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Predicting Aggressive and Socially Disruptive Behavior in a Maximum Security Forensic Psychiatric Hospital

ABSTRACT: The predictive utility of Hare, Hart, and Cox's Psychopathy Checklist Screening Version (PCL:SV) was assessed utilizing a sample of forensic psychiatric patients from Vernon State Hospital in Vernon, Texas. A sample of 55 patients were interviewed and rated on the PCL:SV. During a six month follow up, occurrences of self-harm (suicide attempts and self mutilation), aggression (verbal abuse and threats, irritability, belligerence, and fighting) escape potential (threats and attempts), and treatment refusal (medication, tests, and physician's appointments) were rated. Separate stepwise multiple regression analyses were performed utilizing patient's age, type of charges, documented history of alcohol/drug abuse and the PCL:SV as predictor variables. Results indicate that the PCL:SV is predictive of aggression and treatment noncompliance.

KEYWORDS: forensic science, psychiatry, psychology, forensic psychiatry, forensic psychology, aggression, dangerousness, psychopathy, treatment refusal, forensic evaluations

Clinical studies have indicated that psychiatric patients pose an increased risk for disruptive and assaultive behavior. For instance, Menuck reported that more than one-half of psychiatric patients either seen in emergency settings or admitted to hospitals are physically aggressive (1). Werner, Yesavage, Becker, Brunsting, and Isaacs in a study of 110 male schizophrenic patients found verbal hostility in 34.6% of patients and assaultive behavior occurred in 13.6% of patients. Interestingly, nearly all assaultive behavior (80%) was preceded by verbal hostility (2).

Forensic and correctional patients typically pose an additional risk of violent behavior, based on their prior histories of aggressive behavior (3,4). However, attempts to predict this increased risk have yielded disappointing results for dangerousness predictions in judicially-released maximum security patients (5,6). The methodological limitations of these naturalistic designs have been thoroughly examined (7). The chief consideration is that the most dangerous patients were not released to the community but to less secure hospitals where they were closely observed and actively treated.

A critical issue to forensic psychiatry and psychology is the establishment of empirically validated methods of determining which patients may present an institutional risk by acting in an aggressive or socially disruptive manner. Presumably, if clinicians

were able to more reliably make these predictions, then appropriately applied interventions might reduce such behavior. The obvious benefits would be reduced risk to staff and other patients and a greater capacity to focus unit programming on therapeutic interventions.

Recent interest has been shown in the role of psychopathy as a predictor of future aggression in correctional and forensic populations. Hare and his colleagues have instituted the first systematic studies through the development of the Psychopathy Checklist (PCL) (8–12) and it subsequent revision the Psychopathy Checklist-Revised (PCL-R) (13–15). A major effort with the PCL/PCL-R has been its use with correctional inmates in the predictions of parole violations and recidivism (16). Research has also suggested its potential usefulness with maximum security forensic patients. However, these latter studies were constrained by two methodological problems: The use of retrospective record reviews without standardized PCL-R interviews and coding of PCL data by researchers who may not have been completely blind to the outcome criteria (17,18).

Hare (8) developed the PCL in the form of a twenty-two item checklist that utilized items that he and his colleagues felt best distinguished between those inmates with low and high ratings of psychopathy. Regarding its psychometric properties, he reported excellent inter-rater reliability between two independent experienced raters ($r = .93$) for total PCL scores. In addition, the PCL is composed of two broad dimensions as established through factor analytic studies (10). Factor 1 consists of core personality traits and measures such characteristics as superficiality, lying, manipulation, and lack of affect, guilt and remorse. Factor 2 consists of items that measured chronic instability and antisocial lifestyle. Hare (13) has reported that several studies have demonstrated a moderate to strong relationship between PCL/PCL-R total scores and DSM-III diagnoses of APD (19) with point-biserial correlations ranging from .45 to .90, and one study has suggested a similar relationship ($r = .71$) with DSM-III-R diagnoses of APD (20).

Harpur, Hare, and Hakstian (11) suggested that these two factors may have implications for the interpretation and clinical use of the PCL. Factor 1 was found to be most closely related to measures of interpersonal dominance, low levels of anxiety, and psychopathic personality characteristics as conceptualized by Cleckley, (21) while Factor 2 was more closely related to measures such as the *Pd* and *So* scales of the MMPI-2 and diagnoses of APD. The authors concluded that the classification of psychopathy must take into account the variations of personality traits and behaviors represented by both PCL factors.

In summary, the Psychopathy Checklist has proven to be a valid and reliable tool for the measurement of psychopathy in forensic populations. When used with white adult male offenders, it has

been shown to predict unauthorized absences and parole release outcomes (22). Hart, Kropp, and Hare also demonstrated that PCL scores adequately differentiated between offenders on the likelihood of violation of conditions of release, and the probability of remaining out of prison for one year (23). More specifically, they found that high scorers on the PCL were almost three times more likely to violate conditions of their release and almost four times more likely to commit a future violent crime during their release period than were low scorers. Furthermore, Harris, Rice, and Cormier (24) found that the violent recidivism rate of forensic psychiatric patients following release from an intensive therapeutic program was 77% for psychopaths compared to 21% for nonpsychopaths.

Despite the excellent psychometric properties of the PCL-R, Hare, Hart, and Cox cite several impediments to its use in clinical practice (25). First, conducting the PCL-R interview is a time-consuming process sometimes requiring two to three hours for the interview and additional time to review the case file. Second, the PCL-R was normed on incarcerated offenders and may not be generalizable to other populations. Finally, the PCL-R is geared toward assessing life-long psychopathy and thus is not sensitive to time- or treatment-related changes in symptomatology. To address these issues, Hare, Hart, and Cox developed the Psychopathy Checklist Screening Version (PCL:SV) (25).

Hare, Hart, and Cox report that the PCL:SV is shorter, easier to administer, and less concerned with overt criminal acts. Hare and Hart in an unpublished manuscript cited in Hare, Hart, and Cox (25) examined the association between the PCL:SV, the PCL-R, and diagnoses of APD according to DSM-III-R criteria. They reported that the correlation between the PCL:SV total scores and the PCL-R total scores was .75. The correlation of the total scores of the PCL:SV and APD diagnoses was .53. Furthermore, PCL:SV factor analysis was similar to the PCL-R with two factors accounting for 53.3% of the variance. While these initial studies indicate that the PCL:SV has similar psychometric properties to those of the PCL-R, to date no studies have evaluated the predictive validity of the PCL:SV.

The present study examines the clinical influence of the PCL:SV as a predictor of those forensic patients who are institutional management problems in a maximum security facility. We hypothesized that high scorers on the PCL:SV would exhibit significantly more verbal abuse, aggressive acting out, and physical assaults, both towards staff and other patients, than low scorers.

Method

Subjects

Fifty-five male adult offenders were recruited from Vernon State Hospital in Vernon, Texas. The subjects ranged in age from 19 to 69 (M = 35.42, SD = 9.96); the racial composition was 50.9% Caucasians, 32.7% African Americans, 12.7% Hispanic Americans, and 3.6% other. The majority of subjects were judicially committed after having been found incompetent to stand trial (81.8%); and others were institutionalized after being found Not Guilty by Reason of Insanity (14.5%). A small percentage of subjects had been civilly committed after having been deemed manifestly dangerous (3.6%). Of those with criminal charges, approximately 40% of the subjects had been charged with property offenses and 60% had been charged with offenses against persons. The majority (74.5%) of the subjects had documented drug/alcohol abuse or dependence.

Materials

The Interview Schedule for the PCL:SV is designed to be completed during the interview and used in conjunction with case file information to complete the PCL:SV Scoring. The original scoresheet listed each of the twelve items, and a general description of its subcriteria. In order to augment data collection, the scoresheet was refined by the addition of ratings for both the twelve items and their respective subcriteria.

Each subject's hospital case files were reviewed for reports of suicide attempts, self mutilation, verbal abuse, verbal threats, irritability, belligerence, fighting, escape threats, escape attempts, refusal of medication, and refusal of laboratory or physician's appointments. The occurrence of aggressive or threatening verbalizations, violent behavior, and treatment noncompliance are required to be documented in the subjects' charts by staff members on the unit. As noted by Werner et al., record reviews do not reflect all occurrences of hostile verbalizations or violent behavior (2). Variations occur among staff in recording aggressive incidents. Despite this, charted reports within the case files were the best available outcome measure of all serious infractions and violent behaviors.

Procedure

All subjects, who volunteered for the study, were asked to give informed consent prior to their participation. For the initial phase of the study, all subjects were administered the interview portion of the clinical version of the PCL:SV. Following the administration of the interview portion, the subjects' institutional files were reviewed for background data necessary to complete the PCL:SV ratings.

A six month follow-up review of the subjects' case files was conducted to collect data on the frequency of suicide attempts, self mutilation, verbal abuse, verbal threats, irritability, belligerence, fighting, escape threats, escape attempts, refusal of medication, and refusal of laboratory or physician's appointments. Since the commitment time for all subject was not equivalent, the average number of occurrences per month was computed for each follow-up variable. Subjects were then given a rating (0–4) on a likert-type scale for each follow-up variable based on the number of occurrences per month.

Results

To simplify the outcome variables, a correlation matrix was computed. Four discrete groups of variables were significantly correlated at $P \leq$ .05, with the majority in each group being significantly correlated at the $P \leq$ .01 level. These groups formed four categories: self harm (suicide attempts and self mutilation), aggression (verbal abuse, verbal threats, irritability, belligerence, and fighting), escape potential (escape threats and attempts), and treatment noncompliance (refusal of medication, and laboratory work and/or physician's appointments). A correlation matrix (see Table 1) was computed between the four derived dependent variables. Significant correlations were found between noncompliance and aggression (r = .42, $P \leq$ .01) and aggression and escape potential (r = .30, $P \leq$ .05). Interestingly, aggression towards others and self harm appeared to be completely unrelated (r = −.05) Table 1.

A series of stepwise multiple regression analyses was performed on the four dependent variables. The predictor variables included age, type of charges (property versus person), history of drug or

TABLE 1—*Correlation Matrix for Aggressive and Socially Disruptive Behavior.*

	Aggressivity	Escape Potential	Noncompliance
Self Harm	−.05	−.03	.14
Aggressivity		.30[a]	.42[b]
Escape Potential			−.04

[a]Significant at the $P < .05$ level.
[b]Significant at the $P < .01$ level.

alcohol abuse/dependence, and PCL:SV total score. Of these age and type of charges failed to enter any of the regression equations.

In predicting aggression, history of drug or alcohol abuse (Multiple $R = .34$; $R^2 = .11$; Beta = .33) and PCL:SV total (Multiple $R = .43$; $R^2 = .19$; Beta = .28) were significant predictor variables. This result indicates that history of alcohol or drug abuse is able to predict aggression; however, the addition of the PCL:SV substantially improved these predictions. None of the other predictor variables (for example, age and type of charges) added to these predictions.

To put the PCL:SV to an even more stringent test (that is, as a parallel to clinical practice, we reduced the variation of the PCL:SV scores to simply the presence or absence of psychopathy), a second set of stepwise multiple regression analyses was run using the PCL:SV as a dichotomous variable. For these analyses, the PCL:SV cutting score of 19 was used to classify each subject as a psychopath or nonpsychopath (25). This set of regression analyses was performed on the same dependent variables utilizing the same predictor variables with the only difference being the replacement of the PCL:SV total score with the classification based on the cutting score as a predictor variable. The PCL:SV classification was the only variable to enter any of the regression equations. It was able to predict aggression (Multiple $R = .69$; $R^2 = .48$; Beta = .69) and noncompliance (Multiple $R = .30$; $R^2 = .09$; Beta = .30). Table 2 summarizes the significant results for all regression analyses.

Discussion

The PCL:SV appears to be an effective measure for predicting aggression and treatment noncompliance in a forensic psychiatric population. Using the PCL:SV cutting score of 19, psychopaths were more likely than nonpsychopaths to engage in aggressive behaviors. In a six month follow up, psychopaths engaged in an average of 29.72 incidents, including a total of 57 incidents of physical aggression. In contrast, nonpsychopaths evidenced a lower average number of incidents (10.70) and fewer total incidents of physical aggression (34). Most remarkably, 35.29% of the physical aggression exhibited by nonpsychopaths was self-directed (suicide

TABLE 2—*Multiple Regression Analyses for Aggressivity and Noncompliance.*

Variables	Beta	Multiple R	R^2	R^2 Change
Aggression with PCL:SV as a Continuous Variable				
Drug/Alcohol Abuse	.33	.34	.11	—
PCL:SV	.28	.43	.19	.08
Aggression with PCL:SV as a Cutting Score				
PCL:SV	.69	.69	.48	—
Noncompliance with PCL:SV as a Cutting Score				
PCL:SV	.30	.30	.09	—

attempts and self mutilation), while none of the physical aggression exhibited by psychopaths was self-directed.

With reference to treatment noncompliance, psychopathy as measured by the PCL:SV was the only useful predictor variable. While accounting for only a modest percentage of the variance, future research may identify which elements of psychopathy are associated with treatment refusal thereby complicating patients' progress through the forensic system. For instance, a refined PCL:SV, used at admissions, may enable psychiatric staff to make more appropriate initial placements with respect to treatment needs as well as violence potential.

The effective treatment of potentially dangerous forensic patients must be viewed as more than the circumscribed adjustment to a maximum security unit. As observed by Keilitz and Roesch (26) integrated models of service deliver, spanning mental health and criminal justice systems are critical to the effectual management of forensic patients. In this light, the potential of the PCL:SV to render cross-situational predictions of aggression must be fully investigated. Future placements of forensic patients vary widely from correctional institutions to hospitals of lesser security and eventually the community. The stability of the PCL:SV for transinstitutional predictions appears promising (24) and provides the impetus for more systematic investigations.

An important limitation of the PCL:SV is the absence of research on how forensic patients may manipulate their responses to maximize their chances of a favorable court report or an early release to the community. Although the record review component of the PCL:SV was implemented to minimize impression management and denial of psychopathy, its effectiveness remains untested (16). Consideration should be given to the validity of the PCL:SV ratings obtained from forensic psychiatric patients who are not being interviewed in the context of research. The majority of patients utilized in this study stated an awareness that information gathered by hospital staff would be placed in their charts and would likely be included in court reports. Interestingly, several patients whose PCL:SV total scores were among the highest had questioned the investigator regarding the confidentiality of their responses before offering any information concerning previous criminal and otherwise antisocial activity.

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