A CRITERION-RELATED VALIDATION OF AN INSTRUMENT FOR THE ASSESSMENT OF PSYCHOPATHY

by

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B.A.(Hons), University of Ottawa, 1985

THESIS SUBMITTED IN PARTIAL FULFILLMENT OF

THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF ARTS

in the Department

of

Psychology

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SIMON FRASER UNIVERSITY

September, 1988

APPROVAL

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Degree: Master of Arts

Title of thesis: A CRITERION-RELATED VALIDATION OF AN INSTRUMENT

FOR THE ASSESSMENT OF PSYCHOPATHY

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ABSTRACT

Considerable evidence exists to suggest that the Psychopathy
Checklist (PCL) is a valid and reliable instrument for the
selection of subjects for research on psychopathy. Recently, a
shortened version of the PCL was developed for use in clinical
settings. The objective of the present study was to examine the
relation between the PCL:Clinical Version (PCL-C) and the PCL,
and to evaluate the role of the PCL-C in the development of a
clinically useful approximation to the PCL. Subjects were sixty
adult male incarcerates at a Canadian federal medium security
penitentiary. The PCL was previously administered to them as
part of a separate, ongoing research project. In the present
study, subjects were interviewed for approximately twenty
minutes after which they were rated according to PCL-C criteria.
Moderate correlations were obtained between the PCL-C and the
PCL. Rater effects, low item equivalence, and testing intervals
were cited as likely factors influencing the results.
Categorical analyses included both kappa and tetrachoric
correlations. Obtained coefficients were also in the moderate
range. By themselves, neither the PCL-C nor DSM-III diagnoses of
Antisocial Personality Disorder (APD) demonstrated a strong
degree of association with the PCL. Regression analyses revealed
that PCL-C/APD composite diagnoses were able to account for a
greater proportion of PCL variance than either of these two
variables in isolation. Overall, results indicated that
PCL-C/APD diagnoses were of little clinical utility at present.

The implications of these findings were discussed, focusing upon the need to use expert raters, standardize the PCL-C format, and re-evaluate PCL-C/APD diagnoses using multiple criteria.

ACKNOWLEDGEMENTS

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CHAPTER I

INTRODUCTION

In spite of widespread debate over the dynamics and etiology of psychopathy, considerable agreement exists as to its clinical and behavioral manifestations. Regardless of the term used--psychopathy, sociopathy, antisocial personality disorder -- most descriptions of the concept refer to a core constellation of features most explicitly articulated by Cleckley (1976). He identified 16 criteria essential to psychopathy:

> superficial charm and good intelligence; absence of delusions and other signs of irrational thinking; absence of nervousness or other psychoneurotic manifestations; unreliability; untruthfulness and insincerity; lack of remorse or shame; inadequately motivated antisocial behaviour; poor judgment and failure to learn by experience; pathological egocentricity and incapacity for love; general poverty in major affective reactions; specific loss of insight; unresponsiveness in general interpersonal relations; fantastic and uninviting behaviour, with drink and sometimes without; suicide rarely carried out; sex life impersonal, trivial, and poorly integrated; and failure to follow any life plan (1976, p. 337-338).

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Cleckley's criteria have been instrumental in the generation of research in that they laid the foundation for the development of the content of most behavioral checklists employed in the diagnosis of antisocial activity applicable to both adolescents and adults (Brantley & Sutker,1984).

Robins (1966) provided a more behavioral description of psychopathy. Excluded are individuals meeting behavioral criteria for schizophrenia, chronic brain syndrome, and mental retardation. Also excluded from Robins' criteria were individuals whose antisocial behaviour is preceeded by heavy drinking or drug use. She describes psychopaths as those who chronically fail to conform with social norms, do not maintain close personal relationships, have a poor work record, engage in illegal activities, have trouble maintaining support, will suddenly change plans, and have low frustration tolerance.

The American Psychiatric Association's (APA) classification most resembling the concept of psychopathy is the Antisocial Personality Disorder (APD), the criteria for which are found in the *Diagnostic and Statistical Manual of the American Psychiatric Association: Third Edition* (DSM-III). These criteria can be summarized as follows: current age at least 18; onset before 18; a pattern of continuous antisocial behaviour in which the rights of others are violated, and antisocial behaviour not due to either severe mental retardation, schizophrenia, or manic episodes (APA, 1980).

Many more descriptions of the concept exist (for a short summary see Hare & Cox, 1978, p. 2-4). Most of these, including the three descriptions mentioned above, are based upon clinical experience. Despite the considerable overlap between descriptions, some would argue that psychopathy as a clinical entity does not exist. Objections focus upon the argument that few individuals can be found that simultaneously manifest the entire cluster of traits typical of the psychopath and that few symptoms, except for the absence of remorse, shame, or guilt, are uniquely pathognomic of psychopathy. Nevertheless, empirical evidence exists to endorse the validity of the concept. This evidence emerges from studies on physiological and behavioral correlates (Hare, 1968; 1970b; 1980b; 1986; Hare & Forth, 1985) and from multivariate analyses of typological data (Jenkins, 1964, 1966; Quay, 1964a,b; Finney, 1966; Hare, Frazelle, & Cox, 1978; Blackburn, 1971, 1973; Hare, 1975). In spite of this controversy, one of the most serious issues in evaluating research on psychopathy concerns the methods by which investigators select their subjects. Difficulties arise when different investigators use a variety of different selection procedures. These differences may present problems in achieving reliable clinical diagnoses among examiners, and have tended to limit the generalization of research findings (Brantley & Sutker, 1984). Some of these procedures and the difficulties associated with their use are described below.

Clinical Interviews

Despite widespread use, the utility of the clinical interview in assessing psychopathy is of questionable value. Given their predisposition for chronic lying, psychopaths will often misrepresent themselves if it is seen to be in their best interests to do so. As a result, many view interview information obtained from psychopaths as invalid (Brantley & Sutker, 1984).

Global Ratings

Global ratings of psychopathy have been based on the extent to which a subject's behaviour and personality are consistent over an extended period of time with Cleckley's criteria (Hare & Cox, 1978). One limitation of this method is that for reliability and validity, raters must be familiar with these criteria and be able to integrate large amounts of interview and case history data into a single score (Hare, 1985a). Despite this, and in light of its apparent subjectivity, global ratings have proven to be very reliable in research on the biological correlates of psychopathy (Hare, 1983).

For example, in a study of autonomic conditioning, raters completed a 15 item checklist of features considered by Cleckley to be descriptive of psychopaths (Hare & Quinn, 1971). Based upon this data they made summary global assessments of the extent to which they believed a given subject met the Cleckley

criteria for psychopathy. Ratings were based on a seven point scale with a score of 1 indicating a subject fit the criteria, while a score of 7 indicating that the subject did not. Agreement was obtained for 70% of the subjects; raters were one step apart for 26% of the subjects and two steps apart for only 4% of the subjects. Comparable or improved measurements of agreement have been consistently demonstrated using the global ratings procedure. In studies conducted in Canadian federal penitentiaries, interrater reliability coefficients ranging from .75 to .92 have been found (Dengerink & Bertilson, 1975; Chesno & Kilmann, 1975). Comparable results have also been obtained from studies undertaken in provincial prisons, where file and case history data were not as comprehensive as those available to previous investigators (Hare, Frazelle, & Cox, 1978).

In the aforementioned studies, raters tended to be highly trained and well acquainted with the clinical concept of psychopathy. Where this is not the case, acceptable levels of interrater reliability may be difficult to attain. This may be considered a serious limitation to the global ratings procedure since few safeguards exist to assure a base level of expertise across raters. Evidence exists, however, to suggest that reliable global ratings can be made by relatively inexperienced judges provided that they are well briefed in the *concept* of psychopathy. Using undergraduates registered in a seminar on psychopathy, Hare (cited in Hare & Cox, 1978) trained 11 students to rate 24 case histories on a 9 point scale. Estimated

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reliabilities ranged from .90 to .92.

In considering the data presented above, it becomes evident that highly reliable global ratings of psychopathy are possible provided that raters are familiar with the concept of psychopathy.

Objective Measures

Objective test measures have many advantages over clinical interviews and global ratings. Their scoring and administration procedures tend to be standardized, they are usually both time and cost efficient, and they also tend to be quite reliable. In addition, many objective measures contain validity scales designed to detect misrepresentation.

One of the earliest objective measures of psychopathy was developed by Gough. He viewed psychopathy as a deficiency in capacity for role taking, and together with Peterson (Gough & Peterson, 1952), he developed a delinquency scale which was cross-validated and revised to form the Socialization scale (So) of the *California Psychological Inventory* (CPI). The (So) scale was purported to measure a range of behaviour from asocial to social, and the extent to which values are internalized. It has been reputed to be one of the best validated personality scales available (Megargee, 1972). The (So) scale is comprised of 54 items. The disposition tapped by the scale was found to be related to rule breaking and norm violation (Megargee, 1972),

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performance and physiological correlates of psychopathy (Rosen &
Schalling, 1971; Schalling, Lidberg, Levander, & Dahlin, 1973;
Lidberg, Levander, Schalling, & Lidberg, 1978), and lopsided and
ideosyncratic personal construct systems (Widom, 1976). The (So)
scale was also found to discriminate between persons having
psychopathic versus non-psychopathic Minnesota Multiphasic
Personality Inventory (MMPI) profiles (Sutker & Allain, 1983).

Probably the most widely used index of psychopathy is
derived from the classification rules applied to MMPI protocol
data (Dahlstrom & Welsh, 1960). Although some attention has been
focused on scales 4 and 8 (McEvoy, 1978), the scale 4 (Pd) and 9
(Ma) configuration is more commonly considered to be indicator
of psychopathy (Dahlstrom & Welsh, 1960). Scale 4 and 9 are
assumed to represent constellations of cognitive, affective, and
behavioral symptoms that are characteristic of individuals
considered psychopathic (Brantley & Sutker, 1984). It should be
noted, however, that 4/9 or spike 4 configurations have also
been found to represent the prototypical profile for groups of
male and female drug addicts (Gilbert & Lombardi, 1967; Olson,
1964; Sutker, 1971; Sutker & Moan, 1973; Sutker, Patsiokas, &
Allain, 1981), alcoholics (Kammeier, Hoffman, & Loper, 1973;
Sutker, Archer, Brantley, & Kilpatrick, 1979), and criminals
(Megargee & Dorhout, 1977; Sutker & Moan, 1973). Additional
correlates found for scales 4 and 9 include irritability and
quick anger among psychiatric patients (Lewandowski &
Graham, 1972), academic and legal difficulties in students

seeking psychological services (King & Kelley, 1977), and hostile, angry outbursts accompanied by homicidal thoughts negatively related to obvious psychosis in psychiatric inpatients (Hedlund, 1977).

Although many researchers use MMPI criteria to classify clinical or research subjects (Bernard & Eiseman, 1967; Doctor & Craine, 1971; Greer, 1974; Gullick, Sutker, & Adams, 1976; Painting, 1961; Schmauk, 1970; Stewart & Resnick, 1970; Sutker, Gil, & Sutker, 1971; Sutker, Moan, & Allain, 1974), MMPI use for the classification of psychopaths is not universally recommended (Hare, 1970a). Hare, Frazelle, and Cox (1978) reported correlations between a composite rating of psychopathy (based on the sum of ratings from three judges) and the Pd and Ma scales of 0.13 and 0.01, respectively. Using this same rating scheme, they also found it not uncommon to find prison inmates with high Pd and Ma scores who were clearly not psychopathic. Johnson (1974) reported that MMPI scales were unable to distinguish between groups of psychiatric outpatients later arrested for a felony and psychiatric outpatients not later arrested. In light of the wide variety of criterion groups associated with 4/9 or spike 4 configurations, and as Hawk and Peterson (1974) have concluded, it would appear that MMPI subscales tend to measure a general deviancy from societal norms and mores rather than psychopathic deviancy per se.

Eysenck (1967) has argued that psychopathy can be readily understood in terms of its position within his dimensional

theory of personality. Initially considering psychopaths to be 'neurotic extroverts' (high on both Neuroticism (N) and Extraversion (E) dimensions) he now considers primary or criminal psychopathy to be associated with high scores on the Psychoticism (P) dimension of the *Eysenck Personality Questionnaire* (Eysenck & Eysenck, 1978). Hare (1982) examined this assertion and reported a correlation of .16 between a composite psychopathy diagnosis and the Psychoticism (P) dimension. He also found that (P) was differentially related to various aspects of psychopathy. The (P) dimension correlated significantly with two factors generated from a factor analysis of psychopathy criteria. One factor was considered to reflect an impulsive, unstable lifestyle with no long-term commitments, while the other factor was related to the early appearance of antisocial behavior. It is interesting to note that previous analyses (Hare, 1980) have indicated that another factor, one reflective of personality style (self-centeredness, callousness, lack of empathy and concern for others) is the most important factor in the differential diagnosis of psychopathy within an inmate population: it is purported to reflect what most clinicians consider to be at the core of psychopathy. Hare (1982) noted that the (P) dimension was not correlated with this factor, nor with a factor reflecting superficial relations with others. He suggested that the (P) scale is more closely related to criminal and antisocial behavioral tendencies than to the inferred psychological constructs considered essential for a diagnosis of psychopathy (Hare, 1982). In light of the above,

and considering the degree to which inmates may dissimulate on self report measures (Hare, 1982), it would appear that the use of the EPQ is of limited value in the assessment of psychopathy within criminal populations.

Scales used to measure various aspects of psychopathy include the *Machiavellianism Scale* (Mach IV) (Christie & Geis, 1970), and the *Wechsler Adult Intelligence Scale* (WAIS). The Mach IV is purported to measure tendencies towards manipulativeness in interpersonal relationships. It describes three behavioral components supposedly related to psychopathy: manipulation, persuasiveness, and persuasability. In a study comparing the Mach IV to the MMPI (Pd) scale, Smith and Griffith (1978) reported a correlation of 0.25 (p. ≤0.05) supporting the notion that psychopathy and machiavellianism are converging dimensions. It should be noted, however, that in light of the earlier comments on the validity of the MMPI (Pd) scale, Smith and Griffith's assertions should be interpreted with caution.

A number of studies have used the WAIS to evaluate the degree to which psychopaths exhibit a particular pattern of intellective abilities (Guertin, Ladd, Frank, Rabin, & Hiester, 1966; Matarazzo, 1972; Prentice & Kelley, 1963; Sacuzzo & Lewandowski, 1976). Much of this research has focused upon the contention that psychopaths typically do better on performance subtests (PIQ) of the WAIS than on the verbal subtests (VIQ; Wechsler, 1958). Examinations of this PIQ:VIQ index have produced largely inconsistent results partly because the

variables examined have provided only gross distinctions between the various types of intellectual abilities (eg. performance versus verbal) and have provided little information on how psychopaths may differ from others on the various primary mental abilities delineated by theoretical and factorial investigation (Hare, Frazelle, Bus, & Jutai, 1980). Another problem with these studies is that many make use of poorly defined subject selection procedures, seriously limiting the degree to which their results are generalizable (Hare et al, 1980). An exception to this was Hecht and Jurkovic (1978), who examined Wechsler's assumptions regarding the intellectual performance of psychopathic adolescents using precicely defined control groups of neurotic and subcultural delinquents. They found that regardless of personality orientation (psychopathic, neurotic, subcultural), a majority of delinquents obtained higher PIQ's than VIQ's (Hecht & Jurkovic, 1978). As was the case with MMPI protocols, it would appear that poor verbal versus performance scores on the Wechsler tests may relate less to psychopathy per se the than to delinquency in general (Hecht & Jurkovic, 1978). In sum, it would appear that further research is necessary to evaluate the role of the WAIS in the assessment of psychopathy. At present, its utility would appear to be of questionable value.

Behavioral Checklists

The behavioral checklist outlines a series of target behaviors, emotions, or cognitions assembled from a larger pool of items; the rater need only indicate those that occured during the time period specified. The result is a relatively objective, performance based assessment of specific symptoms. An advantage of the checklist approach is that only observable data are involved, without necessity for making inferences about underlying psychological processes. The popularity of behavioral checklists stems in part from suggestions that since the psychological substratum of psychopathy is not yet well defined, attention should be directed to behavioral characteristics (Robins, 1966).

An early behavioral classification system developed by Quay and colleagues (Quay & Parsons, 1971) was based on life history data, behavioral ratings, and personality questionnaire responses. Preliminary analyses purported it to be a reliable and valid method for identifying delinquent subclasses (Hecht & Jurkovic, 1978). Quay's system consisted cf the *Behaviour Problem Checklist* (BPC) which classified delinquent behaviour into three categories: unsocialized-psychopathic, neurotic-disturbed, and socialized-subcultural. Quay and Parsons (1971) later developed the *Checkiist for the Analysis of Life History Data* (CALHD) which included an additional delinquency dimension, the inadequate-immature category. In assessing

psychopathy, Quay and Parsons recommended using the BPC along with the CALHD in addition to a self-report inventory. This procedure, however, has encountered difficulties in convergent validation; the unsocialized-psychopathic scales on the BPC and the CALHD have produced correlation coefficients as low as 0.12 (Hare & Cox, 1978). Further investigation is necessary before the Quay classification system can be regarded as a valid instrument for assessing psychopathy.

A popular, widely used behavioral checklist for assessing psychopathy is found in the criteria for the diagnosis of Antisocial Personality Disorder (APD) in the *Diagnostic and Statistical Manual of the American Psychiatric Association: Third Edition* (DSM-III). The criteria for both APD and APD-R (revised edition) are listed in Appendix A and B. Although considerable overlap exists between DSM-III's APD diagnosis and proven assessment proceedures for measuring psychopathy, DSM-III appears to be of limited value in making differential diagnoses among criminals. For example, 76% of a sample of 146 prison inmates met the criteira for a preliminary draft version of the DSM-III APD diagnosis while 33% of this same sample were diagnosed as psychopathic using more established, reliable methods (Hare, 1980a). Despite subsequent attempts to make its criteria more stringent, it would appear that DSM-III's APD diagnosis is too liberal; it has a tendency to appear synonymous with criminality. In addition, DSM-III appears unable to readily identify individuals who fit the classic picture of psychopathy

but avoided early contact with the judicial system (Hare, 1983).

A more recent checklist developed by Hare (Hare & Frazelle, 1980) examines not only behavioral characteristics but also personality traits and inferred psychological processes considered an integral part of psychopathy (eg. egocentricity, absence of remorse, unreliability, lovelessness and guiltlessness). This in part reflects Hare's opinion that DSM-III places too much emphasis on criminal and delinquent behaviors and not enough on the personality characteristics that underlie them (Hare, 1983). The Psychopathy Checklist (PCL) arose from the need for an objective, reliable instrument whose results could be easily understood and readily communicated to others. Despite the demonstrated effectiveness of global ratings procedures, considerable inference is involved when large amounts of data are integrated into a single score. This degree of subjectivity, given the variety of evaluative frameworks possible, may seriously limit the extent to which generalizations may be made from one investigator to the next. The checklist addresses this issue in that it was constructed to be an operationalization of the global ratings procedure.

The PCL is an instrument of major interest in the present study. For this reason it will be described in greater detail than the instruments listed so far. A brief description of its construction and administration are provided below. Attempts to evaluate its reliability and validity are described thereafter.

Through a variety of statistical procedures, an initial pool of over 100 traits, behaviors, indicants, and counterindicants was reduced to 22 items considered to best represent the essence of psychopathy. Each item is scored on a 3 point scale with a score of 2 indicating that the item in question definitely applied to the inmate, 1 indicating some uncertainty as to its applicability, and 0 indicating that it did not apply. Scores can range from 0-44. Cutoff scores for inmates classified to low, medium and high psychopathy groups are 24 and 34, respectively.

The administration of the PCL occurs in two phases. The first phase includes an examination of an inmate's institutional files. These files typically contain information on criminal history, family background, vocational-educational history, institutional performance logs, and a variety of assessment documents from psychiatrists, psychologists, social workers, probation officers, and a variety of other professionals and paraprofessionals. Phase two consists of a semistructured interview of approximately 90 minutes in length. It covers much of the same material available in phase one with the inclusion of questions relating to drug and alcohol use, present and past interpersonal relationships, and present family relationships. The loose format of the interview is intended to facilitate a relaxed, informal atmosphere in an attempt to elicit maximum cooperation from the inmate. The rationale for this is that given comfortable surroundings, psychopaths will respond to

questions in a manner consonnant to their essential character structure. Raters are then able to make judgements on certain personality features considered important to the concept of psychopathy (eg. manipulative, glib, superficial, etc.).

Psychometric analyses of the PCL report an overall generalizability coefficient of .90 and classical test theory indices of reliability (alpha coefficients, inter- and intrarater reliabilities) of .82 to .92 (Schroeder, Schroeder, & Hare, 1983). A more recent study (Hare, 1985b) reported an interrater reliability coefficient of .89 and a coefficient alpha of .90.

A number of factor analyses have been conducted upon the PCL. Hare (1980b) subjected the PCL to a principal components analysis and extracted 5 orthogonal components, accounting for 61% of the total variance. The factors were defined as such: impulsive, unstable lifestyle with no long term plans or commitments (27.3%); self centeredness, callousness, and a lack of empathy, guilt, remorse or concern for others (13%); superficial interpersonal relationships (8%); early appearance of chronic antisocial behaviors (6.9%); inadequately motivated criminal acts (5.7%). These factors showed considerable overlap with a similar analysis of ratings based upon Cleckley's (1976) 16 criteria (Hare, 1980b). Hare considered this to mean that the factor structure of the PCL was meaningful with respect to traditional concepts of psychopathy. Peterson (1984) also

extracted five orthogonal components closely resembling those reported by Hare (1980b). Similar results were obtained by Kosson, Nichols, and Newman (1985), who reported extracting six orthogonal components. Raine (1985) performed both principal component and common-factor analyses on the PCL. In the first case, he obtained seven components; in the second case he also obtained seven factors although he only interpreted four of them.

As pointed out by Harpur, Hakstian, and Hare (in press), at face value the results of the abovementioned studies suggest that the factor structure of the PCL is replicable across different prison populations and different nations. They go on to caution, however, that a number of methodological problems limit this assertion. First, sample sizes tended to be smaller than conventionally recognized standards (Comrey, 1978; cited in Harpur, Hakstian, and Hare, in press). Second, the interpretations of congruence coefficients with Hare's (1980b) solution were considered to be questionable. Third, the number-of-factors criterion used (the Kaiser-Guttman rule) was considered to be too liberal. To overcome these limitations, Harpur, Hakstian, and Hare (in press) collected data from six prison samples: three from Canada, two from the United States, and one from England. In all, 1119 subjects were used in the analyses. The number of factors to retain was determined empirically through split-half cross-validation (Everett, 1983; cited in Harpur, Hakstian, and Hare, in press) and congruence

coefficients. Results indicated that a two-factor solution was replicable across samples. Factor One reflected core personality traits and was defined by habitual lying and manipulation, superficiality, callousness, and poverty of affect, guilt, remorse, and empathy. Factor Two was defined by chronic, unstable, and antisocial behaviors (Harpur, Hakstian, and Hare, in press).

A revised 20-item version of the PCL is now in use. After preliminary testing, it appears to be psychometrically identical to the original PCL (Hare, 1985a). Copies of both versions of the PCL appear in Appendix C and D. The essential advantage of the PCL over other methods of assessing psychopathy is its emphasis on both long term behavioral indices and the personality dimensions purported to underly them. Given this, and in light of the results presented above, it is not surprising that the PCL consistently proves to be a highly reliable and valid measure of psychopathy.

The PCL : Clinical Version

A considerable amount of evidence exists to attest to the validity and reliability of the PCL (Hare, 1980; 1983; 1985b,c). As a result, its use has become widespread (Newman & Kosson, 1986; Newman, Patterson, & Kosson, 1986). Of particular concern to its originators, however, is the manner in which the PCL is being used.

The PCL was devised as an investigatory tool to be used in selecting subjects for research. Not surprisingly, most if not all efforts to establish its reliability and validity have been conducted under research conditions. Recently, however, it has come to the attention of the test originators that the PCL has generated a considerable amount of interest among clinicians. Given the nature of PCL assessments, it would seem unlikely that clinicians would be able to administer it in its entirety. Both time constraints and the unavailability of complete and accurate file information would necessitate that clinicians either omit items completely or rate them on the basis of clinicial judgment. The former alternative would yield a prorated score while the latter would yield a score based upon degrees of inference not incorporated into the test's design. Either alternative would be expected to yield less systematic, less reliable, and ultimately less valid diagnoses of psychopathy than would be expected were the PCL administered properly.

As a result, work has begun on the development of a derivative of the PCL for use in clinical settings (Cox, Hart, & Hare, 1987). The PCL-Clinical Version (PCL-C) takes the form of a loosely structured interview, much the same as phase two of the PCL. The content of the interview is truncated to include items reflective of interpersonal style, lack of empathy and remorse, and willingness to accept responsibility. The PCL-C makes no attempt to evaluate behavioral indices of psychopathy. Instead, the PCL-C examines those personality features

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psychopaths are most likely to display in an informal interpersonal exchange. Interviews typically last 15-20 minutes, focusing on inmates' perceptions of their crimes, their impact on others, their living status before incarceration (employment, living arrangements, interpersonal relationships), their plans after release, and their reactions to incarceration. Given the psychopath's predisposition to pathological lying, the actual contents of an inmate's verbalizations are not the basis upon which the PCL-C's ratings are made. Rather, it is the *process* by which responses are delivered that clinicians must rate. In essence, the PCL-C is a qualitative rating of the core personality dimensions of psychopathy.

As mentioned earlier, the PCL-C is a derivative of the PCL. It is six items long, and was derived from seven PCL items known to load on the PCL's personality factor. Two of these items were collapsed to form a PCL-C item descriptive of shallow affect/lack of empathy. A copy of the PCL-C appears in Appendix E. Items are scored in identical fashion to the PCL. Scores range from 0 - 12. Scores of 9 or more are considered necessary to classify subjects as psychopathic.

It becomes important to recognize at this point that the PCL-C should not be used as a replacement for the PCL. The PCL-C is borne of only one of 2 factors from the PCL and it is presumptuous to expect similar degrees of discriminability from the two instruments. Rather, the PCL-C should be used in conjunction with an instrument measuring a construct similar to

that measured by the PCL's second factor. The most likely candidate for this inclusion would be the diagnostic criteria for Antisocial Personality Disorder listed in the *DSM-III* or *DSM-III-R*. Despite their tendency to overdiagnose, APD criteria have demonstrated considerable overlap with the PCL and have also been found to be differentially related to the PCL's behavioral factor (Harpur, Hakstian, & Hare, in press). It would be hoped that most clinicians are already familiar with these criteria and that many make use of them in their routine assessments. As mentioned above, the use of APD criteria in isolation is prone to overdiagnosis. It is hoped that the inclusion of the PCL-C into this already existing assessment scheme would overcome this problem and would lead to psychopathy diagnoses approximating the degree of precision already demonstrated by the PCL.

Practical Implications

As mentioned earlier, the PCL appears to be a cumbersome instrument in the hands of clinicians. The joint administration of PCL-C/APD criteria is advantageous in that it takes less time to administer and requires less detailed case history/institutional file information. This assessment scheme has many potential applications within the criminal justice system at many stages of legal procedings. It may be used at the both the pretrial and pre-sentencing stages for inmate disposition purposes. Upon admission to prison, staff may profit from the foreknowledge of a particular inmate afforded by such a

screening procedure. At the end of an inmate's sentence, parole officers may also profit from such information. In addition, service providers both inside and outside the criminal justice system may find PCL-C/APD diagnoses useful when assessing an individual's particular treatment needs. It becomes clear, then, that the PCL-C/APD composite measurement strategy has the potential for being a versatile method for assessing psychopathy. Following a rigorous validation program, it is conceivable that the PCL-C/APD composite may become a method of choice for the identification of psychopathy in a variety of settings, both forensic and nonforensic.

It is important to note, however, that the validation of PCL-C/APD diagnoses should not be limited to examinations of the degree to which they predict scores on the PCL. In fact, a certain degree of disagreement between measurement schemes may be considered both conceptually and practically significant. This would arise from the different functions each instrument would be expected to serve. As a research instrument, the PCL's function is primarily descriptive. Its utility lies in its ability to identify relatively homogeneous subsets of individuals from a larger criminal population. On the other hand, the PCL-C/APD diagnoses have a much more complex task. As a clinical instrument, these diagnoses may be expected to serve explanatory, prognostic, therapeutic, and descriptive functions. Clearly, then, a comprehensive validation effort would need to examine the performance of PCL-C/APD diagnoses using multiple

criteria. Such a project would indeed be ambitious, and is beyond the scope of the present study. Instead, the present study may be considered to be a preliminary step in such a process, examining the descriptive properties of PCL-C/APD diagnoses using the PCL as criterion.

The Present Study

The present study was designed as follows:

1. The PCL-C was administered to subjects that had already been subject to assessment on the PCL. Both sets of scores were then compared. The time span between the two test adminstrations was variable: most subjects were administered the PCL-C two or three days after having been rated on the PCL. For others, this interval was considerably longer, spanning over a number of months.

2. APD/APD-R ratings obtained at the time of the PCL administration were used. Given that almost all subjects had spent the interim period in prison, it was felt that behaviors enacted since the PCL administration would not affect the APD rating to a significant degree. These ratings were considered to be an accurate index of the subjects' long-term behavioral patterns.

3. Mood indices were administered to each subject for two reasons:

   a. to serve as a screen for the true nature of the study. Subjects were informed that the study examined the relation

between a specific interview format and mood states. This procedure was considered necessary in order maximize participation in the study. It was felt that had the prison community been aware that the study dealt with psychopathy, participation would have been minimal.

b. to examine the possible role of mood as a moderator variable on PCL-C scores.

4. Both versions of the PCL and APD criteria were included in the analyses to examine whether significant differences could be detected between versions.

Hypotheses

The purpose of the present study was to examine the relation between the PCL-C and the PCL and to evaluate the degree to which a PCL-C/APD composite diagnosis could serve as an approximation to the PCL. In addition, the following hypotheses were put forth:

Association Between the PCL-C and PCL

1. The PCL-C should correlate moderately with the the PCL. Higher correlations should be obtained between the PCL-C and items known to comprise the personality factor of the PCL.

2. The PCL-C should demonstrate a moderate degree of agreement with the PCL in its assignment of subjects into psychopath and non-psychopath groups. APD criteria are expected to be

more liberal than the PCL in their psychopathy classifications.

3. By themselves, both the PCL-C and APD diagnoses should prove to be inadequate approximations of the PCL. Significantly better results should be obtained when the two measures are combined.

Subject Factors

4. Age would be expected to bear no relation to scores on the PCL-C.

5. Education should bear no relation to scores on the PCL-C.

6. It is predicted that mood will be found to moderate some PCL-C scores. Given that PCL-C ratings are based entirely upon an inmate's personality presentation, it is conceivable that scores may be subject to fluctuations in mood. Inmates experiencing acute forms of subjective distress at the time of testing may be less likely to display some of the more vivid personality characteristics associated with psychopathy. It is expected that these subjects would then receive diminished scores on the PCL-C, compared to situations when they are relatively free of subjective distress.

CHAPTER II

METHOD

Subjects

Data were collected from sixty white male inmates incarcerated in a Canadian federal medium security institution. Ages ranged from 20 to 58 with a mean age of 30.45 (SD = 8.7). Each inmate participated in earlier research projects undertaken by the PCL test constructors. These studies reported no systematic demographic or criminal history differences between those inmates in the subject pool and the remainder of the institution's criminal population. As part of these studies, two raters made independent, complete diagnoses on both the PCL and DSM-III APD criteria. Raters were familiar with the Cleckley conception of psychopathy and were experienced in working with prison inmates. In addition, raters were required to submit to an extensive program of training and supervision in the use of the PCL. For the purposes of the present study, informed consent for the principal investigator to view earlier test results was obtained from each inmate once the study's procedures were explained.

Procedure

In advance of the present study, the principal investigator observed and participated in a number of administrations of the PCL-C. These were conducted in a remand facility as part of an ongoing study by the test's constructors. The principal investigator's ratings were compared to those of two independent judges. Feedback on each judge's scoring rationale was provided following each administration. Eight sessions were required to complete this training regimen.

Subjects were recruited by notice and told that the study was an evaluation of a new interview format for use in criminal populations. They were informed that participation was strictly voluntary and confidential. Signed consent was obtained from all subjects. A copy of the consent form appears in Appendix F.

Subjects were interviewed for approximately 20 minutes. All interviews were videotaped. At the termination of the interview, subjects were required to complete both the Beck Depression Inventory and the state component of the State-Trait Anxiety Inventory. PCL-C ratings were completed by the principal investigator once the subjects had left the interviewing site. Subjects were informed that their test results would be available upon request at the termination of the study. Subjects were paid four dollars for their participation in the study.

A second investigator experienced in the administration of the PCL-C rated a subsample (N=15) of the videotaped interviews. Interrater reliability was measured by correlating this set of scores with those obtained by the principal investigator.

Statistical Analyses

Data were first analyzed by correlation. The relation between continuous variables was measured by Pearson product-moment correlations. Given that the variables of major interest appeared to be distributed normally, correlations were expected to range between -1 and +1. The relation between continuous and dichotomous variables was measured by point-biserial correlations. Being a product-moment correlation, it also ranges from -1 to +1 and can be interpreted in the same way as a Pearson product-moment r. The magnitude of difference between selected pairs of correlations was evaluated using a t-statistic (Hotelling, 1940).

Variables involved in the assignment of subjects into groups were analyzed using cross-tabulations (2 x 2 contingency tables). This method involves the comparison of marginal totals for two variables. The statistics used in these analyses were kappa, maximum-kappa, and tetrachoric correlations.

The kappa coefficient (k) is a measure of interjudge agreement for nominal variables. Given that the debate on whether psychopathy is a categorical or dimensional construct

has yet to be resolved, it was decided that the use of kappa was appropriate for this study.

Maximum-kappa is considered to represent the maximum value of k set by the tabled marginal distributions; $1 - k$ is considered to represent the proportion of the possibilities of agreement (chance excluded) which cannot be achieved as a result of differing marginals. If the latter quantity is large, it is recommended that category boundaries be made more strict (Cohen, 1960).

The tetrachoric correlation is a measure of the relationship between 2 artificially dichotomized continuous variables. It is an estimate of the correlation of the underlying continuous variables that would most likely produce the given results when the variables are artificially dichotomized (Lindeman, Merenda, & Gold, 1980).

The relation between subject variables and PCL-C scores was evaluated by examining the magnitude of difference between group means on the subject variables. Variance agross groups was found to be relatively homogeneous, so t-tests were used (Ferguson, 1981). Given that the groups were of unequal size, t-tests were based upon the more conservative strategy of using separate, rather than pooled variance estimates (Hays, 1981).

The relation between PCL-C/APD diagnoses and scores on the PCL were evaluated using multivariate regression analyses. The identification of outliers was conducted using both Mahalanobis

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distances and deleted residuals (R.F. Koopman, personal
communication, February, 1988).

The means and standard deviations for the PCL-C and both
versions of the PCL are presented in Table 1. The distributions
of raw scores for all three instruments appear in Figures 1 and
2. The distributions for all three sets of scores appear to
approach normality.

The interrater reliability coefficient was .74, which was
considered acceptable for the purposes of this study.

Association Between the PCL-C and the PCL

Correlations between the PCL-C, the PCL, PCL derivatives and
APD diagnoses are summarized in Table 2. The PCL-C demonstrated
a moderate degree of association with total scores on both
versions of the PCL, with most coefficients accounting for about
16 per cent of PCL total score variance. PCL-C scores were then
correlated with the total scores of a cluster of PCL items
identified by Harpur, Hakstian, and Hare (in press) as having a
tendency to load on a the PCL's personality factor. Large
correlations between the PCL-C and the personality factor would
suggest that PCL-C:PCL coefficients may have been attenuated by
the influence of the behavioral factor in determining the
overall PCL score. Obtained coefficients between the PCL-C and
the personality factor were .54 (PCL22) and .47 (PCL20). The

Table 1

<u>PCL-C and PCL Means and Standard Deviations</u>

Name	Mean	Std. Dev.
PCL-C	6.700	2.23
PCL22	26.58	7.68
PCL20	23.60	8.15

PCL-C = PCL:Clinical Version; PCL(22/20) = Psychopathy Checklist
version 22/20.

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Figure 1. Distribution of PCL-C Scores
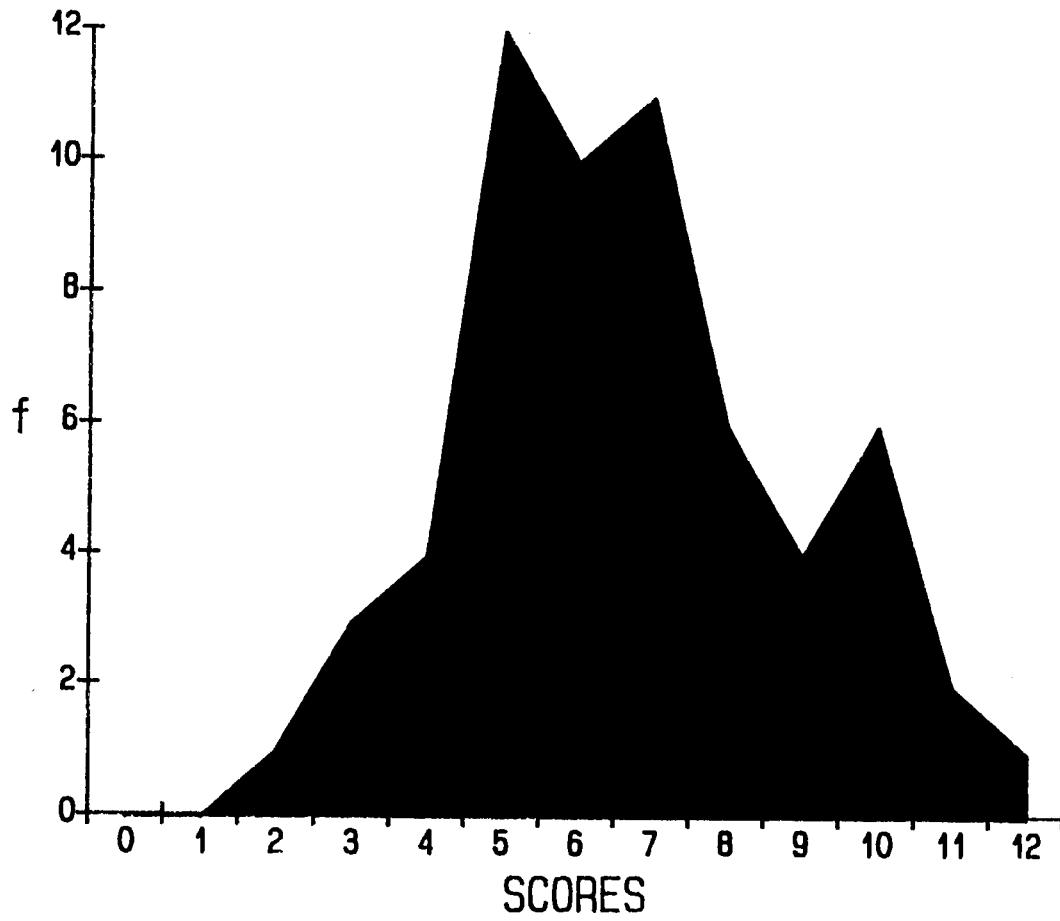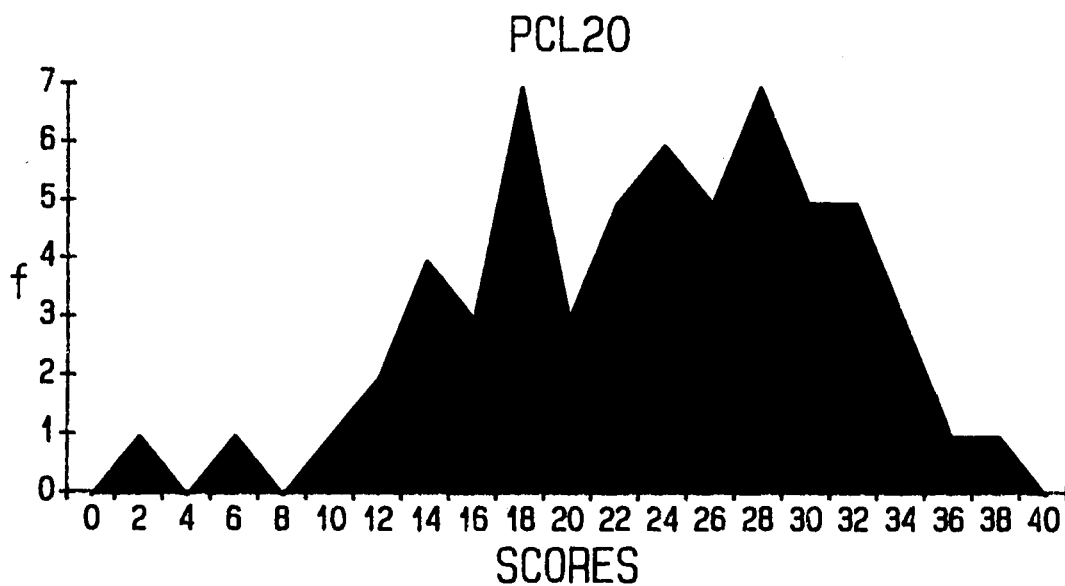
Figure 2. Distribution of PCL Scores
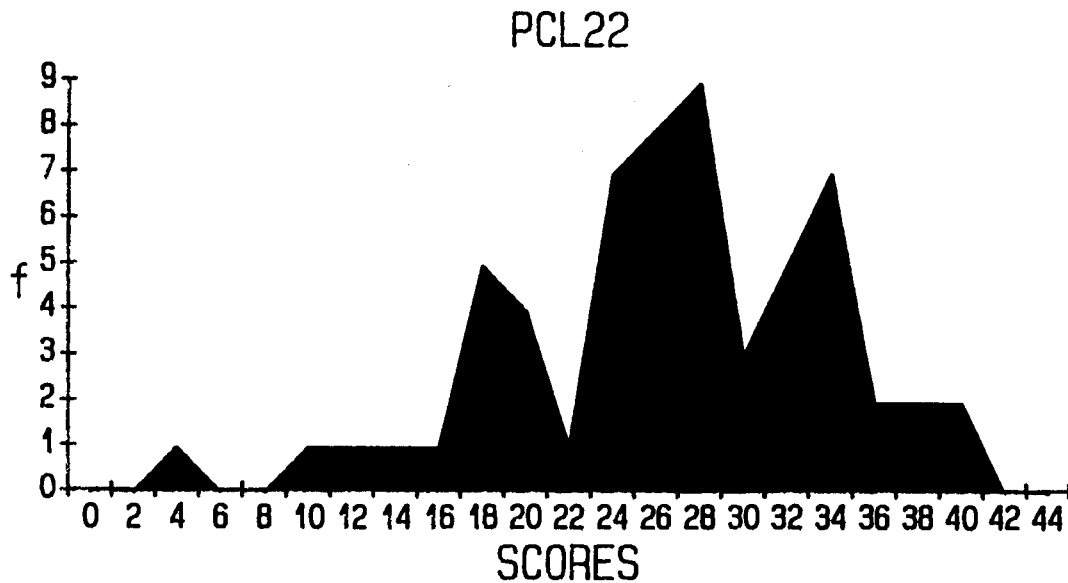
Table 2

Intercorrelations Between Total Scores on the PCL-C, PCL, PCL

Derivatives, and APD Diagnoses

	22	20	F122	F120	F222	F220	CV22	CV20	APD	APD-R
PCL-C	.42	.38	.54	.47	.23	.22	.55	.50	<u>.08</u>	<u>.09</u>
22	---	.97	.85	.83	.89	.88	.77	.81	.55	.54
20		---	.82	.86	.86	.90	.76	.84	.54	.52
F122			---	.94	.53	.55	.96	.94	.30	.27
F120				---	.54	.56	.93	.99	.29	.27
F222					---	.95	.42	.51	.64	.62
F220						---	.45	.54	.37	.36
CV22							---	.94	.18	.17
CV20								---	.25	.23
APD									---	.84
APD-R										---

PCL-C=PCL:Clinical Version; (22/20)=Psychopathy Checklist
version 22/20; CV(22/20)=composite PCL-C derived from PCL
versions 22/20; F1(22/20)=PCL(22/20) Factor One item totals;
F2(22/20)=PCL(22/20) Factor Two item totals.
Note. Negative coefficients are underlined.

difference between PCL-C:PCL and personality factor-PCL coefficients was not found to be statistically significant ($\underline{t}$(57) = 1.972, p<.10, (PCL22); $\underline{t}$(57) = 1.457, p<.20 (PCL20)). This would suggest that the weak relation between the PCL-C and the overall PCL score was not primarily attributable to the PCL's behavioral factor. When correlated with scores on the behavioral factor, the PCL-C yielded coefficients of .23 and .22 for the PCL 22- and 20-item versions, respectively.

A replica of the PCL-C was constructed using item scores from the PCL. Those seven items originally used to construct the PCL-C were extracted from the PCL database and summed to create a PCL-derived PCL-C. This was then correlated with the PCL itself. The obtained coefficients were .77 and .84 for the PCL22- and 20-item versions, respectively. The difference between the PCL:PCL-C and the PCL:PCL derived PCL-C coefficients was found to be statistically significant ($\underline{t}$(57) = 4.37, p<.0005 (PCL22); $\underline{t}$(57) = 6.42, p<.0005 (PCL20)).

No association was found between APD diagnoses and the PCL-C. Point-biserial correlations were slightly negative. APD diagnoses correlated moderately with the PCL and were found to be more strongly associated with the PCL's behavioral factor than with the personality factor.

Categorical Analyses

Subjects were separated into psychopath (P) and
non-psychopath groups based upon their scores on both the PCL-C
and the PCL. Subjects were also separated into groups based upon
the extent to which they met with DSM-III APD criteria.
Previously established PCL cutoff scores were used (Hare,
1985b). It was decided that a PCL-C score of 9 or more would
qualify subjects for the psychopath (P) group (Cox, Hart, &
Hare, 1987).

APD and PCL-C classifications were cross-tabulated with both
versions of the PCL. The PCL-C and the 22-item version of the
PCL agreed on 76% of their overall classifications. Both
instruments judged 21.7% of the subject pool to be psychopathic.
The PCL-C and the 20-item PCL agreed on 75% of their
classifications, with the 20-item PCL placing 30% of the subject
pool into the psychopathic group. PCL and APD diagnoses were
found to agree to a lesser extent. APD diagnoses agreed with the
PCL 22- and 20-item versions on 53.3 % and 61.6 % of their
respective classifications. APD diagnoses classified 35% of the
subject sample as psychopathic compared to 41.7% for diagnoses
based upon APD-R criteria. Agreement was found in 56.6% and 58.3
% of all respective classifications between APD-R diagnoses and
the 22- and 20-item versions of the PCL.

Kappa, maximum-kappa, and tetrachoric correlations were
calculated on the above results. These analyses are summarized

in Table 3. As evidenced by Kappa, the PCL-C demonstrated slightly better agreement with the PCL20 than with the PCL22. APD diagnoses generally showed a lesser degree of agreement in group assignment with the PCL than did the PCL-C.

As mentioned earlier, maximum-kappa is an estimate of the maximum value of k set by the tabled marginal distributions, and $1 - k$ is considered to represent the proportion of the possibilities of agreement (chance excluded) which cannot be achieved as a result of differing marginals. If $1 - k$ is found to be large, it is suggested that category boundaries be made more strict (Cohen, 1960). The obtained coefficients indicate that this was indeed the case with coefficients involving both APD and APD-R generated diagnoses: $1 - k$ was found to range from .46 to .74.

Moderate tetrachoric correlations were obtained between the PCL-C and the PCL: the coefficients were .52 and .58 between the PCL-C and the PCL 22- and 20-item versions, respectively.

Predicting PCL Scores

Multiple regression analyses were conducted to determine the degree to which PCL scores could be predicted from a linear combination of PCL-C scores and APD/APD-R diagnoses. The results of these analyses are summarized in Tables 4 and 5. Multiple R^2 's ranged from .38 to .51 while adjusted R^2's ranged from .35 to .49. This would indicate that after correcting for bias, between

Table 3

Kappa, Maximum-Kappa, and Tetrachoric Correlations

Between the PCL, PCL-C, and APD Diagnoses

Variables	K	K-Max	R.tet
PCL-C - PCL22	.31	1.00	.52
PCL-C - PCL20	.35	.79	.58
APD - PCL22	.20	.26	--
APD - PCL20	.31	.38	--
APD-R - PCL22	.21	.33	--
APD-R - PCL20	.22	.54	--

Table 4

Multiple Correlations Between the PCL and PCL-C/APD Composite
Diagnoses

Variable		R	R^2	Adj.R^2	$F_{(2,57)}$
X	Y				
PCL22	PCL-C/APD	.71	.51	.49	29.33 *
PCL20	PCL-C/APD	.65	.43	.41	21.25 *
PCL22	PCL-C/APD-R	.68	.47	.45	25.19 *
PCL20	PCL-C/APD-R	.61	.38	.35	17.59 *

* $P<.0001$

Table 5

Relative Contribution of Both Predictors To R^2

Variable		Contribution to R^2 *	
X	Y	APD/APD-R	PCL-C
APD/PCL-C	PCL22	.36	.17
APD/PCL-C	PCL20	.34	.10
APD-R/PCL-C	PCL22	.32	.19
APD-R/PCL-C	PCL20	.30	.11

* Coefficients correspond to the amount by which R^2 would be reduced if that variable were removed from the regression equation.

35 and 49 per cent of the total variance of PCL scores could be accounted for by its linear relationship with both PCL-C and APD/APD-R scores. In examining the relative contribution of both predictors to R^2, it was found that APD/APD-R diagnoses accounted for the greater proportion of PCL variance. The coefficients reported correspond to the amount by which R^2 would be reduced if the variable in question were to be removed from the regression equation.

Residual analyses were conducted to examine the appropriateness of a linear model for the present problem. Residuals were plotted against both predictor variables and the predicted criterion. All plots produced a random dispersion of co-ordinates, attesting to both the linearity of the phenomenon as well as the constant variance of the error term. A histogram of residuals produced a near bimodal platikurtic distribution. To satisfy the assumptions of a linear model, the residuals must be normally distributed. Given that both modal points in the distribution were near-centrally located, it was assumed that with a larger sample size the residual distribution would indeed approximate a normal curve.

As is the case in most multivariate analyses, the presence of outliers can be problematic because they exert undue influence on correlations. Outliers were identified by examining both their deleted residuals and their Mahalanobis distances. Histograms and box-and-whisker plots were used to expose those cases whose Mahalanobis distances separated them from the rest

of the distribution. Two cases were identified in this manner. Examination of deleted residuals, however, did not indicate that any cases differed notably from the rest of the distribution. R^2's were computed with and without the abovementioned cases. The discrepancies between coefficients were considered to be negligible; it was decided not to omit these cases from the sample.

Subject Factors Influencing PCL-C Scores

Age of Respondent

The age of respondent appeared to be related to PCL-C scores. A significant difference was found to exist between the mean of the psychopath ($\underline{M}$ =35.02) and the non-psychopath group ($\underline{M}$ = 29.02), $\underline{t}(17.8) = 2.60$, $p<.02$.

Education

Level of education was not found to be related to PCL-C scores. The difference in mean education level between psychopath ($\underline{M}$ = 9.09) and non-psychopath ($\underline{M}$ = 9.83) groups was found to be statistically nonsignificant ($\underline{t}(14.7) = 1.07$, $p<.30$).

Mood During Testing Session

As mentioned earlier, the PCL-C's score is based entirely upon the respondent's interview presentation. It is conceivable, therefore, that PCL-C scores may be affected by the respondent's

mood at the time of testing. Mood was measured by two instruments: the Beck Depression Inventory and the state component of the State-Trait Anxiety Inventory. Standard administration and scoring procedures were used (Beck, 1961; Spielberger, Gorsuch, & Lushene, 1970). Not being a variable of central interest to this study, the effect of mood on PCL-C scores was examined in cursory detail. For this reason, summary scores are not provided here. The data were examined in order to identify those subjects whose mood scores suggested that they were experiencing some degree of subjective distress. This group's PCL and PCL-C scores were then compared. Disagreements in group placement between instruments were noted. In these cases (N = 3) it was thought that mood may have acted as a moderator variable on the PCL-C. Analyses were repeated omitting those three cases. Removing these three cases had a negligible influence on the results of all but the categorical analyses. Kappa and tetrachoric PCL-C:PCL coefficients all increased between .06 and .08.

Equivalence Between Instrument Versions

For all intents and purposes, no remarkable differences were noted between APD and APD-R criteria. Neither did the PCL-22- and 20-item versions differ considerably, with the exception of the Factor two: APD correlations. The difference across PCL versions was found to be statistically significant ($t(57)$ = 66.36, p<.0005 (APD); $t(57)$ = 22.26, p<.0005 (APD-R)). These results appear somewhat puzzling, considering that the

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correlation between the two sets of PCL Factor Two scores was .95. Nevertheless, the remainder of the study's analyses suggested that the two PCL versions were roughly equivalent.

CHAPTER IV

DISCUSSION

Few would disagree that the PCL, properly administered, would be a cumbersome instrument in the hands of clinicians. Many current indices of psychopathy in clinical use place heavy emphasis on behavioral aspects related to psychopathy to the neglect of core personality features. As a result, these measures tend to overdiagnose and often depict psychopathy to be synonymous with criminality (Hare & Cox, 1978). The PCL-C attempts to measure these core personality features in an attempt to improve the specificity of clinical diagnoses of psychopathy. The primary objective of this study was to examine the degree to which the PCL-C did indeed measure these personality features, and to evaluate its role in the development of a clinical approximation to the PCL.

The data generated from this study tended to support most of the given hypotheses. By itself, the PCL-C correlated moderately with the PCL; it bore a stronger relation to scores on the PCL's personality factor. In addition, the linear combination of PCL-C and APD/APD-R diagnoses accounted for a greater proportion of the PCL's variance than did either of these variables in isolation. Also, both the PCL and APD diagnoses demonstrated a strong degree of equivalence across versions. At a statistical level, these findings tend to suggest that a clinically derived approximation to the PCL may be possible provided that the

measures used reflect the content of both PCL factors. That is, significant improvement was noted in the degree to which PCL scores may be predicted when measures of both personality and behavior are used in combination rather than in isolation. Pragmatically, however, the present study's findings suggest that PCL-C/APD diagnoses are of little clinical utility, at least when considered in the context of the PCL. Obtained results indicated that only about 50% of the variance in PCL scores could be attributable to the linear combination of PCL-C/APD diagnoses. Given the complexity of tasks to which these diagnoses may be applied, this degree of error variation would suggest that these diagnoses are presently unsuitable for clinical use.

Association Between the PCL-C and the PCL

When correlating a 2-factor instrument with an instrument purported to measure only one of those two factors, one would expect a considerable proportion of the error variance to be attributable to the influence of the neglected factor. Nevertheless, the one-factor instrument should correlate well with the sum of those items on the second instrument that comprise the common factor. The obtained results did indeed show an increase in the magnitude of coefficients when the PCL-C was correlated with the PCL personality factor as opposed to the PCL total score. This difference, however, was not found to be statistically significant. In fact, the PCL-C was only able to account for for about 29% of the variance in the PCL's

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personality factor scores. It would then seem that other factors are contributing to the PCL:PCL-C error variance to a considerable degree. This assertion was somewhat confirmed by the strong degree of association found between the PCL-derived PCL-C and the PCL. It was not surprising to find that the PCL correlated more strongly with the PCL-derived PCL-C than with the PCL-C itself when one considers that the derivatives contributed in part to the overall PCL score. Differences in coefficient size in the order of .30, however, were not expected and could imply that additional factors, particularly those relating to the testing situation, were in effect. Three such, factors are discussed below.

The first of these is the influence exerted by rater effects. Of particular interest is the degree to which raters are familiar with the general construct of psychopathy and with the specific manner in which it is measured by the PCL. In an attempt to maximize the amount of variance shared by the PCL and the PCL-C, it is suggested that future investigators be somewhat familiar with the administration and scoring of the PCL. Neither the primary investigator nor the rater used for reliability indices were formally trained in the use of the PCL. Given that PCL-C items were derived from items appearing on the PCL, familiarity with the latter instrument would be expected to enhance the criterion-related validity of PCL-C ratings. In addition to PCL training, variance across raters could be further reduced through the standardization of the interview

format. A format analagous to that used with the PCL could be developed for the PCL-C, specifically designed to elicit personality presentation yet still affording for a casual, relaxed, and unobtrusive testing environment. Such a format would need to be more process-oriented than that of the PCL, which appears to place a greater emphasis on the collection of factual, verifiable, data. Another potential confound concerning raters is their general level of experience. Despite being trained in the use of the PCL-C, both the principal investigator and the rater used for reliability indices were relatively inexperienced in forensic assessment: both were graduate students with less than two years of field experience. Owing to this, it may well be that the present results were not a fair assessment of the PCL-C/APD diagnoses. Perhaps these diagnoses, like many clinical instruments in present use (eg. Rorschach, WAIS, Thematic Apperception Test), require a base level of clinical expertise in order to be maximally effective. Replications of the present study using experienced, licenced, forensic clinical practitioners are necessary in order to resolve this issue.

A second factor potentially moderating the relation between the PCL-C and the PCL is the degree to which items on both measures may be considered equivalent. While the item descriptors are almost identical, the sources of information from which each item is scored differs considerably across instruments. Whereas PCL administrators may refer to

institutional records, criminal history data, structured interview data, and their own clinical impressions, users of the PCL-C must base their ratings primarily upon the impression an inmate creates throughout the interview. The PCL administrators would then have a decided advantage over PCL-C users in situations where institutional logs contain converging data on personality variables that only marginally presented themselves throughout the interview. In this way, PCL users would be basing their personality ratings upon information gathered from a more detailed database. Given the limited item equivalency across instruments, it is not surprising to find that the PCL-C and the PCL only relate to a moderate degree.

A third factor to potentially influence PCL:PCL-C correlations is the time interval between the two test administrations. Unless the PCL and PCL-C are administered simultaneously, the uncontrolled effect of history may introduce artifacts into the testing situations. Under these conditions it would be difficult for researchers to report conclusively upon the nature of the relation between the two measures.

Subject Classification

If the PCL-C is to be successfully used as an approximation to the PCL, it must possess a certain degree of precision in its assignment of individuals into groups. Both within and outside the prison environment, numerous sequelae may be imposed upon persons classified as psychopaths; for example, they may be

considered high security risks and thereupon denied bail, parole, or conditional release. It becomes evident, then, that a diagnosis of psychopathy may carry with it a number of serious implications.

At face value, the cross-tabulated data would suggest that the PCL-C and the PCL agreed in their group assignments to a considerable degree. Controlling for chance, however, presented a different situation. Kappa coefficients indicated that with chance excluded, the PCL-C and the PCL agreed on about one third of their classifications. Tetrachoric correlations indicated a similar result. APD diagnoses fared somewhat worse, agreeing with the PCL on about 20 per cent of their classifications. It is interesting to note that APD diagnoses classified a large proportion of the subject sample as psychopathic. Current estimates place the incidence of psychopathy in prisons between 15 and 25 per cent (Hare, 1986). Assuming that present study was not seriously affected by selection bias, it would be unrealistic to assert that between 35 to 40 per cent of the present sample was psychopathic, as suggested by the APD criteria. This supports the notion that APD diagnoses are too liberal, that they tend to overdiagnose and equate psychopathy with criminality.

From the above it may be concluded that in and of themselves, neither the PCL-C nor APD diagnoses demonstrated a degree of agreement with the PCL that could be considered of much practical utility when considering the possible

implications of their use. It would then follow that in isolation, neither instrument could serve as an adequate screening device for the PCL. This is not surprising given that each instrument is purported to measure only one of the two PCL factors. It is their *combined* use that is of interest as a possible clinical approximation to the PCL.

Predicting PCL Scores

It would appear that a linear combination of PCL-C and APD/APD-R ratings was more effective in accounting for the variance in PCL scores than were scores on either instrument alone. The obtained results may be considered somewhat promising in that despite current design limitations, the predictor variables were able to account for a range of the PCL'S variance that approaches fifty per cent. It is expected that with further refinements in both research design and in PCL-C administration these figures would rise considerably.

In examining Table 5 it becomes apparent that the APD/APD-R diagnoses were the most powerful of the two predictor variables. This may in part reflect the fact that the greater proportion of items on both versions of the PCL are behavioral in content. It should also be noted that the same is true of Cleckley's (1976) 16 criteria: the dominant proportion of his descriptors are behavioral. Given that behavioral items contribute most to the PCL total score, it is not surprising that a behavioral predictor variable would account for the greatest proportion of

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the PCL's variance.

Despite being the less powerful of the two predictor variables, the PCL-C does appear to contribute to the predictor equation to a statistically significant degree. Its relative contribution to R^2 was found to vary from .10 to .19. From the perspective of incremental validity, the PCL-C does appear to enhance the degree to which scores on the PCL may be approximated using clinical methods.

It may be useful at this point to emphasize that in evaluating psychometric data, it becomes necessary to discriminate between notions of statistical versus clinical significance. While it is useful to measure the likelihood of a study's results having occurred by chance, clinicians are usually more interested in the absolute magnitude of their findings. From a clinical perspective, it makes little sense to utilize highly reliable instruments whose validity coefficients account for only a minor proportion of the variance of their criterion measures. This appears to have been the case with the PCL-C/APD diagnoses: the obtained results reached a high standard of statistical significance (at times exceeding $p < .0005$), yet the predictors were only able to account for about half of the variance in PCL scores. With an error rate approaching 50%, the clinical utility of PCL-C/APD diagnoses comes into serious question.

On the surface, the results of the present study are not optomistic regarding the clinical utility of PCL-C/APD diagnoses. Before abandoning these diagnoses altogether, however, it may be useful to consider the nature of their criterion, the PCL. One issue to be addressed is the suitability of the PCL as a criterion for PCL-C/APD diagnoses. Given their essential differences (in administration, in data collected), it may be useful to reconsider the degree to which these two instruments could reasonably be expected to overlap. Perhaps better results would be obtained with the use of a criterion more similar in form to the PCL-C/APD diagnoses than the PCL. Unfortunately, such a criterion is not known to exist at the present time. Nevertheless, the exclusivity of the PCL as a criterion for PCL-C/APD diagnoses should not remain unquestioned.

As noted earlier, a clinical instrument may be required to serve a wide variety of functions, compared to instruments used primarily for research. Clinical diagnoses may be used for descriptive, explanatory, prognostic, and therapeutic applications. It would only follow, then, that a comprehensive validation effort would involve criteria representative of each of these applications. The present study examined the descriptive utility of PCL-C/APD diagnoses using PCL scores as the criterion. It is recommended that future validation efforts make use of additional descriptive criteria in addition to criteria reflective of the variety of functions to which

PCL-C/APD diagnoses may be applied.

Subject Factors Affecting PCL-C Scores

Age

The measured relation between age of respondents and scores
on the PCL-C was quite interesting and unexpected. Of special
interest is the direction of this relation. One would have
expected that as a group the psychopaths would have been
somewhat younger than the nonpsychopaths. This would have been
consistent with the contention that psychopaths have a tendency
to 'burn out' with age: that the manifestations of their
disorder tend to become more sublime with age. The obtained
results run contrary to this assertion, suggesting that
psychopathic personality presentation exacerbates with age. It
is interesting to note, however, that the developmental
hypothesis tends to pertain mostly to the behavioral
manifestations of aging psychopaths and pays little attention to
their personality development. It may be that personality
presentation does not attenuate with time, but behavior does. It
may be speculated that behavior becomes less impulsive and
violent in nature as psychopaths age; instead, their crimes may
involve a greater degree of manipulation and coersion. All the
while, their essential personality structure remains relatively
constant. Further research is necessary to address this issue.

An alternate explanation for the abovementioned relation
could be that the PCL-C scores were affected by selection bias.

The subjects in this study were self-selected; they volunteered
after being solicited by the primary investigator. It may be
that psychopathic individuals are more predisposed to
volunteering for such a study than non-psychopaths would be.
Their reasons may include the following: easy money, time off
work, a chance to talk about oneself, boredom, etc. Those
inmates who have had more experience in the prison system, those
who have spent more time incarcerated, and hence, those who are
older, would be more likely than younger inmates to recognize
the secondary gains involved in participating in research
projects. Given this, one would expect that older inmates would
be more likely to participate, especially those who are
psychopathic. This may in part account for the obtained age bias
in the psychopathic group. Future studies may overcome this
problem through the use of more refined sampling procedures that
assure some degree of randomization. A large subject pool would
be required for such a project.

Mood

Many clinical descriptions of psychopathy make explicit
reference to the seeming absence of psychoneurotic
manifestations; psychopathy has not typically been considered to
covary with either mood or anxiety disorders. This is not to say
that psychopaths do not experience anxiety or sadness, but that
they do not typically present these symptoms at a level of
severity that could be considered clinically significant.
Nevertheless, it could be said with some confidence that

psychopaths do indeed experience mood fluctuations in reaction to transient life stressors in a manner analagous to normals. This point is important when considering the significance of an individual's score on the PCL-C. Given that the items are rated on the basis of the individual's presentation in a relatively short interview, it is conceivable that mood fluctuations could have a moderating influence on the total score. In this situation the PCL-C's sensitivity would be reduced. In a prison environment where many unpleasant and stressful stimuli exist, the effect of mood on PCL-C scores should be taken seriously.

The above concern was buttressed by the discovery of three subjects whose scores on mood questionnaires indicated that they were experiencing some form of subjective distress at the time of testing. These individuals were classified as psychopathic on the PCL yet their scores on the PCL-C did not indicate the same result. Assuming these subjects were not dissimulating, it appears possible that their mood at the time of testing moderated their score on the PCL-C. While omitting these subjects from the study had a negligible effect on most analyses, the effect on both kappa and tetrachoric coefficients was notable.

In considering the proposed use of the PCL-C, it becomes evident that the instrument's clinical sensitivity be maximized. While it may be difficult to identify directly those individuals who possess moderated PCL-C scores, it may be useful to incorporate mood measures into the assessment process. Of

particular interest would be those individuals whose behavioral repertoire is grossly antisocial and whose mood scores indicate the current experiencing of a considerable degree of subjective distress. These individuals may then be retested at a later date when the distress will have hopefully dissipated. Their PCL-C scores may then be compared to examine the degree to which mood served as a moderator variable.

Future Research

The present study should be considered a preliminary step in a long process. Numerous refinements are necessary before the PCL-C/APD composite diagnosis can be regarded as a valid instrument for the assessment of psychopathy. Continued research is necessary to bring about those refinements; the following recommendations are put forth in the hopes that they will be incorporated into future designs.

First, raters must become somewhat familiar with the scoring procedures accompanying the PCL. Given the considerable overlap in item content with the PCL, administrators of the PCL-C would no doubt profit from exposure to PCL item operationalizations. While it is true that item descriptors do appear on the PCL-C score sheet, they are not as detailed as those that appear in a manual that is typically distributed to individuals being trained for PCL administration (Hare, 1985c). Rather than creating a truncated version of this manual dealing specifically

with PCL-C items, it is recommended that PCL-C users become familiar with the scoring criteria for all PCL items. It should be reiterated at this point that the above recommendation is presented under the assumption that the PCL is an appropriate criterion for PCL-C/APD diagnoses. Having made this assumption, it only follows that familiarity with the PCL would enhance the degree to which the two assessment methods agree.

Second, the interview format for the PCL-C should be standardized. This would serve to minimize the degree to which variations in interview content could confound results. An analogue of the interview schedule already in use for the PCL would serve this purpose. Owing to the qualitative nature of PCL-C ratings, this schedule would need to be less structured and place less emphasis upon the collection of specific, factual data than the schedule used for the PCL. Instead, the PCL-C schedule could provide *guidelines* for specific discussion topics most likely to permit responses pathognomic of the psychopathic personality. For example, PCL-C Item 5:*Lacks Empathy* may be rated upon the basis of inmates' responses to queries on...

* the impact of their crime(s) upon their families, spouses, and victims.
* the specific nature of their interactions with peers, spouses, and family.
* the manner in which they view their own suffering in the context of the suffering they have inflicted upon others.

This procedure would provide some assurance that PCL-C scores

would be equivalent across raters, given that the ratings would be based upon similar sources of information. The sequence of discussion topics could also be standardized in order to facilitate the development of rapport between the inmate and interviewer: innocuous topics could be discussed first, with the most sensitive topics being scheduled for the latter stages of the interview. In addition to providing content and sequencing guidelines, a PCL-C interview schedule could also serve to reduce error variation attributable to interviewer variables. Users could be provided with guidelines on interviewer behavior and demeanor most likely to elicit prototypical interview behaviors in psychopaths.

Third, the use of highly experienced raters is recommended. As noted earlier, neither rater involved in the present study possessed a professional level of experience in forensic asessment. As a result, the present study's findings may have been an unfair assessment of the efficacy of PCL-C/APD diagnoses. It would be interesting to note if more favorable results would be obtained through the use of professional, expert raters.

Fourth, the role of potential moderator variables must be examined more closely. The present study suggested that mood may have attenuated some PCL-C scores. More variables need to be examined, including those related to setting, task, and numerous demographic variables not considered in this study.

Fifth, it is recommended that future efforts to examine the clinical utility of PCL-C/APD diagnoses be conducted using multiple criteria. A comprehensive evaluation of the validity of these diagnoses would by necessity include the selection of criteria reflective of the variety of functions to which these diagnoses may be applied. For example, if used for prognostic purposes (eg. for parole decisions), PCL-C/APD diagnoses may in part be evaluated by the degree to which they predict rates of recidivism, and/or revocation of parole, probation, or conditional release.

Lastly, it is recommended that future validation studies employ a variety of designs. As pointed out by Sussmann and Robertson (1986), variability in the magnitude of validity coefficients across designs is relatively commonplace. This depends upon subject selection procedures, the choice of either predictive or concurrent designs, and to a lesser extent upon the timing of the criterion measure, the amount of predictor information available, and sample size. They go on to suggest that since different designs yield different advantages, researchers would be most prudent to establish validation research programs consisting of a number of studies using a variety of designs (Sussmann & Robertson, 1986). This author hopes that the present study is a preliminary step in the establishment of such a program for the validation of composite PCL-C/APD psychopathy diagnoses.

REFERENCES

American Psychiatric Association. (1980). <u>Diagnostic and statistical manual of mental disorders</u> (3rd ed.). Washington, D.C.: Author.

Beck, A.T., Ward, C.H., Mendelson, M., Mock, J.E. & Erbaugh, J.K. (1961). An inventory for measuring depression. <u>Archives of General Psychiatry</u>, <u>4</u>, 561-571.

Bernard, J.L., & Eisenman, R. (1967). Verbal conditioning in sociopaths with social and monetary reinforcement. <u>Journal of Consulting Psychology</u>, <u>6</u>, 203-206.

Blackburn, R. (1971). Personality types among abnormal homicides. <u>British Journal of Criminology</u>, <u>11</u>, 14-31.

Blackburn, R. (1973). An empirical classification of psychopathic personality. <u>British Journal of Psychiatry</u>, <u>127</u>, 456-460.

Brantley, P.J. & Sutker, P.B. (1984). Antisocial behaviour disorders. In H.E. Adams & P.B. Sutker (Eds.), <u>Comprehensive handbook of Psychopathology</u> (pp. 439-478). New York: Plenum.

Chesno, F., & Kilmann, P. (1975). Effects of stimulation intensity on sociopathic avoidance learning. <u>Journal of Abnormal Psychology</u>, <u>84</u>, 144-150.

Christie, R., & Geis, F. (1970). <u>Studies in machiavellianism.</u> New York: Academic Press.

Cleckley, H. (1976). <u>The mask of sanity</u>(5th ed). St.Louis: Mosby.

Cohen, J. (1960). A coefficient of agreeement for nominal scales. <u>Educational and Psychological Measurement</u>, <u>20</u>(1), 37-46.

Cox, D.N., Hart, S.D., & Hare, R.D. (1987, June). A clinical version of the psychopathy checklist. In R.D. Hare (Chair), <u>Assessment of psychopathy: New directions, new research</u>. Preconvention workshop conducted at the annual convention of the Canadian Psychological Association, Vancouver, B.C.

Dahlstrom, W.G., & Welsh, G.S. (1960). <u>An MMPI handbook.</u> Minneapolis: University of Minnesota Press.

Dengerink, H.A., & Bertilson, H.S. (1975). Psychopathy and physiological arousal in an aggressive task. Psychophysiology, 12, 682-684.

Doctor, R.M., & Craine, W.H. (1971). Modification of drug language usage of primary and neurotic psychopaths. Journal of Abnormal Psychology , 77, 174-180.

Eysenck, H.J. (1967). The biological basis of personality. Springfield:Thomas.

Eysenck, H.J., & Eysenck, S.B.G. (1978). Psychopathy, personality, and genetics. In R.D. Hare & D. Schalling (Eds.), Psychopathic behaviour: Approaches to research. New York: Wiley.

Ferguson, G.A. (1981). Statistical analysis in psychology and education. New York: McGraw-Hill.

Finney, J.C. (1966). Relations and meanings of new MMPI scales. Psychological Reports, 18, 459-470.

Gilbert, J.G., & Lombardi, D.N. (1967). Personality characteristics of young male narcotic addicts. Journal of Consulting Psychology, 31, 536-538.

Gough, H.G., & Peterson, D.R. (1952). The identification and measurement of predispositional factors in crime and delinquency. Journal of Consulting Psychology, 16, 207-212.

Greer, G.R. (1974). The roles of basal arousal, anticipatory anxiety, and incubation in primary sociopathic delinquents, secondary sociopathic delinquents, high-anxious normal delinquents, and low-normal delinquents.(Doctoral dissertation, University of Pittsburgh, 1973.) Dissertation Abstracts International, 34, 5677B.

Guertin, W.H., Ladd, C.E., Frank, G.H., Rabin, A.I., & Hiester, D.S. (1966). Research with the Weschler Intelligence Scales for Adults: 1960-1965. Psychological Bulletin, 66, 385-409.

Gullick, E.L., Sutker, P.B., & Adams, H.E. (1976). Delay of information in paired-associate learning among incarcerated groups of sociopaths and heroin addicts. Psychological Reports, 38, 143-151.

Hare, R.D. (1968). Detection threshold for electric shock in psychopaths. Journal of Abnormal Psychology, 73, 268-272.

Hare, R.D. (1970a). Psychopathy: Theory and research. New York: Wiley.

Hare, R.D. (1970b). Psychopathy and sensitivity to electrical stimulation. Journal of Abnormal Psychology, 76, 370-374.

Hare, R.D., & Quinn, M.J. (1971). Psychopathy and autonomic conditioning. Journal of Abnormal Psychology, 77, 223-235.

Hare, R.D. (1975). Psychophysiological studies of psychopathy. In D.C. Fowles (Ed.), Clinical applications of psychophysiology . New York: Columbia Univ.

Hare, R.D., & Cox, D.N. (1978). Clinical and empirical conceptions of psychopathy, and the selection of subjects for research. In R.D. Hare & D. Schalling (Eds.), Psychopathic behaviour: Approaches to research. New York: Wiley.

Hare, R.D., Frazelle, J., & Cox, D.N. (1978). Psychopathy and physiological responses to threat of aversive stimulus. Psychophysiology, 15, 165-172.

Hare, R.D., & Frazelle, J. (1980). Some preliminary notes on the use of a research scale for the assessment of psychopathy in criminal populations . Unpublished manuscript, University of British Columbia, Vancouver,Canada.

Hare, R.D. (1980a). A Research scale for the assessment of psychopathy in criminal populations. Personality and Individual Differences, 1, 111-119.

Hare, R.D. (1980b). Biological and behavioral correlates of criminal psychopathy. In A. Guiffre (Ed.), The psychopathic delinquent. Messina: Univ. of Messina Press.

Hare, R.D., Frazelle, J., Bus, J., & Jutai, J.W. (1980). Psychopathy and structure of primary mental abilities. Journal of Behavioral Assessment, 2(2), 77-88.

Hare, R.D. (1982). Psychopathy and the personality dimensions of psychoticism, extraversion, and neuroticism. Personality and Individual Differences, 3, 35-42.

Hare, R.D. (1983). Diagnosis of antisocial personality disorder in two prison populations. American Journal of Psychiatry, 140(7), 887-890.

Hare, R.D. (1985a). The Psychopathy Checklist. Unpublished manuscript. Dept. of Psychology, University of British Columbia.

Hare, R.D. (1985b). Comparison procedures for the assessment of psychopathy. Journal of Consulting and Clinical Psychology, 53(1), 7-16.

Hare, R.D., & Forth, A.E. (1985). Psychopathy and lateral preference. Journal of Abnormal Psychology, 94(4), 541-546.

Hare, R.D. (1986). Psychopathy, stimulation-seeking, and stress. In J. Strelau, F. Farley, & T. Gale (Eds.), Biological foundations of personality and behavior Hillsdale: Erlbaum.

Harpur, T.J., Hakstian, R., & Hare, R.D. (in press). The factor structure of the psychopathy checklist. Journal of Consulting and Clinical Psychology.

Hawk, S.S., & Peterson, R.A. (1974). Do MMPI psychopathic deviancy scores reflect psychopathic deviancy or just deviancy? Journal of Personality Assessment, 38(4), 462-368.

Hays, W.L. (1981). Statistics (3rd ed.). New York: Holt, Rinehart, & Winston.

Hecht, I.H., & Jurkovic, G.J. (1978). The performance-verbal IQ discrepancy in differentiated subgroups of delinquent adolescent boys. Journal of Youth and Adolescence, 7(2), 197-201.

Hedlund, J.L. (1977). MMPI clinical scale correlates. Journal of Consulting and Clinical Psychology , 47, 509-516.

Hotelling, H. (1940). The selection of variates for use in prediction with some comments on the general problem of nuisance parameters. Annals of Mathematical Statistics, 11, 271-283.

Jenkins, R.L. (1964). Diagnosis, dynamics, and treatment in child psychiatry. Psychiatric Research Reports, 18, 91-120.

Jenkins, R.L. (1966). Psychiatric syndromes in children and their relation to family background. American Journal of Orthopsychiatry, 36, 450-457.

Johnson, J.H. (1974). A cross validation of seventeen experimental MMPI scales related to antisocial behaviour. Journal of Clinical Psychology, 30(4), 564-565.

Kammeier, M.L., Hoffman, H., & Loper, R.G. (1973). Personality characteristics of alcoholics as college freshmen and at time of treatment. Quarterly Journal of Studies on Alcohol, 34, 390-399.

King, G.D., & Kelley, C.K. (1977). Behavioural correlates for spike-4, spike-9, and 4-9/9-4 MMPI profiles in students at a university mental health center. Journal of Clinical Psychology , 33, 718-724.

Kossom, D.S. & Newman, J.P. (1986). Psychopathy and the allocation of attentional capacity in a divided-attention situation. Journal of Abnormal Psychology, 95(3), 257-263.

Kosson, D.S., Nichols, S., & Newman, A. (1985). Assesment of psychopathy in a united states prison using Hare's 22-item checklist. Unpublished manuscript, University of Wisconsin, Madison, U.S.A.

Lewandowski, D., & Graham, J.R. (1972). Empirical correlates of frequently occurring two-point MMPI code types: A replicated study. Journal of Consulting and Clinical Psychology, 39, 467-472.

Lidberg, L., Levander, S., Schalling, D., & Lidberg, Y. (1978). Urinary catecholamines, stress, and psychopathy: A study of arrested men awaiting trial. Psychosomatic Medicine, 40, 116-125.

Lindeman, R.H., Merenda, P.F., & Gold, R.Z. (1980). Introduction to bivariate and multivariate analysis. Glenview: Scott, Foresman, and Co.

Matarazzo, J.D. (1972). Weschler's measurement and appraisal of adult intelligence (5th ed). Baltimore: Williams and Wilkins.

McEvoy, R.J. (1978). A comparison of classical "psychopathic-like" and symptomatic "psychopathic-like" male juvenile delinquents: An actuarial study of the different between groups formed on the basis of MMPI code types. Dissertation Abstracts International, 39(3-B), 1489-1490.

Megargee, E.I. (1972). The California Psychological Inventory handbook. San Fransisco: Jossey-Bass.

Megargee, E.I., & Dorhout, B. (1977). Revision and refinement of the classificatory rules. Criminal Justice and Behaviour, 4, 125-148.

Newman, J.P., Patterson, M.C., & Kosson, D.S. (1986). Response perseveration in psychopaths. Journal of Abnormal Psychology, 96(2), 145-148.

Newman, J.P., & Kosson, D.S. (1986). Passive avoidance learning in psychopathic and nonpsychopathic offenders. Journal of Abnormal Psychology, 95(3), 252-256.

Olson, R.W. (1964). MMPI sex differences in narcotic addicts. Journal of General Psychology, 71, 257-266.

Painting, D.H. (1961). The performance of psychopathic individuals under conditions of positive and negative partial reinforcement. Journal of Abnormal Psychology, 62, 352-355.

Peterson, B.J. (1984). Cross-validation of the Checklist for the Assessment of Psychopathy in a prison sample. Ann Arbor, MI, University Microfilms International.

Prentice, N.M., & Kelley, F.J. (1963). Intelligence and delinquency: A reconsideration. Journal of Social Psychology, 10, 327-333.

Quay, H.C. (1964a). Personality dimensions in delinquent males as inferred from the factor analysis of behavior ratings. Journal of Research in Crime and Delinquency, 1, 33-37.

Quay, H.C. (1964b). Dimensions of personality in delinquent boys as inferred from the factor analysis of case history data. Child Development, 35, 479-484.

Quay, H.C., & Parsons, L. (1971). The differential behavioural classification of the juvenile offender. Washington D.C.: Bureau of Prisons, U.S. Department of Justice.

Raine, A. (1985). A psychometric assessment of Hare's checklist for psychopathy on an English prison population. British Journal of Clinical Psychology, 24, 247-258.

Robins, L.N. (1966). Deviant children grown up. Baltimore: Williams & Wilkins.

Rosen, A.S., & Schalling, D. (1971). Probability learning in psychopathic and nonpsychopathic criminals. Journal of Experimental Research in Personality, 5, 191-198.

Saccuzzo, D.P., & Lewandowski, D.G. (1976). The WISC as a diagnostic tool. Journal of Clinical Psychology, 32, 115-124.

Schalling, D., Lidberg, L., Levander, S.E., & Dahlin, Y. (1973).
     Spontaneous autonomic activity as related to psychopathy.
     Biological Psychology, 1, 83-97.

Schalling, D., Rosen, A., & Levander, S. (1975). An application
     of latent profile analysis of personality variables in a
     group of criminal subjects. Unpublished Manuscript,
     University of Stockholm.

Schmauk, F.J. (1970). Punishment, arousal, and avoidance
     learning in sociopaths. Journal of Abnormal Psychology,
     76, 325-335.

Schroeder, M.L., Schroeder, K.G., & Hare, R.D. (1983).
     Generalizability of a checklist for the assessment of
     psychopathy. Journal of Consulting and Clinical
     Psychology, 51, 511-516.

Smith, R.J., & Griffith, J.E. (1978). Psychopathy, the
     machiavellian, and anomie. Psychological Reports , 42(1),
     258.

Spielberger, C., Gorsuch, R., Lushene, R. (1970). Manual for the
     State-Trait Anxiety Inventory. Palo Alto: Consulting
     Psychologists Press.

Stewart, D.J., & Resnick, H.J. (1970). Verbal conditioning of
     psychopaths as a function of experimenter-subject sex
     differences. Journal of Abnormal Psychology, 75, 90-92.

Sussmann, M., & Robertson, D.U. (1986). The validity of
     validity: An analysis of validation study designs. Journal
     of Applied Psychology, 71(3), 461-468.

Sutker, P.B. (1971). Personality differences and sociopathy in
     heroin addicts and nonaddict prisoners. Journal of
     Abnormal Psychology, 78, 247-251.

Sutker, P.B., & Allain, A.N. (1983). Behaviour and personality
     assessment in men labelled adaptive sociopaths. Journal of
     Behavioural Assessment, 5, 65-79.

Sutker, P.B., & Moan, C.E. (1973). A psychosocial description of
     penitentiary inmates. Archives of General Psychiatry, 29,
     663-667.

Sutker, P.B., Gil, S.H., & Sutker, L.W. (1971). Sociopathy and
     serial learning of CVC combinations with high and low
     social-content ratings. Journal of Personality and Social
     Psychology, 17, 158-162.

Sutker, P.B., Moan, C.E., & Allain, A.N. (1974). WAIS performance in unincarcerated groups of MMPI-defined sociopaths and normal controls. Journal of Consulting and Clinical Psychology, 42, 307-308.

Sutker, P.B., Archer, R.P., Brantley, P.J., & Kilpatrick, D.G. (1979). Alcoholics and opiate addicts: Comparison of personality characteristics. Journal of Studies on Alcohol, 40, 635-644.

Sutker, P.B., Patsiokas, A.T., & Allain, A.N. (1981). Chronic illicit drug abusers: Gender comparisons. Psychological Reports , 49, 383-390.

Wechsler, D. (1958). The measurement and appraisal of intelligence (4th ed.). Baltimore: Williams & Wilkins.

Widom, C.S. (1976). Interpersonal and personal construct systems in psychopaths. Journal of Consulting and Clinical Psychology , 44, 614-623.

APPENDIX A

DSM-III 301.70: Antisocial Personality Disorder

A. Current age at least 18

B. Onset before age 15 indicated by a history of 3 or more of the following before that age:

1.   Truancy (positive if it amounted to at least 5 days per year for at least 2 years, not including the last year of school).
2.   Expulsion or suspension from school for misbehavior.
3.   Delinquency (arrested or referred to juvenile court because of behavior).
4.   Running away from home overnight at least twice while living in parental or parental surrogate home.
5.   Persistent lying.
6.   Repeated sexual intercourse in casual relationship.
7.   Repeated drunkedness or substance abuse.
8.   Thefts.
9.   Vandalism.
10. School grades markedly below expectations in relation to estimated or known IQ (may have resulted in repeating a yr).
11. Chronic violations of rules at home and/or at school (other than truancy).
12. Initiation of fights.

C. At least 4 of the following manifestations of the disorder since age 18:

1.   Inability to sustain consistent work behavior, as indicated by any of the following:
     a. too frequent job changes (e.g., 3 or more jobs in 5 years not accounted for by nature of job or economic or seasonal fluctuation).
     b. significant unemployment (e.g., 6 months or more in 5 years when expected to work).
     c. serious absenteeism from work (e.g. average 3 days or more of lateness or absence per month).
     d. walking off several jobs without other jobs in sight.
     NOTE. Similar behavior in an academic setting during the last few years of school may substitute for this criterion in individuals who by reason of their age or circumstances have not had an opportunity to demonstrate occupational adjustment.

2. Lack of ability to function as a responsible parent as evidenced by one or more of the following:
   a. Child's malnutrition.
   b. Child's illness resulting from lack on minimal hygiene standards.
   c. Failure to obtain medical care for a seriously ill child.
   d. Child's dependence on neighbors or nonresident relatives for food and/or shelter.
   e. Failure to arrange for a caretaker for a child under 6 when parent is away from home.
   f. Repeated squandering, on personal items, of money required for household necessities.
3. Failure to accept social norms with respect to lawful behavior as indicated by any of the following:
   a. Repeated thefts.
   b. Illegal occupation (pimping, prostitution, fencing, selling drugs).
   c. Multiple arrests.
   d. A felony conviction.
4. Inability to maintain enduring attachments to a sexual partner as indicated by 2 or more divorces and/or separations (whether legally married or not), desertion of spouse, promiscuity (10 or more sexual partners within one year).
5. Irritability and aggressiveness as indicated by repeated physical fights or assault (not required by one's job or to defend someone or oneself), including spouse or child beating.
6. Failure to honor financial obligation, as indicated by repeated defaulting on debts, failure to provide child support, failure to support other dependents on a regular basis.
7. Failure to plan ahead, or impulsivity, as indicated by traveling from place to place without a prearranged job or clear goal for the period of travel or clear idea about when the travel will terminate, or lack of a fixed address for a month or more.
8. Disregard for the truth as indicated by repeated lying, use of aliases, "conning" other for personal profit.
9. Recklessness, as indicated by driving while intoxicated or recurrent speeding.

D. A pattern of continuous antisocial behavior in which the rights of others are violated, with no intervening period of at least 5 years without antisocial behavior between age 15 and the present time (except when the individual was bedridden or confined in a hospital or penal institution.

E. Antisocial behavior is not due to either Sever Mental Retardation, Schizophrenia or manic episodes.

DSM-III-R 307.70 (Antisocial Personality Disorder)

A. Current age at least 18

B. Evidence of Conduct Disorder with onset before age 15, as indicated by a history of three or more of the following:

1. was often truant
2. ran away from home at least twice while living in parental or parental surrogate home.
3. often initiated physical fights.
4. used a weapon in more that one fight.
5. forced someone into sexual activity with him or her.
6. was physically cruel to animals.
7. was physically cruel to other people.
8. deliberately destroyed others' property (other than by fire-setting).
9. deliberately engaged in fire-setting.
10. often lied (other than to avoid physical or sexual abuse).
11. has stolen without confrontation of a victim on more than one occasion (including forgery).
12. has stolen with confrontation of a victim (e.g., mugging, purse snatching, extortion, armed robbery).

C. A pattern of irresponsible and antisocial behavior since the age of 15, as indicated by at least four of the following:

1. is unable to sustain consistent work behavior, as indicated by any of the following (including similar behavior in academic settings if the person is a student):
   a. significant unemployment for six months or more within five years when expected to work and work was available.
   b. repeated absences from work unexplained by illness in self or family.
   c. abandonment of several jobs without realistic plans for others.
2. fails to conform to social norms with respect to lawful behavior, as indicated by repeatedly performing antisocial acts that are grounds for arrest (whether arrested or not), e.g., destroying property, harassing others, stealing, pursuing an illegal occupation.
3. is irritable and aggressive, as indicated by repeated physical fights or assaults (not required by one's job or to defend someone or oneself), including spouse- or child-beating.
4. repeatedly fails to honor financial obligations, as indicated by defaulting on debts or failing to provide child support or support for other dependents on a regular

basis.
5. fails to plan ahead, or is impulsive, as indicated by one or both of the following:
a. traveling from place to place without a prearranged job or clear goal for the period of travel or clear idea about when the travel would terminate.
b. lack of a fixed address for a month or more.
6. has no regard for the truth, as indicated by repeated lying, use of aliases, or "conning" others for personal profit or pleasure.
7. is reckless regarding his or her own or others' personal safety, as indicated by driving while intoxicated, or recurrent speeding.
8. if a parent or guardian, lacks ability to function as a responsible parent, as indicated by one or more of the following:
a. malnutrition of child.
b. child's illness resulting from lack of minimal hygiene standards.
c. failure to obtain medical care for a seriously ill child.
d. child's dependence on neighbours or nonresident relatives for food or shelter.
e. failure to arrange for a caretaker for young child when parent is away from home.
f. repeated squandering, on personal items, of money required for household necessities.
9. has never sustained a totally monogamous relationship for more than one year.
10. lacks remorse (feels justified in having hurt, mistreated, or stolen from another).

D. Occurence of antisocial behavior not exclusively during the course of Schizophrenia or manic episodes.

APPENDIX C

PCL - 22 Version 1.80: Hare, 1980

Subject: _____ TOTAL SCORE:__/__
  Date: _____ Prorate Score: __/44
  Rater: _____ Prototypicality:___
                              (# of 2's)

1. Glibness/superficial charm...............0 1 2 omit
2. Previous diagnosis as psychopath........0 1 2 omit
3. Egocentricity/grandiose sense of
   self-worth................................0 1 2 omit
4. Proneness to boredom/
   low frustration tolerance................0 1 2 omit
5. Pathological lying and deception........0 1 2 omit
6. Conning/lack of sincerity...............0 1 2 omit
7. Lack of remorse or guilt................0 1 2 omit
8. Lack of affect and emotional depth......0 1 2 omit
9. Callous/lack of empathy.................0 1 2 omit
10. Parasitic lifestyle.....................0 1 2 omit
11. Short-tempered/
    poor behavioral controls.................0 1 2 omit
12. Promiscuous sexual relations............0 1 2 omit
13. Early behavior problems.................0 1 2 omit
14. Lack of realistic, long term plans......0 1 2 omit
15. Impulsivity.............................0 1 2 omit
16. Irresponsible behavior as parent.......0 1 2 omit
17. Frequent marital relationships..........0 1 2 omit
18. Juvenile delinquency....................0 1 2 omit
19. Poor probation or parole risk...........0 1 2 omit
20. Failure to accept responsibility
    for own actions..........................0 1 2 omit
21. Many types of offense...................0 1 2 omit
22. Drug or alcohol abuse not direct........0 1 2 omit

APPENDIX D

PCL - 20 Version 2.85: Hare, 1985

Subject: _____   TOTAL SCORE:__/__
  Date: _____   Prorated Score: ___/40
  Rater: _____   Prototypicality:___
                 (# of 2's)

 1. Glibness/superficial charm...............0 1 2 omit
 2. Grandiose sense of self-worth...........0 1 2 omit
 3. Need for stimulation/
    proneness to boredom.....................0 1 2 omit
 4. Pathological lying......................0 1 2 omit
 5. Conning/manipulative....................0 1 2 omit
 6. Lack of remorse or guilt................0 1 2 omit
 7. Shallow affect..........................0 1 2 omit
 8. Callous/lack of empathy.................0 1 2 omit
 9. Parasitic lifestyle.....................0 1 2 omit
10. Poor behavioral controls................0 1 2 omit
11. Promiscuous sexual behavior............0 1 2 omit
12. Early behavior problems.................0 1 2 omit
13. Lack of realistic, long term plans......0 1 2 omit
14. Impulsivity.............................0 1 2 omit
15. Irrsponsibility.........................0 1 2 omit
16. Failure to accept responsibility
    for own actions..........................0 1 2 omit
17. Many short-term marital relatioships....0 1 2 omit
18. Juvenile delinquency....................0 1 2 omit
19. Revocation of conditional release.......0 1 2 omit
20. Criminal versatility....................0 1 2 omit

The Psychopathy Checklist: Clinical Version

Subject:_____   TOTAL:___/___

  Date:_____   Prorated Score:___/6

  Rater:_____   PCL Group: NP   M   P

Item 1: Superficial.............................0 1 2   omit
- presentation is shallow and difficult to believe
- displays of emotion do not appear genuine
- attempts to portray himself in a good light
- tells unlikely stories; has convincing explanations for his behavior
- alters his statement when challenged with facts or inconsistencies
- uses technical language and jargon, often inappropriately

Item 2: Grandiose...............................0 1 2   omit
- view of his abilities and self-worth inflated
- self-assured and opinionated
- exaggerates his status and reputation
- considers his circumstances to be the result of bad luck
- sees himself as a victim of the system
- displays little concern for the future
- plans are unrealistic given his academic or occupational skills

Item 3: Manipulative............................0 1 2   omit
- manipulates without concern for the rights of others
- distorts the truth
- deceives with self-assurance and no apparent anxiety
- a fraud artist or con man
- enjoys deceiving others

Item 4: Lacks Remorse...........................0 1 2   omit
- appears to have no capacity for guilt; no conscience
- verbalizes remorse in an insincere manner
- denies or minimizes his effect on victims
- displays little emotion in regard to his actions
- does not appreciate his impact on others
- concerned more with his own suffering than that of others

Item 5: Lacks Empathy...........................0 1 2   omit
- cold and callous
- indifferent to the feelings or concerns of others
- unable to appreciate the emotional consequences of his actions
- expressed emotions are shallow and labile
- verbal and nonverbal expressions of emotion are inconsistent

<u>Item 6: Doesn't Accept Responsibility</u>........0 1 2 omit
- rationalizes; downplays the significance of his acts
- minimizes the effects of his offences
- projects blame onto others or circumstances
- may maintain his innocence or minimize his involvement in
crimes
- may argue that he has been framed or victimized
- may claim amnesia or blackouts for events surrounding offences

CONSENT FORM

Investigator: Rob Roy

The purpose of this project is to test a new interview format for use in criminal populations. You will be asked to participate in an interview about 15-20 minutes long. Discussion topics may include things like the impact of your sentence, your living status before coming to prison, your plans after release, and your reactions to incarceration. In addition, you will be asked to complete some short tests, designed to assess your mood state as a function of the interview.

Anything you say during the interview will be kept strictly confidential. No prison or parole board official will have access to this information. Your name will only appear on this consent form. All other information will be number-coded with the codes being stored in a secure place outside the institution. You will be paid $4.00 for your participation in this study.

If you have any questions regarding the procedures just described, please ask. You are free to withdraw from the study at any time or refuse to answer any questions you don't like. Refusal or withdrawal will not influence future treatment or medical care decisions. Neither will it affect your standing in the institution. Any complaints regarding the study should be directed to the investigator named above or to Roger Blackman, PhD; Director , Department of Psychology, Simon Fraser University.

I, _____ have read and understand the above statement. I agree to participate in the abovementioned research project.

Signed,_____

Date,_____

Witness_____