Predicting Correctional Officer Job Performance Using the Critical Hire-Screen and Personality Assessment Inventory: An Analysis of Incremental Validity

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Abstract

This article measured the degree to which the Critical Hire-Screen (CH-S), a pre-employment test of integrity, and Personality Assessment Inventory (PAI), a test of psychopathology, correlated with and predicted supervisor ratings of correctional officer job performance. Results revealed that the CH-S provided the strongest correlation with, and prediction of, job performance. Although PAI subscales contributed to the prediction model, relatively few subscales were ultimately selected, resulting in the CH-S explaining the majority of the variance. Implications for correctional agencies and pre-employment evaluators is discussed, and recommendations for the practical application of these results to pre-employment testing process is provided.

Introduction

Counterproductive work behaviors (CWBs), poor job performance and deficiencies in integrity are problematic for any organization but may be especially concerning for correctional agencies where its officers are entrusted to uphold the law, protect the public, and serve as agents of change for their clients. With this expectation and responsibility, correctional officers have been given considerable power and authority, and in some cases are certified to carry firearms and enabled with full arrest authority (Roscoe, Duffee, Rivera, & Smith, 2007; Small & Torres, 2001). As a result, correctional departments have begun implementing pre-employment integrity and psychological testing as part of their hiring process in order to help evaluate the degree to which these applicants have the level of integrity and emotional stability needed for high-risk, high-stress careers in corrections (Hermann & Bedwell, 2014; Shusman & Inwald, 1991; Tatman & Huss, 2019b; Tatman, Kreamer, & Dix, 2014).

Pre-employment integrity tests have been identified as the most widely used type of assessment tool for predicting counterproductive work behaviors among job applicants and employees (Fine, Horowitz, Weigler, & Basis, 2010). This popularity and widespread use has occurred, in large part, from the extensive empirical evidence supporting integrity test's reliability and validity in predicting job performance and counterproductive work behaviors such as theft, tardiness, property damage, rule-breaking, violence and absenteeism (Berry, Sackett & Wiemann, 2007; Fine, 2013; Fine et al., 2010; Jones, Cunningham, & Dages, 2010; Marcus, Ashton, & Lee, 2013; Nicol & Paunonen, 2002; Ones, Viswesvaran, & Schmidt, 1993; Ones, Viswesvaran, & Schmidt, 2003; Schmidt & Hunter, 1998; Schmidt, Oh, Shaffer, 2016; Wanek, 1999). The Critical Hire-Screen (CH-S; Tatman, 2019a) is a pre-employment integrity assessment that has been developed exclusively for law enforcement and correctional applicants.

The CH-S measures five unique integrity factors, social desirability, and has been shown to have strong reliability, concurrent validity, and divergent validity (Tatman & Huss, 2019a; Tatman & Huss, 2019b). The CH-S has also been found to have strong criterion validity, producing relative risk ratios ranging from 3.68 ($p = .0004$) to 5.80 ($p < .0001$) when predicting supervisor ratings of job performance (Tatman, 2019b).

Similar to pre-offer integrity tests, the use of post-conditional offer psychological tests have also become commonplace in law enforcement hiring process. Although not as widespread as in hiring processes for police officer candidates, many corrections agencies have begun to use psychological testing as part of their hiring process for correctional officers (Hermann & Bedwell, 2014; Shusman & Inwald, 1991; Tatman et. al., 2014). The Personality Assessment Inventory (PAI; Morey, 2007) is a well-known, researched and utilized measure of psychopathology frequently incorporated into pre-employment, psychological evaluations for law enforcement and correctional officer applicants (Weiss, 2010; Weiss & Weiss, 2010). The PAI has been found to have adequate accuracy in predicting supervisor ratings of police officer job performance, insubordination, integrity problems, citizen complaints, termination for cause, neglect of duty, and abuse of disability status (DeCoster-Martin, Weiss, Davis, & Rostow, 2004; Lowmaster & Morey, 2012; Weiss, Hitchcock, Weiss, Rostow, & Davis, 2008; Weiss, Rostow, Davis, Decoster-Martin, 2004; Weiss, Zehner, Davis, Rostow, & Decoster-Martin, 2005). Unfortunately, although there is sufficient research supporting the use of the PAI in pre-employment evaluations for police officers, the literature is scarce in regard to its use with correctional officers.

Incremental Validity in Pre-Employment Testing

A variety of instruments and methods have been used to help hiring agencies identify counter productive work behaviors, predict future performance problems, and enhance the hiring process. These instruments and methods have included things like integrity tests, structured interviews, work samples, job knowledge tests, and even handwriting analysis. However, not all these methods have been shown to work or provide incremental validity to the hiring process (Schmidt & Hunter, 1998). Incremental validity is the degree to which an added instrument or method will increase the predictive accuracy beyond that provided by the existing process (Sackett & Lievens, 2008). If a method or measure does not contribute incremental validity to an existing process it could have substantial financial and resource implications for the hiring agency. For example, occupational interest inventories can be expensive and time consuming to administer and interpret but have been found to have little impact on the overall incremental validity or predictive accuracy for future job performance (Schmidt & Hunter). Therefore, adding an occupational interest test to an existing hiring process may do nothing for the process but cost the employer time and money. The use of integrity tests, however, have been found to add significantly to the hiring process. Schmidt and Hunter conducted one of the largest reviews of the pre-employment literature to date and concluded that general mental ability (GMA) was the single best predictor of job performance and on-the-job learning. Combining integrity tests with tests of GMA, however, improved the predictive accuracy by 27%, adding significant incremental validity above and beyond what was provided solely by GMA.

Despite the widespread use of the PAI in pre-employment evaluations for correctional officer applicants (Roberts, Thompson, & Johnson, 1999; Weiss, 2010; Weiss & Weiss, 2010) the relationship between the PAI and integrity test scores, when used with correctional officer applicants, has not been investigated. Therefore, this study was conducted to measure the degree

to which CH-S and PAI scale scores (independent variables) are associated with supervisor ratings of correctional officer job performance (dependent variable), and the degree to which the CH-S and PAI provide incremental validity to the prediction of supervisor ratings. Specifically, based on the aforementioned literature, this author hypothesized that: 1) CH-S and PAI scores would significantly correlate with supervisor ratings of job performance, 2) CH-S and PAI scores would predict supervisor ratings of job performance, 3) CH-S would provide the strongest contribution to the prediction model, and 4) that PAI scores would provide incremental validity to CH-S scores when predicting supervisor ratings of correctional officer job performance.

Methods

Participants

Archival data was obtained from participants pursuing employment as correctional officers from various correctional agencies in the State of Iowa. As part of a comprehensive, pre-employment testing process, applicants for probation officer, parole officer, residential officer, and correctional treatment provider positions (i.e., correctional officers) from multiple community-based corrections agencies across Iowa completed the CH-S during the pre-conditional offer phase of the hiring process. This same sample also completed the PAI during the post-conditional offer phase of the hiring process. Selection for inclusion in this study also required that participants were employed with the hiring agency for at least 1 year at the time of this study to allow ample time for supervisory evaluations. Ninety-seven employees (58 males and 39 females) were identified from this archival data as meeting this criterion. The sample had an average age of 36.67 (SD = 9.20), which ranged from 20 to 61 years of age. Racial composition consisted of 79 Caucasian, 11 African American, 5 Hispanic, and 2 Asian participants.

Measures

The Critical Hire-Screen (CH-S; Tatman, 2019a) is an overt integrity assessment that can be used at a pre- or post-conditional offer phase in the hiring process, and has norms developed specifically for correctional officer applicants. The CH-S measures five factors of integrity: Substances (i.e., use or selling of drugs in the workplace, and/or use of alcohol in the workplace), Theft (i.e., theft in the workplace), Authority (i.e., disparaging or conflictual opinions about management and supervisors), Rules & Deception (i.e., rule breaking, manipulating others, and deceptive behaviors), and Personal Responsibility (i.e., the degree to which an applicant places blame on victims for crimes committed against them). When an integrity factor reaches an elevated level (i.e., 1.5 *SD*) it is identified as being a Critical Factor. When an applicant answers an item in a way that significantly deviates from the normative population (i.e., an answer provided by 20% or less of the normal sample) it is identified as being a Critical Item. Both Critical Factors and Critical Items have been found to be significantly correlated with, and predictors of, supervisor ratings of job performance for correctional officers (Tatman, 2019b). Specifically, Tatman (2019b) found that CH-S scales significantly correlated with supervisor ratings of job performance for correctional officers (r_{pb} ranging from .24 to .27). Relative risk ratios also found that when correctional applicants generated 3 or more Critical Items (i.e., item responses that significantly deviated from the normative sample) their risk for being identified as a “mis-hire” was 5.6 times greater than compared to examinees with 2 or fewer Critical Items (Tatman, 2019b). Tatman (2019a) also reports a ROC area of .89 (95% C.I. = .72 to 1.0) when measuring the degree to which Critical Items predicted supervisor ratings of job performance. Tatman (2019b) also found that Critical Factors were predictive of job performance ratings. Using a cut score of 2 or more Critical Factors resulted in a ratio score of 3.68 (p = .0004) when

predicting supervisors ratings of job performance. This finding suggests that individuals who generate 2 or more Critical Factors are over 3 times more likely to be classified as mis-hires than employees generating 0 or 1 Critical Factors. In addition to its criterion validity, the CH-S has been found to have adequate content and concurrent validity, as well as test-retest reliability and internal consistency (Tatman & Huss, 2019a; Tatman & Huss, 2019b). The CH-S also incorporates an impression management scale (IMS), which has been found to have strong reliability, concurrent validity in measuring social desirability, and criterion validity for predicting poor employee ratings by supervisors (Tatman & Huss, 2019b; Tatman, 2019b). Therefore, based on this existing literature CH-S Critical Items, Critical Factors, and IMS were included as independent variables in this study.

The Personality Assessment Inventory (PAI; Morey, 2007) was also used in this study and is a measure of adult personality and psychopathology. For purposes of this study, only the 30 clinical subscales and the Aggression treatment scale were analyzed (Table 1). Each PAI clinical scale contains multiple subscales that are combined to generate the clinical scale score. Therefore, subscales were chosen as independent variables over clinical scales for this study, due to the greater specificity and unique psychological construct provided from each subscale compared to their aggregate clinical scale. The Aggression treatment scale was included in this analysis based on its face and content validity for measuring a psychological trait commensurate with problematic workplace behaviors.

Procedure

Supervisor Ratings of Job Performance

Supervisors for each participant who completed the CH-S were asked to rate their respective employee(s) job performance on a Likert scale of 1 (Low Performer; N = 6), 2 (Below

Average Performer; N = 9), 3 (Average Performer; N = 59), 4 (Above Average Performer; N = 19), and 5 (High Performer; N = 4). Supervisors rated correctional officer employee performance without reference to, or knowledge of, the employee's CH-S or PAI scores.

Statistical Procedures

Pearson correlations were used to measure the degree of linear relationship between CH-S scales and PAI subscales with supervisor ratings of job performance. CH-S scales and PAI subscales producing significant Pearson correlation coefficients were then entered into a stepwise multiple regression to measure the degree to which the CH-S and PAI scale scores predict supervisor ratings of job performance. Variables identified as significantly predicting job performance were then further analyzed using relative risk ratios, sensitivity, specificity, positive predictive values (PPV), and negative predictive values (NPV) in order to identify cut scores which could aid practical application of these findings. PPV and NPV measure the degree to which a tool's prediction of risk agree with known, observed risk (i.e., calibration). PPV measures high-risk accuracy and answers the question "If a test is positive for X, what is the likelihood the person actually has X?" PPV, for this study, is the probability that an individual with an elevated score on the CH-S or PAI will receive below average supervisor ratings of job performance (i.e., poor performance). NPV measures low risk accuracy and answers the question "If a test is negative for X, what is the likelihood that the person does not have X?" NPV, for this study, is the probability that the individual without an elevated score on the CH-S or PAI has average or above average supervisor ratings of job performance (i.e., good performance). Sensitivity and specificity metrics, on the other hand, measure the degree to which an assessment can differentiate between two outcomes (i.e., discrimination). A tool's sensitivity is the degree to which the tool can correctly identify the issue or concern at hand. In this study sensitivity

measures the degree to which the CH-S and PAI can correctly identify poor job performance from the sample population. A tool's specificity is the degree to which a tool can correctly identify the absence of the issue or concern in question. In this study specificity measures the degree to which the CH-S and PAI can correctly identify good job performance out of the sample population. Global accuracy (calculated by true positive + true negative/sample size) was also conducted to identify the degree to which the CH-S and PAI can correctly classify individuals rated as having either poor or good job performance. Risk ratios, also known as relative risk ratios, were also calculated to identify the probability at which CH-S scales and PAI subscales can predict poor performance.

Results

The analyses began by conducting Pearson correlations between the CH-S scales and PAI subscales and supervisor ratings of job performance. Results revealed significant, negative correlations between all three CH-S scales and supervisor ratings (Table 1). This finding would suggest that as CH-S scores increased ratings of job performance significantly decreased. Results also revealed significant, negative correlations between supervisor ratings and PAR-Persecution, PAR-Resentment, BOR-Self-Harm, ANT-Egocentricity, and AGG-Aggressive Attitude subscales of the PAI (Table 1). This negative relationship would suggest that as these PAI subscale scores increased supervisor ratings of job performance decreased. The PAI ARD-Obsessive-Compulsive subscale was also found to have a significant relationship with ratings of job performance. However, this relationship was positive, suggesting that as ARD-Obsessive-Compulsive decreased supervisor ratings also decreased.

Independent variables generating significant Pearson correlation coefficients were then entered into a stepwise multiple regression to predict the degree of unique contribution each

variable has for predicting supervisor ratings of job performance. The resulting regression model explained a significant amount of the variance in the value of supervisor ratings of correctional officer job performance, and produced $R^2 = .31$, $R^2_{Adjusted} = .28$, $F(4, 92) = 10.20$, $p = .000$. In regard to variables retained in the model CH-S Critical Factors appeared to provide the greatest contribution to the prediction model followed by CH-S IMS, PAI ARD-Obsessive-Compulsive (ARD-O), and PAI BOR-Self-Harm (BOR-S), respectively (Table 4).

Sensitivity, specificity, PPV, and relative risk ratios were then calculated for the CH-S scales using cut scores recommended by Tatman (2019b). Using a cut score of 2 Critical Factors revealed a sensitivity rate of 20%, specificity rate of 98.78%, PPV of 75%, NPV of 87.10%, and a global accuracy rate of 86.6% for predicting poor job performance in this sample. The difference between the sensitivity rate and PPV found here is noteworthy. Sensitivity is a metric of the test itself, and provides information about the probability that a test result will be positive (i.e., 2 or more Critical Factors) when the event (i.e., poor job performance ratings) is present. PPV, on the other hand, is a measurement of the population and provides the probability that poor performance would be identified if the applicant produces 2 or more Critical Factors. In other words, PPV answers the question “What is the chance this applicant will be rated by supervisors as having poor job performance if they generate 2 or more Critical Factors?”, while sensitivity answers the question “What is the CH-S’s ability, using a cut score of 2 or more Critical Factors, to identify poor job performance?” Therefore, based on these results it appears that when using a cut score of 2 Critical Factors the CH-S detects poor job performance approximately 20% of the time (i.e., sensitivity). However, if a person has 2 or more Critical Factors there is a 75% likelihood that they would be identified as being a poor performer (i.e., PPV). Risk ratios were also conducted using 2 Critical Factors and revealed a risk ratio score of

5.81 ($p < .0001$). This suggests that individuals who generate 2 or more Critical Factors are almost 6 times more likely to be rated by supervises as exhibiting poor job performance compared to employees generating zero or one Critical Factors. Regarding the CH-S IMS, a cut score of 4 or less points revealed a sensitivity rate of 33.33%, specificity rate of 96.34%, PPV of 62.5%, NPV of 88.76% and a global accuracy rate of 86.6% for predicting poor job performance in this sample. Risk ratio scores of 5.56 ($p < .0001$) were also obtained using this IMS cut score.

Given that there were no known PAI subscale cut scores associated with correctional officer applicants, comparative analyses were then conducted using sensitivity, specificity, PPVs, NPVs, and global accuracy rates using cut scores of 1.5 *SD* and 2 *SD* from the mean T subscale score obtained in this study (Table 3). Results from these comparative analyses revealed that the 2 *SD* option showed marked improvement in terms of PPV, sensitivity and overall accuracy compared to the 1.5 *SD* option. Therefore, due to the direction of their respective Pearson correlation coefficients (Table 1), sensitivity, specificity, PPV, NPV and relative risk ratios were calculated using a cut score of 2 *SD* below the sample mean for ARD-O and 2 *SD* above the sample mean for BOR-S. Analyses for the ARD-O revealed that when using a cut of score of T score equal to or greater than 33 generated a sensitivity rate of 13.33%, specificity rate of 97.56%, PPV of 50.00%, NPV of 86.02%, and a global accuracy rate of 84.54% for predicting poor job performance in this sample. A risk ratio score of 3.58 ($p = .023$) was also obtained using this two standard deviation below the ARD-O mean cut score. Analyses for the BOR-S revealed that when using a cut of score of T score at or greater than 56 generated a sensitivity rate of 26.67%, specificity rate of 97.67%, PPV of 66.67%, and a global accuracy rate of 90.72% for predicting poor job performance in this sample. A risk ratio score of 5.76 ($p < .0001$) was also obtained using this two standard deviation above the BOR-S mean cut score.

Discussion

Findings presented in this study support this study's first hypothesis that "CH-S and PAI scores would significantly correlate with supervisor ratings of job performance." All three CH-S scales showed significant correlations with job performance ratings, fully supporting this hypothesis. However, only 6 out of 33 PAI subscales analyzed showed significant linear relationships with job performance. This finding was particularly surprising given the widespread use of the PAI with law enforcement and correctional officers (Roberts et al., 1999; Weiss, 2010; Weiss & Weiss, 2010). The remaining three hypotheses proposed in this study were supported. Results showed that CH-S and PAI scores predicted job performance ratings (hypothesis 2), that the CH-S provided the strongest contribution to the prediction of job performance ratings (hypothesis 3), and that the PAI provided subscales that contributed incremental validity to CH-S scores in the prediction of supervisor ratings of correctional officer job performance (hypothesis 4). In addition to the surprising finding that only 6 of the 33 PAI subscales correlated with job performance ratings, it was particularly interesting to find that only 2 PAI subscales were retained in the prediction model. This result my stem from the significant inter-scale correlations observed between PAI subscales entered into the model (Table 2).

Findings presented in this study contribute to existing literature on pre-employment integrity and psychological testing. Specifically, the present findings presented in this study support existing literature (Tatman, 2019b) by showing that the CH-S significantly predicted supervisor ratings of correctional officer job performance. Although it was surprising to see that CH-S Critical Items did not significantly contribute to the prediction model, this result likely stemmed from the significant inter-scale correlation between CH-S Critical Items and CH-S Critical Factors (r = .77; Table 2). Therefore, although CH-S Critical Items was not included in

the final prediction model, its strong correlation with job performance ratings (r = -.33; Table 1) would suggest that CH-S Critical Items would still provide meaningful information to hiring agencies regarding an applicant's risk for future counterproductive work behaviors and poor job performance. This study also provides new information to the existing literature on the CH-S by identifying that the CH-S provided the greatest contribution to a prediction model of job performance for correctional officers when combined with PAI subscale scores. Although this is a new finding for the CH-S, specifically, this finding is consistent with the literature on integrity tests, in general, which has found that integrity test results provide one of the strongest contributions and incremental validity to the prediction of job performance (Schmidt & Hunter, 1998). Results from this study also provide new and noteworthy information to the field of personnel selection and assessment by identifying that the Personality Assessment Inventory (PAI) provided incremental validity above and beyond the CH-S when predicting supervisor ratings of correctional officer job performance. Although the PAI Law Enforcement, Corrections, and Public Safety Selection Report (Roberts et al., 1999) has norms specific to correctional applicants, and has been widely used in pre-employment psychological evaluations for correctional officer applicants, research could not be found on its criterion validity when used for this purpose. Results obtained from this study provide the field with initial data that some PAI subscales are significantly correlated with supervisor ratings of correctional officer job performance, and provide incremental validity to this prediction above and beyond integrity test data. First, the strongest PAI subscale that contributed to the model was ARD-O, which assesses for intrusive thoughts or behaviors, rigidity, hyperattentiveness to details, perfectionism, and other characteristics of obsessive-compulsive disorder. The positive relationship found in this study would suggest that as supervisor ratings decreased traits associated with ARD-O also

decreased. This is an interesting finding in that interpretations have only been provided for ARD-O sub-clinical elevations (T = 55 to 65) and clinically significant elevations (T at or greater than 65; Morey, 2003). No interpretation guidance has been given for low ARD-O scale scores. Based on the ARD-O item content, however, one could conclude that individuals scoring low on ARD-O may tend to be unorganized, hasty in their decision making, and have limited concern with details, which are linked, through this study, with poor job performance ratings. The positive association between BOR-S and supervisor ratings is also noteworthy. BOR-S measures an individual's tendency to act impulsively and without consideration of the consequences of their actions. Individuals scoring high in this subscale are at a heightened risk for impulsive behaviors that likely have a high potential for negative consequences, and which may be self-damaging or self-destructive (Morey, 2003). The sample of correctional officers used in this study generated BOR-S T scores (*M* = 43.87, *SD* = 5.73; Table 3) that fell well below the T cut score recommended as being clinically relevant (T at or great than 65; Morey). This finding suggests that subclinical scores on BOR-S may be relevant for identifying traits of impulsivity during pre-employment evaluations.

Readers should note that, although the present findings add to the existing literature, these remain initial findings. Additional research is recommended before generalizations should be made from these initial findings. T he sample used in this study consisted of correctional officers in Iowa. Although this was the intended sample for this study, the relationship between the CH-S and PAI with correctional officer applicants from more urban and racial diverse settings would be a valuable compliment and comparison to the present study.

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Table 1

Pearson Correlation Coefficients Between Supervisor Ratings of Job Performance and CH-S and PAI Subscales

	Variable	Supervisor Ratings		Variable	Supervisor Ratings
CH-S			PAI (Conti.)		
	IMS	-.24*		PAR-Hypervigilance	.01
	Critical Items	-.33**		PAR-Persecution	-.21*
	Critical Factors	-.40***		PAR-Resentment	-.23*
PAI				SCZ-Psychotic Experiences	-.05
	SOM-Conversion	-.01		SCZ-Social Detachment	-.17
	SOM-Somatization	-.01		SCZ-Thought Disorder	-.03
	SOM-Health Concerns	-.06		BOR-Affective Instability	-.07
	ANX-Cognitive	.05		BOR-Identity Problems	-.06
	ANX-Affective	.01		BOR-Negative Relations	.00
	ANX-Physiological	-.05		BOR-Self-Harm	-.28**
	ARD-Obsessive-Compulsive	.25*		ANT-Antisocial Behaviors	-.17
	ARD-Phobias	.00		ANT-Egocentricity	-.25*
	ARD-Traumatic Stress	-.05		ANT-Stimulus-Seeking	-.19
	DEP-Cognitive	-.16		AGG-Aggressive Attitude	-.21*
	DEP-Affective	-.19		AGG-Verbal Aggression	-.12
	DEP-Physiological	-.02		AGG-Physical Aggression	-.04
	MAN-Activity Level	-.03		Alcohol Problems	-.05
	MAN-Grandiosity	-.16		Drug Problems	-.09
	MAN-Irritability	-.07			

* $p < .05$. ** $p < .01$. *** $p < .000$.

Table 2

Inter-scale Correlation Matrix Between Selected CH-S Scales and PAI Subscales

	CH-S			PAI				
	Critical Items	Critical Factors	IMS	ARD-Obsessive-Compulsive	PAR-Persecution	PAR-Resentment	BOR-Self-Harm	ANT-Egocentricity
CH-S Critical Items								
CH-S Critical Factors	.77**							
CH-S IMS	.01	.05						
PAI ARD-Obsessive-Compulsive	.04	-.02	.00					
PAI PAR-Persecution	.25*	.20*	-.13	.09				
PAI PAR-Resentment	.35**	.38***	-.02	.05	.50***			
PAI BOR-Self-Harm	.37***	.27**	-.12	-.02	.33**	.33**		
PAI ANT-Egocentricity	.44***	.33**	-.04	.15	.32**	.23*	.34**	
PAI AGG-Aggressive Attitude	.41***	.37***	-.13	.05	.49***	.36***	.49***	.40***

* $p < .05$. ** $p < .01$. *** $p < .000$.

Table 3

Means and Standard Deviations for Selected CH-S Scales and PAI Subscales

Independent Variables	*M*	*SD*
CH-S Critical Items	.40	.92
CH-S Critical Factors	.20	.53
CH-S IMS	6.71	1.19
PAI ARD-Obsessive-Compulsive	49.19	7.97
PAI PAR-Persecution	44.47	5.03
PAI PAR-Resentment	43.04	7.09
PAI BOR-Self-Harm	43.87	5.73
PAI ANT-Egocentricity	45.10	5.89
PAI AGG-Aggressive Attitude	39.18	5.44

Note: Means and standard deviations for the CH-S stem from raw scale scores and T scores for the PAI.

Table 4

Stepwise Regression Analysis for Selected CH-S and PAI Subscales

Variables	*B*	*SE B*	β	*t*	*p*
CH-S					
CHS IMS	-.34	.12	-.25	-2.84	.006
CHS CFs	-.51	.14	-.33	-3.60	.001
PAI					
ARD-Obsessive-Compulsive	.03	.01	.24	2.75	.007
BOR-Self-Harm	-.03	.01	-.21	-2.35	.021