, perceived Machiavellianism, perceived psychopathy). These scores were then averaged across raters to obtain a single index of each rated construct for each participant.

Analyses included only ratings by friends or romantic partners, resulting in N = 86. Previous research has suggested that ratings by individuals with these sorts of relationships to the target are highly accurate, given their opportunity to observe the targets across multiple situations and contexts (Kolar et al., 1996).

Results

Descriptive statistics. Seven outliers were removed from the sample given that they had extreme rated composite scores, leaving N = 79. The proportion of sex and ethnicities changed very little after removing the outliers.

Means, standard deviations, alpha reliabilities, and inter-rater reliabilities for the measures used in Study 1 are found in Table 1.

Demographics of raters. Of the 319 raters contacted, 153 responded. There were 124 raters after controlling for outliers (roughly 1.5 raters per target). Forty raters were men, 81 were women; the sex was unclear for three others. Seventy-seven raters were European, 32 were East Asian, and we were unable to determine ethnicity from 15. Ninety-six raters indicated they were friends of the targets and 18 indicated they were romantic partners. Raters reported knowing the targets for an average of 72.48 months (i.e., slightly over 6 years).

Rating differences by demographics. We tested whether rated composite scores differed by rater sex and ethnicity, respectively. Similar analyses were performed for targets. Subclinical psychopathy ratings did not differ between male raters (mean = 2.00) and female raters (mean = 2.08). That is, when compared across sex of rater, there were no differences in subclinical psychopathy scores assigned to targets. However, when compared across sex of target, subclinical psychopathy ratings were higher for male targets (mean = 2.24) than female targets (mean = 1.99), $t = 2.81$, $p < .01$, two-tailed.

East Asian raters gave lower psychopathy ratings (mean = 1.93) gave than did European raters (mean = 2.14). Similarly, subclinical psychopathy ratings were lower for East Asian targets (mean = 2.13) than European targets (mean = 1.89).

Intercorrelations among rated constructs. The results of Study 1 are found in Table 2. The three rated constructs intercorrelated moderately with an average of .50. These values are notably higher than the intercorrelations among the corresponding self-report measures (mean = .29).

Correlations between self-report and rating measures. Results in Table 2 suggest both convergent and discriminant validity of rated subclinical psychopathy. Rated psychopathy correlated most strongly with the SRP ($r = .38$), providing evidence for convergent validity. Rated psychopathy did not correlate significantly with either self-report Machiavellianism ($r = .17$, n.s.) or narcissism ($r = .19$, n.s.), providing evidence for discriminant validity.

To a lesser extent, the results also support the convergent and discriminant validity of self-report subclinical psychopathy. The strong correlation between the SRP and rated psychopathy ($r = .38$) also provides evidence for the convergent validity of this self-report measure. Similar results were found for the PPI given a correlation with rated psychopathy of $r = .27$. The SRP also showed a significant correlation with rated Machiavellianism ($r = .26$, $p < .05$) but a non-significant correlation with rated narcissism ($r = .12$, n.s.). However, the discriminant validity of the PPI was not as good as that of the SRP, given a stronger correlation between the PPI and rated narcissism ($r = .30$) than that with rated psychopathy.

To examine the possible sex differences, we calculated the 12 cross correlations of the self-report and peer-rating measures separately for males and females. The corresponding values were then tested for significance using the test for differences

among independent correlation coefficients (Glass & Hopkins, 1984, pp. 307-309). None reached significance at $p < .05$.

Disattenuated results. As indicated in Table 1, the reliabilities of the rated constructs were somewhat low. These low reliabilities may have attenuated the tabled values, such that an off-diagonal correlation (i.e., the values indicating discriminant validity) may, in fact, become larger than the convergent validity values. To address this issue, the correlations between the self-report and peer-rating measures were disattenuated (Ghiselli, Campbell, & Zedek, 1981). These correlations are reported in Table 3. After disattenuating the original correlations, the pattern of results indicated in Table 2 remained, suggesting that the original findings were not significantly attenuated.

Discussion

The results of Study 1 provide further evidence that subclinical psychopathy is a valid construct. First, self-report subclinical psychopathy was detectable by knowledgeable others. These findings replicate previous research (Kosson et al., 1997; Lilienfeld & Andrews, 1996) and provide evidence of convergent validity. Put differently, these results suggest that subclinical psychopaths' image of themselves is accordant with the image others have of them. Individuals who see themselves as impulsive thrill-seekers who engage in antisocial behavior and show little concern for other people's feelings are seen that way by those who know them.

Second, raters were able to distinguish traits associated with subclinical psychopathy from those associated with narcissism and Machiavellianism. These findings expand previous research and provide evidence of discriminant validity.

Sex differences. Our results indicated that male targets were rated as more psychopathic than female targets. These results are in line with previous findings that indicate that males tend to be higher in subclinical psychopathy than females (e.g., Forth et al., 1996; Cale & Lilienfeld, 2002; Zagon & Jackson, 1994). However, the pattern of correlations between self-report and peer-rating measures were not significantly different. This finding is important and implies that the notion of individual differences in psychopathy applies equally well to females as to males.

Ethnic differences. Although clinical psychopathy has been compared across cultures (e.g., Cooke & Michie, 2001; see Hare, 2003b for a review), differences between Europeans and East Asians have not been extensively explored. In the present study, East Asians were generally rated lower on psychopathy than Europeans. However, East Asian raters also gave lower psychopathy ratings than European raters. This similarity suggested that the differences in target ratings might simply be a by-product of different rating tendencies of East Asians and Europeans. Further examination confirmed our suspicion that our raters were rating individuals of comparable heritage. That is, target ratings are confounded by rater ethnicity and we cannot tell which is the determining factor.

Examination of a more elaborate series of studies by McCrae and colleagues (1998) may provide some clarification. They found that -- even after controlling rating styles -- East Asians scored low on agentic traits. Recall subclinical psychopathy's placement in the interpersonal circumplex (Leary, 1957) as strongly agentic. It seems likely, then, that the observed difference between East Asians represents genuine trait

differences in subclinical psychopathy. Future studies will need to include cross-ethnicity ratings to confirm the validity of these differences.

How did subclinical psychopaths get others to rate them? These findings suggest the somewhat paradoxical finding that the friends and romantic partners of subclinical psychopaths find them to be interpersonally aversive. Of course, these findings beg the question of why the raters maintained and continue to maintain their relationships with the targets for so long. In line with Campbell et al.'s (2002) findings for narcissists and in line with the similarity-attraction hypothesis (Byrne, 1971), subclinical psychopaths may associate with other subclinical psychopaths. An alternative explanation is that subclinical psychopaths may actively seek out a certain type of individual as friends and romantic partners. In particular, subclinical psychopaths may seek out those 'victim' personalities or those who are attracted to their 'bad boy' image and lifestyle.

Summary. Study 1 indicates knowledgeable raters are able to detect and distinguish traits associated with subclinical psychopathy from those associated with other dark personalities. These results provide greater insight into and further validation of subclinical psychopathy. An additional method of validating subclinical psychopathy is to use a behavioral criterion. Study 2 addressed the association between subclinical psychopathy and a concrete measure of misbehavior.

Study 2: Concrete Misbehavior

The link between clinical psychopathy and misbehavior has been well established in the forensic literature (e.g., Hare, 1998, 2003b; Hart & Hare, 1997; Hemphill, Hart, & Hare, 1994). In addition, subclinical psychopathy has been reliably demonstrated to be the strongest predictor of misbehavior when compared against competing variables such

as other dark personalities, disagreeableness, and appearance anomalies (Nathanson et al., 2003; Williams et al., 2001). However, these studies relied on self-report measures of misbehavior.

Study 2 aimed to bolster these findings by using a real-world concrete measure of misbehavior given its objectivity and greater credibility. Given that our sample was, again, university students, we thought that a misbehavior that was particularly relevant to this population was academic cheating.

However, previous research on the influence of subclinical psychopathy on cheating is very limited. The only known study of cheating to examine subclinical psychopathy and cheating was by Hetherington and Feldman (1964). Using numerous real-world indicators of academic cheating (e.g., multiple-choice copying, handing in test answers completed at home), the authors indicated that although psychopathy correlated positively with cheating, the correlation did not reach significance. Unfortunately, the value of this correlation was not reported.

As a rigorous test of the predictive power of subclinical psychopathy, we included other variables that have been identified as likely predictors of cheating (Cizek, 1999) and are therefore competitors to subclinical psychopathy. These included (1) demographic variables (sex, university major), (2) a wide variety of personality variables (self-oriented perfectionism, Big Five, narcissism, Machiavellianism), and (3) cognitive ability measures.

Method

Participants

Participants were 250 students enrolled in two second-year undergraduate classes at a large Canadian university. Sixty-two percent of participants were women. Fifty percent of students were East Asian and 29% percent of participants were European in heritage. Forty-seven percent of participants were enrolled in arts, 34% were enrolled in science, and the remainder came from other majors (e.g., business, nursing, pharmacy). All participants received course credit for participation.

Materials

The measures of Machiavellianism and narcissism, respectively, were identical to those used in Study 1. These measures were included, much like in Study 1, in order to determine the distinctiveness of subclinical psychopathy from the other dark personalities.

Subclinical psychopathy. Similar to Study 1, subclinical psychopathy was assessed by two measures: The 187-item PPI and the SRP. Both measures use a 5-point Likert scale (1 = 'Strongly diasgree', 5 = 'Strongly agree').

Big Five. Given that the "Big Five" are supposed to represent the basic factors of personality, we included a standard measure in this study. Of the Big Five, previous research in dishonesty suggested that individuals low in Conscientiousness would be likely to cheat (e.g., Emler, 1999; Hogan & Hogan, 1989).

The Big Five were assessed by the Big Five Inventory-44 (BFI-44; John & Srivastava, 1999). The BFI-44 is a 44-item questionnaire with a five-point Likert-scale (1 = 'Strongly disagree' to 5 = 'Strongly agree'). Participants are asked to indicate their degree of agreement with such items as "I see myself as someone who is talkative."

Self-oriented perfectionism. Self-oriented perfectionists are likely candidates for cheaters given that they may resort to extreme means to obtain perfect grades. Self-oriented perfectionism was assessed by the Multidimensional Perfectionism Scale (MPS; Hewitt, Flett, Turnbull-Donovan, & Mikail, 1991). The MPS is a 45-item measure, 15 of which correspond to self-oriented perfectionism, with a five-point Likert scale (1 = 'Strongly disagree' to 5 = 'Strongly agree'). Participants are asked to indicate their degree of agreement with such items as "When I am working on something, I cannot relax until it is perfect," and "I strive to be as perfect as I can be."

Cognitive ability measures. We were interested in whether subclinical psychopaths would cheat independently of any association with cognitive ability. Participants were administered one of two cognitive ability measures. The Wonderlic Personnel Test (Wonderlic, 1983) contains 50 items drawn from verbal, quantitative, and analytic content areas. Although participants are allowed a maximum of 12 min for completion, the Wonderlic behaves like a power test because items are presented in ascending order of difficulty. The reliability and validity of the Wonderlic have been well demonstrated in previous research (e.g., Dodrill, 1981; Geisinger, 2001; Paulhus, Lysy, & Yik, 1998; Schraw, 2001).

The Quick Word Test (QWT; Borgatta & Corsini, 1964) is a 100-item power vocabulary test. All target words on the QWT are five letters in length with four 4-letter alternatives each. The QWT shows strong convergent validity with other standard intelligence tests such as the WAIS (Bass, 1974; Glynn, Okun, Muth, & Britton, 1983).

The Wonderlic was scored by computing separate scores for verbal ability and non-verbal (i.e., quantitative, analytic) ability. Due to time constraints not all of our

participants were able to complete the QWT. For this reason, we calculated scores on the QWT as the ratio of correct answers to questions attempted.

Cheating detection program. To detect cheating, we used a computer program developed by Wesolowsky (2000) called SCheck. This program was chosen for two reasons: (1) it is methodologically sophisticated, and (2) it minimizes false positives. The program prints out a list of potential cheating pairs, based on a variety of answer similarity indexes. To verify whether the pairs of students could feasibly have cheated, this output can be compared against a seating chart collected for the given exam. This verification process is critical given that the program has no information about the seating arrangement of the students during a given exam.

Procedure

Early in the course, the instructors requested biographical information including students' major, gender, and ethnic background. At that time, students were notified that the instructor would be watching for cheating on the exams. The university IRB agreed that this warning provided a sufficient tradeoff of ethical concerns with methodological rigor and the potential value of the research to the university.

Exam administrations. The midterm, given roughly at the halfway point of the course, was comprised exclusively of 40 multiple-choice questions and students were allowed 50 minutes to complete the midterm. There were three invigilators present during the midterm. The final exam was comprised exclusively of 80 multiple-choice questions and there were five invigilators present. Students were given 90 minutes to complete the final exam. Overall grade was the average of the two course exams.

Detailed seating charts were collected for the midterm and final exam. The midterm exam was administered in the lecture hall in which the class took place. The room had three 'blocks' of seats – one large block in the center of the hall with two adjacent smaller blocks – each separated by an aisle of stairs. All exams were numbered and distributed in a systematic fashion, with a different numbering system for each seating block. That is, exams were distributed such that invigilators needed only to check the numbers of the exams on the aisle seats to determine the row and block of a given exam. During the exam, the invigilators approached the students in the aisle seats to check the exam number. A seating chart was constructed by mapping the numbers onto a diagram of the hall layout.

The final exam was administered in a large gymnasium with 23 rows and 13 columns, the latter separated in the middle by a column with no desks or chairs. Instead of numbering the exams, sign-in sheets were used. Each column had its own sign-in sheet. During the exam, the student at the front of each column was told by an invigilator to indicate his/her name and student number in the spaces provided and to then pass the sheet to the person behind them. Once the sign-in sheets had reached the end of the column, the sheets were collected. The seating chart was constructed in a similar manner to the midterm exam.

After each exam, a computer file containing all responses to multiple-choice items was submitted to SCheck. A large proportion of the students also chose to participate in an ongoing laboratory study where personality and cognitive ability measures were administered.

Results

Descriptive statistics. Means, standard deviations, and reliabilities for the measures used in Study 2 are found in Table 4. Given that the course exams dealt primarily verbal in nature, we specifically examined verbal ability's relationship to cheating. Accordingly, only values corresponding verbal ability scores are reported in Table 4. 'Verbal ability' corresponds to composite score created by averaging the standardized scores of the verbal items on the Wonderlic and the Quick Word Test, respectively.

Identifying potential cheating pairs. On the midterm, the pair-wise analysis indicated three distinct potential cheating pairs. We consulted our seating charts to determine where and how these pairs were seated. The two members of each pair were always seated adjacent to each other. On the final exam, the program identified a single cluster of four students. Our seating charts indicated that these students were all seated in close proximity.

In total, 10 students were identified and verified as cheaters. There was no overlap in the students identified as cheaters on the midterm and the final exams.

Predictors of cheating

For the purposes of these analyses, we computed two cheating scores. Midterm cheating was scored as a dichotomous (0 = 'no', 1 = 'yes') variable. Overall cheating was scored in a similar fashion based on whether or not a student cheated on the midterm or final exam.

We then performed chi-square tests to see if there were demographic differences in rates of overall cheating (e.g., Newstead, Franklyn-Stokes, & Armstead, 1996; cf.

McCabe, Trevino, & Butterfield, 2001): Of the ten cheaters, seven were women; seven were in arts, three were in science; seven were East Asian, one was of European non-Hispanic heritage, and two were from other ethnicities. No significant differences were found between the sexes, $\chi^2(1) = .28$, p = n.s., ethnicities, $\chi^2(2) = 2.04$, p = n.s., or major, $\chi^2(1) = 3.37$, p = n.s., in rates of overall cheating.

Correlations with personality and ability. The intercorrelations of the personality and verbal ability scores are in Table 5. The correlations between the personality and cognitive ability variables with midterm and overall cheating, respectively, are presented in Table 6.[7] The PPI was not only a consistent predictor of cheating across both exams (midterm: $r = .14$, $p < .05$; overall: $r = .24$, $p < .01$) but also the strongest predictor of cheating. However, the SRP did not show a similar pattern of correlations with cheating (midterm: $r = .04$, overall: $r = .07$) as that with the PPI

Surprisingly, the strongest Big Five correlate of cheating was Openness to Experience (midterm: $r = -.15$; overall: $r = -.13$, both $p < .05$). Also, verbal ability was a consistent predictor of cheating (midterm: $r = -.12$, $p < .05$; overall: $r = -.22$, $p < .01$).

Independent effects of subclinical psychopathy. To test whether the relationship between subclinical psychopathy, as assessed by the PPI, and cheating is independent of verbal ability and openness to experience, multiple regressions were performed. When cheating is regressed subclinical psychopathy along with verbal ability and openness, results showed that subclinical psychopathy remained a strong and significant predictor ($\beta = .15$, $p < .05$; verbal ability: $\beta = -.09$; openness: β: -.17, $p < .01$). When a similar

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[7] Note that correlations with dichotomous variables (such as our cheating index) are traditionally labeled "point-biserial" correlations. There is no longer a need for this label (nor for phi-coefficient) because those terms refer to versions of the Pearson formula that were simplified for hand calculation. Given that

regression was performed with overall cheating, subclinical psychopathy was the strongest predictor ($\beta = .24$, $p < .001$; verbal ability: $\beta = -.18$, $p < .01$; openness: $\beta = -.15$, $p < .05$).

Discussion

Study 2 provides further evidence of the validity of subclinical psychopathy. When using a concrete measure of misbehavior, namely cheating, subclinical psychopathy emerged as a consistently strong predictor. These results bolster our previous self-report research (Nathanson et al., 2003; Williams et al., 2001) regarding the influence of subclinical psychopathy on misbehavior.

Although subclinical psychopathy had a significant influence on cheating, neither narcissism nor Machiavellianism showed any association (Flynn, Reichard, & Slane, 1987). These findings further suggest that subclinical psychopathy is distinct from the other dark personalities (Paulhus & Williams, 2002).

Moreover, given that Study 2 included a comprehensive battery of individual difference measures, we could determine the independent influence of subclinical psychopathy on cheating. This independence indicates that subclinical psychopaths do not cheat because of verbal ability deficits or an overlap with openness. Hence there are characteristics particular to psychopathy that may lead them to cheat. Specifically, the tendencies of psychopaths to display impulsivity, shallow affect, and antisocial behavior may all play a role. The impulsive nature of psychopathy suggests that the cheating is unplanned. The shallow affect nature of psychopathy suggests that cheaters lack concern

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researchers now use computer packages to calculate correlations, the Pearson correlation procedure can be used for Spearman, phi and point-biserial as well as regular correlations between two continuous variables.

with the repercussions of getting caught. Finally the antisocial nature of psychopathy

suggests that cheaters are motivated to break rules (Blankenship & Whitley, 2000).

General Discussion

Using two different measures of subclinical psychopathy and two different

criteria, the present studies provide further evidence that subclinical psychopathy is a

viable and valid construct. These results lend further credence to the notion of the

'psychopath among us' (Hare, 1993) and buttress previous self-report findings on the

nature of subclinical psychopathy (e.g., Lilienfeld & Andrews, 1996; Nathanson et al.,

2003; Paulhus & Williams, 2002; Salekin et al., 2001).

The construct of subclinical psychopathy was validated using peer-ratings and

concrete behavior. Study 1 showed a convergence between self-reports and the

impressions of knowledgeable others. Among other things, the raters saw subclinical

psychopaths as particularly likely to cheat for personal gain and with a lack of concern

about rules. Study 2 supported those impressions by showing that subclinical

psychopaths were the most likely to cheat. This independent convergence of perception

and action provides further evidence of the validity of subclinical psychopathy.

Measures of subclinical psychopathy

The fact that parallel findings were obtained jointly supports the use of two

measures of subclinical psychopathy: (1) the Self-Report Psychopathy (SRP) scale (Hare,

1985) and (2) the Psychopathic Personality Inventory (PPI) developed by Lilienfeld and

Andrews (1996). Previous work has shown that not only are the measures highly

correlated but they show similar patterns of external correlates (Lilienfeld & Andrews,

1996; Salekin et al., 2001). In short, the findings refute the allegation that a self-report approach is inappropriate for measuring psychopathy.

However, each measure showed different patterns of results in the two studies. In Study 1, the SRP emerged as the better measure. Although both the SRP and PPI showed convergent validity, both with each other and with rated psychopathy, the SRP exhibited better discriminant validity. In Study 2, although the two measures again intercorrelated strongly, only the PPI was significantly correlated with our indicators of cheating. This difference in results may be attributable to the different emphases of the two measures.

Arguably, the two self-report subclinical psychopathy measures used focus to different extents on the interpersonal and behavioral aspects of the construct. The SRP seems to be more focussed on the interpersonal aspects given, compared to the PPI, (1) its better convergent and discriminant validity in Study 1 and (2) weaker correlations with cheating. Similarly, the PPI seems to be more behaviorally-focused given, compared to the SRP, (1) its worse convergent and discriminant validity in Study 1 and (2) stronger correlations with cheating.

Distinctiveness

In both the self-report and peer-ratings, subclinical psychopathy moderately intercorrelated with narcissism and Machiavellianism. These findings are well known and suggest common elements among these dark personalities (Nathanson et al., 2003; Paulhus & Williams, 2002; Williams et al., 2001; Williams, Paulhus, & Nathanson, 2003).

We were also able to demonstrate that subclinical psychopathy is a distinct construct. This distinctiveness replicates previous research (e.g., Paulhus & Williams,

2002). This demonstration is contrary to those who argue that in normal populations, subclinical psychopathy is synonymous with other antisocial personalities like Machiavellianism (McHoskey et al., 1998) or narcissism (Gustafson & Ritzer, 1995).

The nature of subclinical psychopathy

In normal populations, we identified individuals with malevolent tendencies who have not come into contact with the legal or mental health systems – not yet, at least. In this sense, these studies support current attempts to migrate the construct of psychopathy into the subclinical domain (e.g., Paulhus & Williams, 2002). Like narcissism, psychopathy appears to exist and be a viable construct in subclinical populations. Moreover, similar patterns of results that are obtained for clinical psychopathy are found for its subclinical counterpart.

Despite these malevolent tendencies, for some reason, these individuals have been able to attain socially desirable goals. These individuals have maintained relationships with others despite being interpersonally aversive. Similarly, these individuals have achieved scholastic success -- both to gain admittance to and while at a competitive university -- despite being impulsive and prone to misbehavior. Put differently, subclinical psychopaths seem to succeed despite themselves.

These studies also address the two competing models of subclinical psychopathy, namely discrete vs. continuous. Recall that the discrete model posits that subclinical psychopaths are a distinct group who are qualitatively different from other individuals. In contrast, the continuous model posits that subclinical psychopathy is normally distributed, with most individuals possessing moderate degrees of the construct.

The results were mixed. Support for the discrete model came from the distribution of the criterion in Study 2. The pairs of participants flagged as cheaters were outliers on an distribution of answer similarity. That is, the graph suggested that these participants were greatly dissimilar to all other participants. Support for the continuous model came from the distributions of subclinical psychopathy scores from the self-report (SRP, PPI) and peer-rated measures used. Scores on these measures were all normally distributed indicating continuously varying levels of subclinical psychopathy across participants.

Note that the variable that was discrete was our only behavioral measure. That is, it may not be coincidence that this measure was not normally distributed. Self-report indices tend to be normally distributed because they are an aggregate of many items. Had we collected more misbehaviors (e.g., by repeated measurements of exam cheating) and then aggregated them we may have obtained a normal distribution. In short, our studies do not provide a definitive answer as to which model best explains subclinical psychopathy.

Limitations and Future Directions

The results reported here are subject to several limitations and suggestive of several future avenues of research.

Malingering and 'duping delight'. Some individuals may have engaged in malingering on our measures of subclinical psychopathy and provided false responses on measures of subclinical psychopathy to give the impression of being more psychopathic (Rogers, Vitacco, Jackson, Martin, Collins, & Sewell, 2002). The argued motivation behind this seemingly counterintuitive behavior is 'duping delight' (Ekman, 1985; Hare, 1993). Duping delight refers to the pleasure experienced by the deceiver after a

successful deception. That is, those participants who falsely scored higher on our measures of subclinical psychopathy may have taken pleasure in the knowledge that the researchers treated their responses as truthful and correct. However, given that the subclinical psychopathy measures in both studies were not administered anonymously, the extent of malingering should be relatively low. Future studies should compare scores on subclinical psychopathy measures between anonymous and named data collections to better determine the extent to which malingering affects scores on subclinical psychopathy measures.

Moving beyond student samples. Although much psychological research (including these studies) is reliant on samples comprised of undergraduates, this reliance may be somewhat problematic when studying antisocial personalities like subclinical psychopathy. A sample composed of highly selected individuals who were competent and motivated enough to perform exceptionally during high school and avoid incarceration may not contain a great deal of variability in subclinical psychopathy. That is, the data reported here are subject to a restriction of range in subclinical psychopathy. However, the fact that we were able to obtain strong and significant results despite this attenuation suggests that our results would be even stronger in a community sample.

Low base rate. In a similar vein as the above limitation, our base rate of cheating was rather low (only 2.5%). The statistical power of our significance tests is therefore compromised. Despite this low base rate, however, we were able to show the predictive power of subclinical psychopathy. Including other indicators of cheating such as those developed by Hetherington and Feldman (1964) would be useful in increasing our

cheating base rate. Based on the results from Study 2, this increase should improve the obtained results.

Cheater and 'cheatee.' The results of Study 2 indicate that, in general, cheaters are high on subclinical psychopathy. However, the cheating detection program used in Study 2 is unable to distinguish between the copier (cheater) and the source ('cheatee'). All we know is that the mean psychopathy score of the two individuals involved in the cheating endeavor is higher than the mean of a non-cheating pair. Cheaters are likely to be more psychopathic than cheatees. This difference in psychopathy may allow cheaters to successfully manipulate cheatees. Yet another possibility is that cheaters are also higher on some as yet unexamined personality trait that interacts with psychopathy. Alternatively, the relationship may be more mutual. The interpersonal dynamics of this relationship are worth studying in order to identify how and why cheating occurs. More generally, understanding these dynamics may help to prevent future incidences of cheating.

Other antisocial behaviors. Future research should use a variety of concrete behavioral measures in order to see whether the promising findings obtained in Study 2 are generalizable to other antisocial behaviors. For example, Nicol and Paunonen (2002) have used a simple behavioral measure of stealing that is easy to administer. The authors provided students with drinks for purchase and a dish of money to make change. Stealing was indexed by the number of drinks and amount of money missing. We predict that subclinical psychopathy should again be the strongest predictor of this and other measures of antisocial behavior.

Psychopaths' relationships. Study 1 revealed that knowledgeable raters viewed subclinical psychopaths in negative terms. Following work by Campbell and others into the relationships of narcissists (Campbell, 1999; Campbell et al., 2002), further research into the relationships of subclinical psychopaths would be illuminating. We do not yet know how subclinical psychopaths view their partners or their relationships. Previous research (Williams, 2002) has indicated that subclinical psychopaths prefer many short-term partners and tend to engage in 'casual sex.' This finding suggests that subclinical psychopaths may be unfaithful 'game players' (cf. Campbell et al., 2002). Greater understanding of these dynamics will illuminate the results reported here.

Psychological processes. To date, research involving subclinical psychopaths has examined the behavioral, affective, and interpersonal aspects of these individuals. However, the underlying psychological processes of the subclinical psychopath remain largely unknown. That is, we do not yet fully understand how the 'intrapsychic dynamics' of subclinical psychopaths. One line of research likely to be insightful follows from Dodge's work (e.g., Crick & Dodge, 1994) on the hostile attribution bias in aggressive individuals. Dodge proposed an information-processing stage model wherein at higher stages attributions and responses become increasingly aggressive and suggest less concern with possible outcomes. A tendency to perceive the world as a dangerous, threatening place may contribute to or even underlie the behaviors of subclinical psychopaths (Lynam, 2002). To date, research in this area, although limited, provides some support to such a bias among clinical psychopaths (Doninger & Kosson, 2001).

Conclusion

Research into subclinical psychopathy has been limited, with many researchers calling for further investigations into the nature of this construct. Heeding this call, we conducted two studies on subclinical psychopathy using various methodologies. Taken together, these studies further the migration of psychopathy from its clinical and forensic antecedents to the subclinical domain. Subclinical psychopathy was distinguishable from other dark personalities based on ratings of knowledgeable others and in predicting antisocial behavior. Moreover, our results indicate that subclinical psychopathy is a viable and valid construct.

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Table 1

Descriptive statistics for Study 1 measures

	Item Mean (out of 5)	Standard deviation	Alpha reliability (standardized)	Inter-rater reliability
Self-Report Psychopathy Scale	-.08	.10	.89	
Psychopathic Personality Inventory	2.63	.33	.73	
Mach-IV	2.60	.38	.73	
Narcissistic Personality Inventory (NPI)	.33	.16	.81	
Rated narcissism	2.18	.68	.70	.44
Rated Machiavellianism	1.89	.45	.66	.52
Rated psychopathy	2.05	.50	.64	.55

N = 79

57

Table 2

Intercorrelations among four self-report and three peer rating composites

	1	2	3	4	5	6	7
1. Self-Report Psychopathy scale	--	.44	.30	.30	.36	.28	.12
2. Psychopathic Personality Inventory		--	.01	.45	.27	.17	.30
3. Machiavellianism			--	.24	.17	.43	.18
4. Narcissism				--	.19	.30	.35
5. Rated psychopathy					--	.49	.44
6. Rated Machiavellianism						--	.56
7. Rated narcissism							--

N = 79

All values above .22 are significant at *p* < .05 (two-tailed). All values above .29 are significant at *p* < .01 (two-tailed).

Note: Italicized values refer to the convergent validities of the rated constructs.

Table 3

Disattenuated correlations between self-report measures and peer-ratings composites.

	Self-Report Psychopathy scale	Psychopathic Personality Inventory	Mach-IV	NI
Rated psychopathy	.48	*.40*	.25	.2
Rated Machiavellianism	.37	.25	*.62*	.4
Rated narcissism	.15	.42	.25	.4

N = 79

All values above .22 are significant at *p* < .05 (two-tailed). All values above .29 are significant at *p* < .01 (two-tailed).

Italicized values refer to the convergent validities of the rated constructs.

Table 4

Descriptive statistics for Study 2 measures.

	Item Means (out of 5)	Standard deviation	Alpha reliability (standardized)
Psychopathic Personality Inventory	2.19	.25	.92
Self-Report Psychopathy scale	2.62	.35	.85
Mach-IV	2.82	.41	.73
Narcissistic Personality Inventory (NPI)	.37	.17	.84
Extraversion (BFI)	3.19	.83	.88
Agreeableness (BFI)	3.73	.61	.78
Conscientiousness (BFI)	3.40	.66	.81
Emotional Stability (BFI)	2.90	.87	.86
Openness to Experience (BFI)	3.59	.66	.82
Multidimensional Perfectionism Scale (MPS):	3.30	.67	.89
Self-oriented perfectionism items			
Wonderlic verbal scores	24.43	4.82	.88*
Quick Word Test ratio	.36	.11	.91**

Verbal ability	.00	1.00

N = 250

Note: BFI = Big Five Inventory

* Because the Wonderlic is a speeded test, an alpha value cannot be calculated. However, reviews of the Wonderlic (Geisinger, 2001; Schraw, 2001) have pointed to its good test-retest reliability (between .82 and .94) and good alternate forms reliability (between .73 and .95). The value reported above is the K-R 20 value, as reported by Geisinger (2001).

** Although the Quick Word Test (QWT) is normally a power test, due to time constraints not all participants were able to complete the test. For this reason, we computed the score from the QWT as the ratio of correct to attempted answers. Furthermore, an alpha value cannot be computed. Internal consistency estimates from reviews of the QWT average .91, the value reported above.

Table 5

Intercorrelations of personality and cognitive ability predictors of cheating

	1	2	3	4	5	6	7	8	9	10
1. Narcissism	--	.23	.52	.59	.21	.56	-.19	.10	.17	.25
2. Machiavellianism		--	.50	.34	.00	.04	-.41	-.25	-.13	-.05
3. Psychopathic Personality Inventory			--	.77	-.10	.39	-.37	-.36	.22	.13
4. Self-Report Psychopathy scale				--	-.03	.38	-.28	-.15	.35	.24
5. Self-oriented perfectionism					--	.09	.06	.31	-.17	.09
6. Extraversion						--	.05	.23	.26	.27
7. Agreeableness							--	.25	.30	.08
8. Conscientiousness								--	.22	.04
9. Emotional Stability									--	.15
10. Openness to Experience										--
11. Verbal ability										

N = 250

All correlations above .12 are significant at $p < .05$. All correlations above .16 are significant at $p < .01$ (both two-tailed).

Table 6

Correlations of personality and cognitive ability predictors of cheating on midterm and overall.

	Midterm Cheating	Overall Cheating
1. Psychopathic Personality Inventory	.14*	.24**
2. Self-Report Psychopathy scale	.04	.07
3. Machiavellianism	.05	.09
4. Narcissism	.08	.09
5. Self-oriented perfectionism	-.09	-.09
6. Extraversion	.07	.10
7. Agreeableness	-.01	-.07
8. Conscientiousness	-.09	-.09
9. Neuroticism	-.08	.03
10. Openness to Experience	-.15*	-.13*
11. Verbal ability	-.12*	-.22**

N = 250

All correlations above .12 are significant at $p < .05$. All correlations above .16 are significant at $p < .01$ (both two-tailed).

Appendix - Measures

Psychopathic Personality Inventory

Using the scale below as a guide, respond on your Scantron.

1	2	3	4	5
False	**Mostly False**	**Neutral**	**Mostly True**	**True**

1. A lot of people in my life have tried to stab me in the back.

2. I am a good conversationalist.

3. I sometimes try to get others to "bend the rules" for me if I can't change them any other way.

4. I might enjoy flying across the Atlantic in a hot-air balloon.

5. I often become deeply attached to people I like.

6. Many people think of my political beliefs as "radical."

7. I'm the kind of person who gets "stressed out" pretty easily.

8. I often push myself to my limits in my work.

9. People whom I have trusted have often ended up "double-crossing" me.

10. I'm hardly ever the "life of the party."

11. In school or at work, I sometimes try to "stretch" the rules a little bit just to see how much I can get away with.

12. I would find the job of movie stunt person exciting.

13. Ending a friendship is (or would be) very painful for me.

14. I sometimes like to "thumb my nose" at established traditions.

15. I am easily flustered in pressured situations.

16. I usually strive to be the best at whatever I do.

17. Some people seem to have gone out of their way to make life difficult for me.

18. I rarely find myself being the center of attention in social situations.

19. I often tell people only the part of the truth they want to hear.

20. Making a parachute jump would really frighten me.

21. It bothers me greatly when I see someone crying.

22. I've always considered myself to be something of a rebel.

23. I am easily "rattled" at critical moments.

1	2	3	4	5
False	Mostly False	Neutral	Mostly True	True

24. I am very careful about my manners when other people are around.

25. I've been the victim of a lot of bad luck in my life.

26. I find it easy to go up to someone I've never met and introduce myself.

27. I have to admit that I'm a bit of a materialist.

28. It might be fun to belong to a group of "bikers" (motorcyclists) who travel around the country and raise some hell.

29. I often hold on to old objects or letters just for their sentimental value.

30. I pride myself on being offbeat and unconventional.

31. I tend to be "thin-skinned" and overly sensitive to criticism.

32. I am an ambitious person.

33. I'm sure that some people would be pleased to see me fail in life.

34. I find it difficult to make small talk with people I do not know well.

35. Frankly, I believe I am more important than most people.

36. If I were a fire-fighter, I think I might actually enjoy the excitement of trying to rescue someone from the top floor of a burning building.

37. I often feel very nostalgic when I think back to peaceful moments in my childhood.

38. I wouldn't mind belonging to a group of people who "drift" from city to city, with no permanent home.

39. I can remain calm in situations that would make many other people panic.

40. I've quickly learned from my major mistakes in life.

41. In the past, people who were supposed to be my "friends" ended up getting me in trouble.

42. When I'm among a group of people, I rarely end up being the leader.

43. I tell many "white lies."

44. I bet that it would fun to pilot a small aircraft alone.

45. I sometimes worry about whether I might have accidentally hurt someone's feelings.

1	2	3	4	5
False	Mostly False	Neutral	Mostly True	True

46. I would enjoy hitch-hiking my way across the United States with no prearranged plans.

47. When I want to, I can usually put fears and worries out of my mind.

48. I weigh the pros and cons of major decisions carefully before making them.

49. People have often criticized me unjustly (unfairly).

50. I become embarrassed more easily than most people.

51. I quickly become very annoyed at people who do not give me what I want.

52. I occasionally do something dangerous because someone has dared me to do it.

53. I have had "crushes" on people that were so intense that they were painful.

54. Fitting in and having things in common with other people my age has always been important to me.

55. I tend to get crabby and irritable when I have too many things to do.

56. I generally prefer to act first and think later.

Multidimensional Perfectionism Scale

1	2	3	4	5
disagree strongly	disagree somewhat	neutral	agree somewhat	agree strongly

1. When I am working on something, I cannot relax until it is perfect.

2. I am not likely to criticize someone for giving up too easily.

3. It is not important that the people I am close to are successful.

4. I seldom criticize my friends for accepting second best.

5. I find it difficult to meet others' expectations of me.

6. One of my goals is to be perfect in everything I do.

7. Everything that others do must be of top-notch quality.

8. I never aim for perfection in my work.

9. Those around me readily accept that I can make mistakes too.

10. It doesn't matter when someone close to me does not do their absolute best....

11. The better I do, the better I am expected to do.

12. I seldom feel the need to be perfect.

13. Anything I do that is less than excellent will be seen as poor work by those around me.

14. I strive to be as perfect as I can be.

15. It is very important that I am perfect in everything I attempt.

16. I have high expectations for the people who are important to me.

17. I strive to be the best at everything I do.

18. The people around me expect me to succeed at everything I do.

19. I do not have very high expectations for those around me.

20. I demand nothing less than perfection from myself.

1	2	3	4	5
disagree strongly	disagree somewhat	neutral	agree somewhat	agree strongly

21. Others will like me even if I don't excel at everything.

22. I can't be bothered with people who won't strive to better themselves.

23. It makes me uneasy to see an error in my work.

24. I do not expect a lot from my friends.

25. Success means that I work even harder to please others.

26. If I ask someone to do something, I expect it to be done flawlessly.

27. I cannot stand to see people close to me make mistakes.

28. I am perfectionistic in setting my goals.

29. The people who matter to me should never let me down.

30. Others think I am okay, even when I do not succeed.

31. I feel that people are too demanding of me.

32. I must work to my full potential at all times.

33. Although they may not show it, other people get very upset with me when I slip up.

34. I do not have to be the best at whatever I am doing.

35. My family expects me to be perfect.

36. I do not have very high goals for myself.

37. My parents rarely expected me to excel in all aspects of my life.

38. I respect people who are average.

39. People expect nothing less than perfection from me.

40. I set very high standards for myself.

41. People expect more from me than I am capable of giving.

1	2	3	4	5
disagree strongly	disagree somewhat	neutral	agree somewhat	agree strongly

42. I must always be successful at school or work.

43. It does not matter to me when a close friend does not try their hardest.

44. People around me think I am still competent even if I make a mistake.

45. I seldom expect others to excel at whatever they do.

Narcissistic Personality Inventory

Read each pair of statements and then choose the one that is closer to your own feelings. Indicate your answer by circling the letter "A" or "B" to the left of the item. Please do not skip any items.

1. A I have a natural talent for influencing people.
   B I am not good at influencing people.

2. A Modesty doesn't become me.
   B I am essentially a modest person.

3. A I would do almost anything on a dare.
   B I tend to be a fairly cautious person.

4. A When people compliment me I sometimes get embarrassed.
   B I know that I am good because everybody keeps telling me so.

5. A The thought of ruling the world frightens the hell out of me.
   B If I ruled the world it would be a much better place.

6. A I can usually talk my way out of anything.
   B I try to accept the consequences of my behavior.

7. A I prefer to blend in with the crowd.
   B I like to be the center of attention.

8. A I will be a success.
   B I am not too concerned about success.

9. A I am no better or no worse than most people.
   B I think I am a special person.

10. A I am not sure if I would make a good leader.
    B I see myself as a good leader.

11. A I am assertive.
    B I wish I were more assertive.

12. A I like having authority over people.
    B I don't mind following orders.

13. A I find it easy to manipulate people.
    B I don't like it when I find myself manipulating people.

14. A I insist upon getting the respect that is due me.
    B I usually get the respect that I deserve.

15. A I don't particularly like to show off my body.
    B I like to display my body.

16. A I can read people like a book.
    B People are sometimes hard to understand.

17. A If I feel competent I am willing to take responsibility for making decisions.
    B I like to take responsibility for making decisions.

18. A I just want to be reasonably happy.
    B I want to amount to something in the eyes of the world.

19. A My body is nothing special.
    B I like to look at my body.

20. A I try not to be a show off.
    B I am apt to show off if I get the chance.

21. A I always know what I am doing.
    B Sometimes I am not sure of what I am doing.

22. A I sometimes depend on people to get things done.
    B I rarely depend on anyone else to get things done.

23. A Sometimes I tell good stories.
    B Everybody likes to hear my stories.

24. A I expect a great deal from other people.
    B I like to do things for other people.

25. A I will never be satisfied until I get all that I deserve.
    B I take my satisfactions as they come.

26. A Compliments embarrass me.
    B I like to be complimented.

27. A I have a strong will to power.
    B Power for its own sake doesn't interest me.

28. A I don't very much care about new fads and fashions.
    B I like to start new fads and fashions.

29. A I like to look at myself in the mirror.
    B I am not particularly interested in looking at myself in the mirror.

30. A I really like to be the center of attention.

B It makes me uncomfortable to be the center of attention.

31. A I can live my life in any way I want to.
    B People can't always live their lives in terms of what they want.

32. A Being an authority doesn't mean that much to me.
    B People always seem to recognize my authority.

33. A I would prefer to be a leader.
    B It makes little difference to me whether I am a leader or not.

34. A I am going to be a great person.
    B I hope I am going to be successful.

35. A People sometimes believe what I tell them.
    B I can make anybody believe anything I want them to.

36. A I am a born leader.
    B Leadership is a quality that takes a long time to develop.

37. A I wish somebody would someday write my biography.
    B I don't like people to pry into my life for any reason.

38. A I get upset when people don't notice how I look when I go out in public.
    B I don't mind blending into the crowd when I go out in public.

39. A I am more capable than other people.
    B There is a lot that I can learn from other people.

40. A I am much like everybody else.
    B I am an extraordinary person.

Mach-IV

A	B	C	D	E
strongly disagree	disagree	neutral	agree	strongly agree

_____ 1. Anyone who completely trusts anyone else is asking for trouble.

_____ 2. Most people who get ahead in the world lead clean moral lives.

_____ 3. It is safest to assume that all people have a vicious streak and it will come out when they are given a chance.

_____ 4. One should take action only when sure it is morally right.

_____ 5. Generally speaking, people won't work hard unless they're forced to do so.

_____ 6. It is wise to flatter important people.

_____ 7. It is hard to get ahead without cutting corners here and there.

_____ 8. People suffering from incurable diseases should have the choice of being put painlessly to death.

_____ 9. Most people are brave.

_____ 10. The best way to handle people is to tell them what they want to hear.

_____ 11. The biggest difference between most criminals and other people is that criminals are stupid enough to get caught.

_____ 12. Honesty is the best policy in all cases.

_____ 13. Barnum was very wrong when he said there's a sucker born every minute.

_____ 14. Most people are basically good and kind.

_____ 15. When you ask someone to do something for you, it is best to give the real reasons for wanting it rather than giving reasons which might carry more weight.

_____ 16. It is possible to be good in all respects.

_____ 17. Most people forget more easily the death of a parent than the loss of their property.

_____ 18. Never tell anyone the real reason you did something unless it is useful to do so.

_____ 19. There is no excuse for lying to someone else.

_____ 20. All in all, it is better to be humble and honest than to be important and dishonest.

Big Five Inventory

Disagree strongly A	Disagree a little B	Neither agree nor disagree C	Agree a little D	Agree strongly E

I See Myself as Someone Who . . .

_____1. Is talkative

_____2. Tends to find fault with others

_____3. Does a thorough job

_____4. Is depressed, blue

_____5. Is original, comes up with new ideas

_____6. Is reserved

_____7. Is helpful and unselfish with others

_____8. Can be somewhat careless

_____9. Is relaxed, handles stress well

_____10. Is curious about many different things

_____11. Is full of energy

_____12. Starts quarrels with others

_____13. Is a reliable worker

_____14. Can be tense

_____15. Is ingenious, a deep thinker

_____16. Generates a lot of enthusiasm

_____17. Has a forgiving nature

_____18. Tends to be disorganized

_____19. Worries a lot

_____20. Has an active imagination

_____21. Tends to be quiet

_____22. Is generally trusting

_____23. Tends to be lazy

_____24. Is emotionally stable, not easily upset

_____25. Is inventive

_____26. Has an assertive personality

_____27. Can be cold and aloof

_____28. Perseveres until the task is finished

_____29. Can be moody

_____30. Values artistic, aesthetic experiences

_____31. Is sometimes shy, inhibited

_____32. Is considerate and kind to almost everyone

_____33. Does things efficiently

_____34. Remains calm in tense situations

_____35. Prefers work that is routine

_____36. Is outgoing, sociable

_____37. Is sometimes rude to others

_____38. Makes plans and follows through with them

_____39. Gets nervous easily

_____40. Likes to reflect, play with ideas

_____41. Has few artistic interests

_____42. Likes to cooperate with others

_____43. Is easily distracted

_____44. Is sophisticated in art, music, or literature

Self Report Psychopathy scale

Using the scale below as a guide, fill in the appropriate answer to indicate how much you agree with each of the following statements.

1	2	3	4	5
Disagree Strongly	Disagree	Neutral	Agree	Agree Strongly

_____1) Not hurting others' feelings is important to me.

_____2) I think I could "beat" a lie detector.

_____3) I've always considered myself something of a rebel.

_____4) I like to change jobs fairly often.

_____5) I often admire a really clever scam.

_____6) I am usually very careful about what I say to people.

_____7) I have often done something dangerous just for the thrill of it.

_____8) I try to not be rude to people.

_____9) I get a kick out of "conning" someone.

_____10)   I get in trouble for the same things time after time.

_____11)   I am very good at most things I try to do.

_____12)   I enjoy taking chances.

_____13)   I enjoy hurting people I love.

_____14)   I would be good at a dangerous job because I like making fast decisions.

_____15)   On average my friends would probably say I am a kind person.

_____16)   I have sometimes broken an appointment because something more interesting came along.

_____17)   I don't enjoy driving at high speed.

_____18)   I make a point of trying not to hurt others in pursuit of my goals.

_____19)   I don't think of myself as tricky or sly.

_____20)   I almost never feel guilty over something I've done.

1	2	3	4	5
Disagree Strongly	**Disagree**	**Neutral**	**Agree**	**Agree Strongly**

_____21)   It's sometimes fun to see how far you can push someone before they catch on.

_____22)   People can usually tell if I am lying.

_____23)   Conning people gives me the "shakes."

_____24)   When I do something wrong, I feel guilty even though nobody else knows it.

_____25)   I find it easy to manipulate people.

_____26)   I'm a soft-hearted person.

_____27)   I enjoy drinking and doing wild things.

_____28)   I am the most important person in this world and nobody else matters.

_____29)   Rules are made to be broken.

_____30)   I don't enjoy gambling for large stakes.

Everyone misbehaves during their teenage years. Different people misbehave in different ways and different amounts.

The following information will be used for survey purposes only. It cannot be used against you in any way. All identifying information will be removed from the data once it has been analyzed.

Respond to the following questions as they apply to you *in the last five years*.

1	2	3	4	5
Disagree Strongly	Disagree	Neutral	Agree	Agree Strongly

_____31) Shoplifted.

_____32) Had (or tried to have) sexual relations with someone against their will.

_____33) Avoided paying for things, such as movies, bus or subway rides, and food.

_____34) Cheated on school tests.

_____35) Been arrested.

_____36) Handed in a school essay that I copied at least partly from someone else.

_____37) Been involved in delinquent gang activity.

_____38) Stolen (or tried to steal) a motor vehicle, such as a car or motorcycle.

_____39) Broken into a building or vehicle (or tried to break in) to steal something or to vandalize.

_____40) Attacked someone with the idea of seriously hurting him or her.

Wonderlic
UBC Spring 1993

PERSONNEL TEST   Form IV

Name_____ Date _____ ID Number_____

READ THIS PAGE CAREFULLY.   DO NOT TURN THE PAGE UNTIL YOU ARE TOLD TO DO SO.

This inventory contains several types of questions. Here is a sample question already completed.

_____**REAP is the opposite of: 1 obtain   2 cheer   3 continue   4 exist   5 sow**

The correct answer is "sow" (it is helpful to underline your choice).   Put a number in the blank line (on the left) to indicate your choice. In this case, write a '5'.

Try another question.

_____**Paper sells for 23 cents a sheet. What will four sheets cost?**

The correct answer is 92 cents. There is nothing to underline here so just write the number 92 in the blank.

Here is another type of question.

_____ **MINER   MINOR   Do these words have:**
1 similar meaning   2 contradictory   3 neither similar nor contradictory

The test contains 50 questions. It is unlikely that you will finish all of them, but do your best. After the examiner tells you to begin, you will be given exactly 12 minutes to solve as many as you can. Do not go so fast that you make mistakes because the idea is to get as many right as possible. The questions become increasingly difficult, so do not skip around. The examiner will not answer any question after the test begins.

Now lay down your pencil until the examiner tells you to begin.

DO NOT TURN THE PAGE UNTIL YOU ARE TOLD TO DO SO.

_____1. BITTER is the opposite of
        1 acid   2 cutting   3 sharp   4 sweet   5 tart

_____2. The Sixth month of the year is:
        1 October   2 August   3 May   4 June

_____3. In the following list, which word is different from the others?
        1 cinnamon   2 ginger   3 clove   4 tobacco   5 mint

_____4. MEDIEVAL MEDICAL Are the meanings of these two words
        1 similar   2 contradictory   3 neither similar nor contradictory?

_____5. Look at the row of numbers below. What number should come next?
        49 42 35 28 21 14 ?

_____6. In the following set of words, which word is different from the others?
        1. slight   2 vast   3 massive   4 bulky   5 immense

_____7. FAITHFUL is the opposite of
        1 true   2 loyal   3 firm   4 fickle   5 sure

_____8. Sugar sells at 8 $\frac{1}{2}$ cents per pound. How much will you save by buying a 100 pound sack at 8.25 cents?

_____9. IGNITE IGNORANT Are the meanings of these two words
        1 similar   2 contradictory   3 neither similar nor contradictory?

_____10. Are the meanings of the following sentences:
        1 similar 2 contradictory 3 neither similar nor contradictory?
        Love me, love my dog.
        People that strike my dog would strike me if they dared.

_____11. CLEAN is the opposite of
        1 disinfect   2 scour   3 scrub   4 debase   5 sponge

_____12. Assume the first two statements are true. Is the final one:
        1 true   2 false   3 can't tell
        The voice is in tune with the piano.
        The piano is in tune with the cello.
        The cello is in tune with the voice.

_____13. In the following set of words, which word is different from the others?
        1 ill-matched   2 unsuitable   3 inconsistent   4 accordant   5 contrary

_____14. Assume the first two statements are true. Is the final one:
        1 true   2 false   3 can't tell
        These girls are normal children.
        All normal children are active.
        These girls are active.

_____15. Select the lettered pair that best expresses a relationship similar to that expressed in the original pair.
        MISANTHROPE: PEOPLE
        1 patriot: country   2 reactionary: government
        3 curmudgeon: children 4 xenophobe: stranger
        5 miscreant: dogma

_____16. CONQUER is the opposite of
           1 overpower   2 submit   3 subject   4 vanquish   5 master

_____17. Suppose you arranged the following words so that they made a true statement. Then print the last letter of the last word as the answer to this problem.
           than   fortunate   rich   be   Better

_____18. ATTACK is the opposite of:
           1 aid 2 assail 3 combat 4 besiege 5 storm

_____19. ILLICIT ILLITERATE - Are the meanings of these two words
           1 similar   2 contradictory   3 neither similar nor contradictory?

_____20. Are the meanings of the following sentences: 1 similar 2 contradictory 3 neither similar nor contradictory?
        No wonder can last more than three days.
        All good things are three.

_____21. IDEA   IDEAL - Are the meanings of these two words
           1 similar   2 contradictory   3 neither similar nor contradictory?

_____22. A boy is 15 years old and his sister is twice as old. When the boy is 25 years old, what will be the age of his sister?

_____23. Are the meanings of the following sentences:
           1 similar   2 contradictory   3 neither similar nor contradictory?
           Elbow-grease is the best polish.
           The work proves the worker.

_____24. This geometric figure can be divided by a straight line into two parts which will fit together to make a perfect square. Draw such a line by joining two of the numbers. Then write these numbers as the answer.

_____25. CHASTEN CHASTISE   Are the meanings of these two words
           1 similar   2 contradictory   3 neither similar nor contradictory?

_____26.Select the lettered pair that best expresses a relationship similar to that expressed in the original pair.
   OFFENSE: PECCADILLO
   1 envy: resentment   2 quarrel: tiff   3 affinity: wish
   4 depression: regret 5 homesickness: nostalgia

_____27. Assume the first 2 statements are true. Is the final one: (1) true, (2) false, (3) can't tell
   · Great men are important.
   John is important.
   John is a great man.

_____28. PRIDE is the opposite of:
   1. reserve   2. self-esteem   3. self-abasement   4. disdain   5. arrogance.

_____29. In 66 days a boy saved one dollar and ninety-eight cents. What was his average daily saving?

_____30. PITEOUS   PITIABLE--Are the meanings of these two words
   1. similar   2. contradictory.   3. neither similar nor contradictory?

_____31. How many of the five items listed below are exact duplicates of each other?

Waterhouse, H. I.	*Waterous, H. I.*
Lindquist, W. C.	*Lundquist, W. C.*
Pollauf, A. S.	*Pollauf, A. S.*
Rosenfeld, F. E.	*Rosenfield, F. E.*
Sivertsen, P. B.	*Sivertsen, B. P.*

_____32. Are the meanings of the following sentences:
   1. similar   2. contradictory   3. neither similar nor contradictory?
   Nothing is so bad as not to be good for something.
   The person that hopes not for good fears not evil.

_____33.APPEAL is the opposite of
   1. beseech   2. entreat   3. request   4. deny   5. invoke.

_____34. Which number in the following group of numbers represents the smallest amount?
   10   3   2   .8   .888   .96

_____35. Assume the first 2 statements are true. Is the final one: (1) true, (2) false, (3) can't tell
   Great men are applauded.   John is applauded.   John is a great man.

_____36. A clock was exactly on time at noon on Monday. At 8 P.M. on Tuesday, it was 128 seconds slow. At
   that same rate, how much did it lose per 1/2 hour?

_____37. Select the lettered pair that best expresses a relationship similar to that expressed in the original pair.
   EQUIVOCATION: AMBIGUOUS
   1 mitigation: severe   2 contradiction: preemptory
   3 platitude: banal   4 precept: obedient
   5 explanation: unintelligible

_____38. A train travels 70 feet in 1/10 second. At this same speed, how many feet will it travel in 3 1/2 seconds?

_____39. Suppose you arrange the following words so that they make a complete sentence. If it is a true statement, mark (T) in the blank: if false, put an (F) in the blank.

of the Envy enemy is honor

_____40. Assume the first 2 statements are true. Is the final one: (1) true, (2) false, (3) can't tell

Marion called Glen.   Glen called Jean.   Marion did not call Jean.

_____41. One number in the following series does not fit in with the pattern set by the others. Which one?

1/16   1/6   1/4   1/2   1   2

_____42. ASK is the opposite of

1 entreat   2 crave   3 demand   4 appeal   5 deny

_____43. When potatoes are selling at $.0125 a pound, how many pounds can you buy for a dollar?

_____44. This figure can be divided by a straight line into two parts which will fit together to make a perfect
square. Draw such a line by joining two of the numbers. Then write the numbers as the answer.

_____45. In printing an article of 21,000 words, a printer decides to use two sizes of type. Using the larger type, a
printed page contains 1200 words. Using the smaller type, a page contains 1500 words. The article is
allotted 16 full pages in a magazine. How many pages must be in the larger type?

_____46. Select the lettered pair that best expresses a relationship similar to that expressed in the original pair.'

STRAY: GROUP
1 miscalculate: solution   2 improvise: suggestion
3 slur: pronunciation   4 delete: change
5 digress: subject

_____47. For $4.50 a grocer buys a case of oranges which contains 14 dozen. He knows that four dozen will spoil
before he sells them. At what price per dozen must he sell the good ones to make a net profit of
1/3 of the whole cost?

_____48. Assume the first 2 statements are true. Is the final one: (1) true, (2) false, (3) can't tell

All Irish are active persons.
Some of the people in this room are active.
Some of the people in this room are Irish.

_____49. What is the next number in this series? 2   1   .5   .25   .125

_____50. Three women form a partnership and agree to divide the profits equally. X invests $4,500; Y invests $4,500; and Z invests $1,000. If the profits are $1500, how much less does X receive than if the profits were divided in proportion to the amount invested?

Name   ID

QUICK WORD TEST

Directions: Circle the word that means the same as the first word. Attempt each question in order. If you do not know, GUESS. You will have 8 minutes for this activity.

Sample

| 00) happy | dull | seem | glad | fast |

1)	stuff	cram	junk	hard	lout
2)	hovel	shed	tool	rare	want
3)	exude	oust	lead	rule	ooze
4)	trust	oral	pool	hold	file
5)	harry	raid	male	join	wait
6)	caper	romp	wrap	game	roll
7)	cheer	good	bode	lift	send
8)	think	whit	nick	knew	muse
9)	craft	wile	rank	sail	tool
10)	avast	heap	huge	hole	stop
11)	adorn	gilt	gold	gild	barb
12)	chump	mete	drag	dolt	bump
13)	brace	pair	rash	clap	hard
14)	smoke	fire	heat	blow	reek
15)	canon	shot	rule	ball	soon
16)	flout	hurt	fool	drop	jeer
17)	valid	deed	cold	just	weak
18)	heady	vast	rash	shod	firm
19)	clasp	hand	sort	game	hasp
20)	taunt	lean	send	twit	scat
21)	chuck	wood	toss	bade	trim
22)	vogue	good	nice	hazy	mode
23)	rough	rude	wave	hard	deep
24)	reign	stem	fall	sway	ride
25)	opine	tree	deem	pick	drug
26)	flock	tame	game	coat	bevy
27)	crown	hair	brag	hail	pate
28)	ardor	zeal	iron	gilt	vine
29)	bully	hard	haul	fine	evil
30)	allot	lend	mete	wear	much
31)	salve	salt	ease	seek	work
32)	alter	self	mind	vary	wend
33)	inane	loco	pert	void	wise
34)	argot	gold	drug	peak	cant

35)	chafe	fret	cook	hilt	dish
36)	order	send	beat	cash	rank
37)	trunk	sack	body	bunk	rank
38)	irate	rant	lift	ired	like
39)	sward	dirk	turf	fend	hive
40)	elate	only	lift	flew	lack
41)	chest	hope	case	lung	dump
42)	feign	sway	sham	rule	glad
43)	debar	wood	mine	taboo	help
44)	quirt	emit	bend	whip	bale
45)	trick	loft	send	joke	ruse
46)	snare	bark	trap	leer	sulk
47)	grove	cave	wane	wood	hole
48)	whorl	coil	bell	spin	rite
49)	barge	vast	bark	pull	abet
50)	omega	dose	last	salt	lens
51)	awful	dire	load	fear	vast
52)	dowry	acid	gift	wife	grin
53)	parry	wear	hunt	bear	fend
54)	algid	damp	weed	cold	moss
55)	shaft	pole	deep	high	move
56)	covet	envy	rill	coat	vest
57)	usurp	grab	slop	glut	sate
58)	facet	pain	side	turn	easy
59)	ember	heat	glow	coal	seem
60)	crook	jail	lout	deal	bend
61)	sober	wash	side	weep	cool
62)	glaze	lens	look	pane	coat
63)	small	mean	pint	meek	safe
64)	angle	fish	rage	ring	line
65)	flair	lair	dare	bent	game
66)	elide	dash	trod	omit	skim
67)	crisp	dare	firm	snap	code
68)	hutch	nest	coup	hold	snag
69)	shape	neat	chap	cote	tool
70)	natty	bold	blue	flay	trim
71)	swirl	tide	eddy	rise	swim
72)	crawl	riot	knee	skin	inch
73)	whine	pule	coil	beer	weir
74)	stead	foal	rely	lieu	bear
75)	queue	what	mane	line	shop
76)	foray	food	wood	take	raid
77)	fatal	dire	evil	omen	wish
78)	storm	wild	wash	rend	rave
79)	shoot	bang	push	twig	jump
80)	taper	leer	wick	worm	bind

81)	eject	oust	emit	cart	rush
82)	crack	high	chap	file	cake
83)	abyss	rule	duet	urge	gulf
84)	thick	dull	illy	ruse	cart
85)	sully	soil	deny	brag	cart
86)	suave	leak	prig	oily	lean
87)	butte	goat	goad	soft	hill
88)	stern	rear	glum	rage	shop
89)	force	cope	grit	dint	wade
90)	levee	raze	lift	flat	dike
91)	hokum	clod	lout	bunk	doze
92)	girth	wide	band	awry	glee
93)	helot	rise	hail	evil	serf
94)	niter	soda	late	bomb	show
95)	topic	text	wide	term	book
96)	taint	deny	spot	fill	fall
97)	heart	beat	draw	core	vein
98)	trawl	boat	fish	cape	sing
99)	genre	peer	waft	sort	norm
100)	edict	fiat	talk	root	oust

Psychology Dept Rating Request

Hello <<Contact_name>>,

Your name has been offered by <<Participant_name>> as someone who knows something about their personality. If you help us out with a few ratings, then we will put your name in a lottery with five $50.00 prizes. These ratings will take no more than 5 minutes to complete.

A few rules:

PRIVACY: You should not do these ratings when he/she is around. Do them privately and do not reveal them. Later, you can give the person a general idea if you want. We will not reveal anything to the person being rated. In fact, we will remove your name from your responses immediately. So you can be totally honest in your responding.

YOUR RATINGS: Hit the REPLY button first and type your answers right in the email. Put a number from 1 to 5 next to each item to indicate how true the statement is with regard to <<Participant_name>>.

Use the following scale to guide your ratings:

5 = Totally true
4 = Somewhat true
3 = Neutral
2 = Somewhat untrue
1 = Totally untrue

EXAMPLE: Is very shy   4

1.	Is modest
2.	Is self-centered
3.	Looks down on other people
4.	Likes to brag
5.	Hates being the center of attention
6.	Tells lies about people
7.	Is trusting of what people tell him/her
8.	Manipulates people to get what they want

9. Is loyal to their friends
10. Always ends up getting what they want
11. Is impulsive, risk-taking
12. Can be cruel to otehrs
13. Always follows the rules
14. Cheats to get ahead
15. Cares about others' feelings

How long have you known <<Participant_name>>?   TYPE ANSWER

What is your relationship to <<Participant_name>>, e.g., friend, roommate, co-worker, boyfriend/girlfriend. You can TYPE IN more than one option.

Please check your answers and then hit the SEND button.

Thank you. We will email the lottery winners. Later in the summer, we will email you after the study is complete to explain the study and the results.

UBC Personality Lab