



Managing Inmate Risk in the United States: Construct and Predictive Validity of the Prison Inmate Inventory

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Abstract

To assess the construct and criterion validity of the Prison Inmate Inventory (PII), this study examined the ability of four PII scales to predict measures representing the potential for criminal recidivism and return/increased duration of prison sentence in a large population of prisoners (N = 31,954) in the United States. Criminal history measures used to test the construct and criterion validity included self-reported number of felony arrests, parole violations, probation violations, and escape attempts. Four PII scales including truthfulness, violence, adjustment, and stress coping abilities were examined. Mean difference testing between first and multiple offenders was used to assess construct validity and Poisson regression models controlling for criminal demographics were used to assess criterion validity. Results indicated that the select PII scales exhibited good construct and predictive validity in terms of identifying potential criminal recidivists and inmates who may attempt to escape.

Keywords: Prison Inmate Inventory, Construct Validity, Criterion Validity, Recidivism.

Introduction

According to the United States Department of Justice statistics, state and federal correctional authorities observed prisoner incarcerations increase in 2009 by approximately 4,000 prisoners (West, Sabol, & Greenbaum, 2011). Moreover, data revealed that violent inmates accounted for a 63% increase in state prison populations from 2000-2008, the largest proportion of prison growth in the past decade (West, Sabol, & Greenbaum). Adding more violent inmates into the prison population increases the potential for violence within the prison walls. Prisoners can exhibit multiple forms of violence representing unique threats to the safety of prisoners, personnel, and the general public therefore, identifying inmate violence risk is essential to maintaining safety of other inmates, corrections personnel, as well as the public (Bottoms, 1999; Byrne & Hummer, 2007).

In addition to inmate violence, recidivism is a concern of corrections staff and policymakers. In a unique, state-by-state comparison study, the PEW Center on the States study indicated that, on average, approximately 40% of inmates returned to prison within

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three years of their release. The percentage of inmates who return to prison varied by state and across regions but ranged from 24% to 68%. Inmates who were returned to prison were grouped into two categories, ex-inmates who committed new crimes and ex-inmates re-incarcerated for technical violations. Technical violations can be described as activities that violated the terms of the offender's supervision, which resulted in a probation or parole revocation. The rates for new crimes ranged from 8% to 25%; the rate for technical violations ranged from 2%-51% (PEW Center on the States, April 2011). It is clear that the rates of re-incarcerations vary widely; however, an average recidivism rate of 40% threatens public safety and places a strain on already overburdened correction department resources.

Recently, many probation and parole departments are adopting strategies and implementing policies to address inmate violence and recidivism while simultaneously improving public safety. Strategies for reducing violence in prisons has focused on resolving conflict between inmates, changing the culture of prison staff, and modifying how the prison is managed, each with promising results (Byrne & Hummer, 2007). Recidivism strategies include implementing evidence based practices into supervision, preparing inmates for release at the time of their admission, and evaluating risk using assessment tests (PEW Center on the States, September 2011; Austin, 2003).

Researchers have identified several factors associated with inmate risk. These factors are grouped into two categories, static and dynamic factors. Static factors are historical aspects of the offender that are considered unchangeable. Static factors for inmates include gender, the current age of the offender, prior criminal history, prior arrest history, the age of first conviction for an offense, and victim characteristics (e.g., male victims, female victims, stranger victims) (Andrews & Bonta, 2010). Dynamic factors are considered aspects of the inmate that are amenable to change. Denial, substance abuse, and antisocial traits are considered dynamic factors that can be addressed through treatment or other interventions (Nunes, Hanson, Firestone, Moulden, Greenberg & Bradford, 2007; Yates, 2009). Dynamic factors, while not as thoroughly examined as static factors, have implications for inmate risk, treatment compliance, and corrections outcomes (Yates, 2009).

A review of the existing literature identified three constructs, adjustment, violence, and stress management which have not been well described as dynamic inmate risk factors. Adjustment and stress management represent dynamic factors that can be addressed through intervention as well as provide important information on inmate risk. Violence has been examined in the literature using violent criminal acts as a static factor. As a dynamic factor, propensity for violence may provide additional information on recidivism risk, and potential for future offenses.

Adjustment to the organization and culture of prison life has been the focus of many studies (Dhami, Ayton, & Loewenstein, 2007; Van Tongeren & Klebe, 2009). The process and ability to adjust to the "pains of imprisonment" vary among prisoners, with measures such as demographics, pre-incarceration lifestyle, length of time in prison, and prison security level influencing how prisoners' adapt to prison life (Dhami, Ayton, & Loewenstein). The environmental and emotional factors prisoners must deal with include overcrowding, isolation from social contacts, distrust of other prisoners, and victimization, all of which can impact a prisoner's ability to successfully adjust to life after release (Haney, 2002). Prisoner adjustment is determined by a number of pre-existing characteristics, habits, and demands experienced within the prison setting, with a number of sources

agreeing that adjustment must be understood as a multi-dimensional construct (Dhami, Ayton, & Loewenstein; Soderstorm, Castellano, & Figaro 2001).

A behavioral domain related to a prisoner's adjustment is their ability to effectively cope with stress. Prison is repeatedly characterized as a highly stressful environment (Hassine, 2004; Massoglia, 2008) and an inmate's ability to cope with stress is essential to their well-being in and after release from prison. Exposure to stressors has been extensively studied as a cause of criminal behavior (Agnew, 1992; Eitle & Turner, 2003) with increased exposure to stress being linked to more violent forms of delinquency (Aseltine, Gore, & Gordon, 2000). The effect of one's exposure to stress can be moderated by the ability to effectively cope with stress, with such moderators including positive self-esteem and self-efficacy (Agnew, 1992; Aseltine, Gore, & Gordon, 2000). Intrinsically linked to one's ability to effectively cope with stress is their general mental health, with the prevalence of mental health disorders being much higher within prisons than the general population, and those with more severe mental illness having more prior incarcerations than those without mental illness (James & Glaze, 2006). The risks surrounding prison inmates are manifold and include the likelihood of committing serious criminal offenses once released from prison as well as offenses that can occur within prison and extend the duration of the sentence. Using an empirically supported risk assessment can aid correction staff and evaluators with inmate classification decisions and treatment recommendations.

The capacity for physical assault and violence among prison inmates places prison officials, other inmates, and members of society who will interact with prisoners after completing their sentence at risk. Violent offenders have accounted for a large proportion of prison growth in the past decade (West, Sabol, & Greenbaum, 2011), increasing the potential for violence within prison. Prisoners can exhibit multiple forms of violence including collective, interpersonal, intrapersonal, and institutional violence (Bottoms, 1999; Byrne & Hummer, 2007), each representing unique threats to the safety of prisoners, personnel, and the general public. By assessing each prisoner early in their prison sentence, behavioral measures of propensity towards violence and lethality can inform decisions on the risk of violence posed by each inmate. Assessment results provide prison officials with information crucial to the development of interventions and management techniques to reduce violence within the prison, as well as reduce the potential for violence once prisoners are released.

Properly identifying offenders, using a well developed assessment instrument, should be part of an overall public safety strategy (Andrews & Bonta, 2010). Associated benefits of integrating assessments include reduced recidivism, reduced costs, and increased public safety (PEW Center on the States, September, 2011). The Prison Inmate Inventory (PII) is an assessment that combines both static and dynamic factors that categorize offender risk. The Prison Inmate Inventory (PII) was designed to assess prisoner risk and need, determine necessary levels of supervision, and support decisions regarding status or classification changes. Establishing the PII as a valid and reliable assessment instrument can ensure that officials using the PII are measuring domains of prisoner risk that provide important information concerning criminal history and potential for future offenses, in turn promoting successful remediation through early problem identification.

In any population of prison inmates, the accurate identification of prisoners who pose risks to the safety of themselves, other inmates, prison officials, and the general public is of significant importance. This study uses PII risk thresholds on four scales that measure dynamic risk factors (Truthfulness, Violence, Adjustment, and Stress Coping Abilities) to

predict rates of probation revocation, parole revocation, and escape attempts using a Poisson regression model. The PII will be described along with descriptive statistics of inmate characteristics, as well as the results of the Poisson predictions.

Method

To assess the construct and predictive validity of select PII scales, this research examined data from prisoners who completed the PII between January 1, 2003 and December 31, 2007 using secondary data. The original data analyzed were compiled by Behavior Data Systems, Ltd. and contained prisoner data from Ohio, Oklahoma, Kansas, Arkansas, and North Dakota. The original database consisted of 79,204 offenders. Multiple restraints were placed on the sample to promote accuracy of subsequent analyses. Prisoners who completed the PII before January 1, 2003 ($n = 10,069$), after December 31, 2007 ($n = 2,421$), or were missing the test date ($n = 10,092$) were excluded from analyses. Offenders with missing data on measures of age, gender, race/ethnicity, or education were removed from the dataset ($n = 24,448$), producing a final analytic dataset containing 31,954 prisoners. It was felt that prisoners who failed to provide basic, but essential, demographic data may have been guarded in reporting other information including test item responses. The current study does not have access to the original data set and is not able to analyze the two groups for comparison; a recognized limitation.

Measure

The Prison Inmate Inventory (PII) was designed to help prison officials establish prisoner supervision levels, support decisions regarding status or classification changes, and assess the specific needs of each prisoner (Davignon, 2007). The PII consists of 161 self-report items used to develop 10 behavioral scales measuring prisoners' truthfulness, alcohol and drug problems, adjustment, antisocial orientation, distress, judgment, self-esteem, stress coping, and violence. The PII combines both static and dynamic factors to categorize offender risk and all scales have been normed on a large population of prison inmates (Davignon, 2009). Due to the large number of scales contained in the PII and item overlap among some of the scales, only the PII Truthfulness, Violence, Adjustment, and Stress Coping Abilities Scales were examined. Moreover, in other studies of offenders, substance abuse, antisocial orientation, and self-regulation have been associated with recidivism (Andrews & Bonta, 2010; Baltieri & de Andrade, 2008; Hanson & Morton-Bourgon, 2005) consequently they were not selected for examination in this study. Truthfulness, adjustment, violence and stress management, as dynamic risk factors, have not been extensively studied; moreover, these scales represent the array of behavioral measures included in the PII as well as the PII validity scale (Truthfulness Scale) used to adjust other scales for response bias. More information on the PII can be found at www.prison-inmate-assessment.com.

Construct and Criterion Validity Factors

Four criminal and prison history measures were chosen as factors to assess the construct and criterion validity of the select PII scales. The criminal history measures chosen as outcomes represent moderate to severe infractions that place the individual at risk of entering jail, returning to jail, or lengthening the duration of a current prison sentence. Lifetime number of felony arrests and probation revocations were used as factors indicating potential for sentence to prison. Number of lifetime parole violations and escape attempts

represented factors warranting an individual's return to prison or extension of their jail term.

Predictor and Control Variables

The PII scales examined were designed to measure prisoners' truthfulness, adjustment, violence, and stress coping abilities and served as the predictor variables in our study. All scales were not selected for analyses because their association with recidivism has been examined in other studies (Andrews & Bonta, 2010). The PII Truthfulness Scale was developed to capture prisoners' levels of honesty, similar to the MMPI L and K scales (Tellegen et al., 2003). The PII Truthfulness Scale identifies guarded and defensive inmates who attempt to minimize problems or attempt to "fake good". To test the assumption that the PII Truthfulness Scale identified offenders who minimized the severity of their responses, the Truthfulness Scale was initially used to predict the construct and criterion factors directly. The remaining PII scales examined were adjusted by the PII Truthfulness Scale, which according to PII literature provide a more accurate assessment of prisoners' risks and needs than scales not adjusted by the Truthfulness Scale. The PII Adjustment Scale measures the inmate's ability to cope with incarceration and evaluates emotional and social adjustment. The Adjustment Scale includes measures of anger, violence, manipulation of others, substance use, stress and anxiety, serious and habitual criminal behavior, judgment, and antisocial behaviors. The PII Violence Scale includes indicators of interpersonal conflict, emotional problems associated with anger, and the physical expression of anger through violence. The PII Stress Coping Abilities Scale measures an inmate's ability to handle stress, including both positive coping mechanisms and indicators and causes of stress including anxiety, depression, interpersonal conflict, and the external manifestation of stress through physical health problems. All PII scales included in analyses presented evidence of adequate reliability (Table 1; $\alpha > .85$).

Table 1. Prison Inmate Inventory Reliability Coefficients

PII Scales	α
Truthfulness scale	.886
Violence scale	.863
Adjustment scale	.911
Stress coping scale	.895

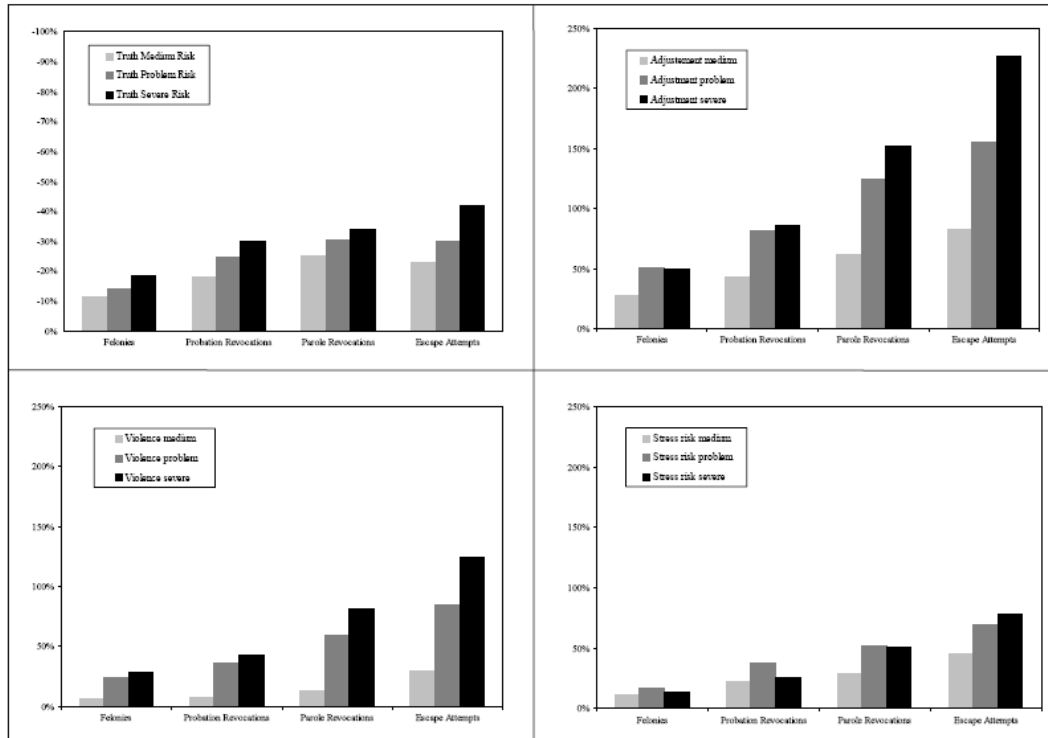
For each of the selected PII scales, percentile scores between 0 and 39% represent low risk, scores between 40 to 69% represent medium risk, scores between 70 and 89% represent problem risk, and offenders with scores within the 90th to 99th percentiles are identified as having a severe problem (Behavior Data Systems, Ltd., 2012). The PII scales analyzed were coded according to these thresholds, with the low risk group in each scale being used as the reference category when assessing criterion validity. Risk thresholds versus percentile scores were used in these analyses to facilitate interpretation and because classification and supervision decision making more often refers to risk thresholds over percentile scores. To perform a stricter test of the validity of the chosen PII scales, Poisson regression models included controls for prisoners' age, gender, race/ethnicity, and highest level of education attained.

Analysis

Construct validity was established through use of contrast groups. This approach differentiates between inmates who are known to have higher risk factors and those known to have lower risk factors by comparing mean scale scores (DeVon, et al., 2007). Independent sample t-tests were used to assess whether the chosen PII scales were able to distinguish between first and multiple offenders for felony arrests (0 = 0-1 felony arrest, 1 = 2 or more felony arrests) and between prisoners with none or any parole revocations (0 = no parole violations, 1 = 1 or more parole violations).

Poisson regression is in the family of generalized linear models and its use is appropriate and necessary when analyzing non-normally distributed data like criminal and prison history measures, which are count variables. To assess the predictive validity of the chosen PII scales, separate Poisson regression models were developed for each combination of predictor factor and PII scale. Separate predictive models were developed for each PII scale separately due to moderate inter-scale correlations between the PII Adjustment and Violence scales ($r = .71$). To illustrate the predictive capacity of the chosen PII scales, the percent change in the expected count of each criterion factor based on PII scale classification is presented in Figure 1. Continuous variables were mean centered to reduce modeling issues associated with collinearity. The expected counts are calculated using the formula $100(e^{\beta} - 1)$ and represent the percent change in expected counts of the criterion factors for each PII scale classification relative to the low risk category.

Figure 1. Expected counts of criminal and penal offenses for PII Truthfulness, Adjustment, Violence, and Stress Coping Abilities Scale classifications, using low-risk classification as comparison group.



Results

Descriptive Statistics

Table 2 presents descriptive statistics for prisoners' demographics, criminal, and prison history, and the focal PII scales. Concerning prisoner demographics, the average prisoner was around 30-years old, male, White, and had a high school degree or less. Prisoners reported an average of three felony arrests and close to one probation revocation. For prison-specific measures, very few prisoners reported having a parole violation or having attempted to escape prison. For all PII scales, the mean percentile was near 50 with a standard deviation of 30 percentile units.

Table 2. Descriptive Statistics

	Min	Max	Mean	SD
Age	16	95	31.34	9.70
Male	0	1	0.96	0.20
White	0	1	0.53	0.50
Black	0	1	0.40	0.49
Hispanic	0	1	0.02	0.15
Native American	0	1	0.01	0.12
Other race/ethnicity	0	1	0.03	0.17
Less than HS Degree	0	1	0.42	0.49
HS Degree/GED	0	1	0.41	0.49
Some College/Trade School	0	1	0.10	0.30
College degree	0	1	0.07	0.26
Number of felonies	0	15	3.22	2.45
Number of probation revocations	0	10	0.89	1.38
Number of parole revocations	0	10	0.36	1.01
Number of escape attempts	0	10	0.81	1.66
Truthfulness scale	3	99	52.39	28.48
Violence scale	2	100	54.82	29.10
Adjustment scale	1	100	54.93	29.08
Stress coping scale	1	100	54.96	28.88

Notes: $N = 31,954$

Independent Sample t-tests

To assess the construct validity of the PII, independent sample t-tests were used to test whether the focal PII scales could discriminate between prisoners' number of lifetime felony arrests and number of lifetime parole violations. The results of these comparisons are presented in Tables 3 and 4. Table 3 shows that prisoners with multiple felony arrests were significantly different from prisoners with one or fewer felony arrests on all PII scales analyzed. Compared to prisoners who had one or fewer felony arrests, prisoners with multiple felony arrests had significantly lower truthfulness scores and significantly higher scores on the PII violence, adjustment, and stress scales. Comparing prisoners with no previous parole violations to prisoners with one or more parole violation (Table 4), prisoners with one or more parole violations had significantly lower truthfulness scores and significantly higher scores on the PII violence, adjustment, and stress scales than prisoners

with no previous parole violations. Effect sizes, using Cohen's *d* were calculated and results ranged from .15-.50; indicating small to medium effects respectively.

Table 3. Felony Arrest Comparison on PII Scales

Scales	First Offenders		Multiple Offenders		t-value	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>
Truthfulness	54.86	27.81	51.52	28.66	9.36*** ^a	15149.18 ^a
Violence	49.77	28.80	56.74	28.71	-19.07***	31843.00
Adjustment	47.30	29.12	58.06	27.88	-29.36*** ^a	14210.37 ^a
Stress coping	51.70	29.84	55.03	29.00	-8.83*** ^a	14389.94 ^a

Notes: ^aThe *t* and *df* were adjusted because variances were not equal.

Table 4. Parole Violations Comparison on PII Scales

Scales	No Parole Violations		One or More Parole Violations		t-value	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>
Truthfulness	53.35	28.28	48.10	28.88	12.79*** ^a	8668.84 ^a
Violence	54.00	28.78	59.63	29.03	-13.70***	33613.00
Adjustment	53.79	28.59	62.37	27.53	-21.73*** ^a	9022.68 ^a
Stress coping	53.64	29.37	57.50	28.63	-9.41*** ^a	8945.95 ^a

Notes: ^aThe *t* and *df* were adjusted because variances were not equal.

Poisson Regression

Table 5 presents estimates from the Poisson regression models predicting self-report number of felony arrests, probation revocations, parole revocations, and escape attempts with the chosen PII scales. Each set of estimates represent a separate Poisson regression model, meaning 16 separate models controlling for age, gender, race/ethnicity, and education were specified. Estimates represent the expected increase in the log count of the outcome variable relative to the low risk comparison group. The Log-Likelihood of each model is presented and all models had 13 degrees of freedom.

Briefly discussing the model fit across all criterion factors and chosen PII scales, the four PII scales analyzed appeared to have better predictive abilities on the criterion factors representing more serious offenses. The Log-Likelihood values for all PII scales were around 7 times smaller when predicting escape attempts as compared to felony arrests. Comparing the PII scales within each criterion variable, models containing the PII Adjustment Scale had better Log-Likelihood values than models containing the PII Truthfulness, Violence, or Stress Coping Abilities risk scales.

Table 5. Poisson regression estimates of PII scale classifications, relative to low-risk group

	Felony Arrests		Probation Revocations		Parole Revocations		Escape Attempts	
	<i>Est</i>	<i>SE</i>	<i>Est</i>	<i>SE</i>	<i>Est</i>	<i>SE</i>	<i>Est</i>	<i>SE</i>
Truth medium	-0.12***	0.01	-0.20***	0.02	-0.29***	0.04	-0.26***	0.07
Truth problem	-0.15***	0.01	-0.28***	0.02	-0.36***	0.04	-0.36***	0.09
Truth severe	-0.20***	0.01	-0.36***	0.03	-0.41***	0.06	-0.54***	0.12
<i>Log-Likelihood</i>	-68896.84		-43903.58		-27223.25		-8916.03	
Violence medium	0.06***	0.01	0.07***	0.02	0.13**	0.04	0.26**	0.09
Violence problem	0.22***	0.01	0.31***	0.02	0.47***	0.04	0.61***	0.09
Violence severe	0.25***	0.01	0.36***	0.03	0.59***	0.05	0.81***	0.09
<i>Log-Likelihood</i>	-68646.39		-43834.62		-27068.79		-8842.51	
Adjustment medium	0.25***	0.01	0.36***	0.02	0.48***	0.04	0.60***	0.08
Adjustment problem	0.41***	0.01	0.60***	0.03	0.81***	0.05	0.94***	0.09
Adjustment severe	0.40***	0.01	0.62***	0.03	0.92***	0.05	1.18***	0.09
<i>Log-Likelihood</i>	-67803.60		-43334.58		-26721.78		-8749.38	
Stress coping medium	0.11***	0.01	0.20***	0.02	0.25***	0.04	0.38***	0.08
Stress coping problem	0.15***	0.01	0.32***	0.02	0.42***	0.04	0.53***	0.08
Stress coping severe	0.13***	0.01	0.23***	0.03	0.41***	0.05	0.58***	0.10
<i>Log-Likelihood</i>	-68957.87		-43921.31		-27201.96		-8891.03	

Notes: *df* = 13 for all models; Models contain controls for age, gender, race/ethnicity, and education. ** *p* < .01, *** *p* < .001.

Beginning with the PII Truthfulness Scale, prisoners in categories representing increasing denial and problem minimization consistently reported fewer felony arrests, probation revocations, parole revocations, and escape attempts than offenders in the low-risk truthfulness classification. For example, prisoners with problem truthfulness risk had an expected count of felony arrests 14% lower than prisoners with low truthfulness risk and an expected count of probation revocations 25% lower than prisoners with low truthfulness risk. Prisoners with severe problem truthfulness risk had an expected count of probation revocations 34% lower and an expected count of escape attempts 42% lower than prisoners in the low risk truthfulness group, respectively.

Across all criterion outcomes, prisoners classified with greater violence risk reported more offenses than prisoners in lower risk categories. Prisoners with problem violence risk had an expected count of probation revocations 36% greater and prisoners with severe violence risk had an expected count of probation revocations 43% greater, than prisoners with low violence risk, respectively. Compared to prisoners with low violence risk, prisoners with problem violence risk had a 59% higher expected count of parole violations and offenders with severe violence risk had an 81% higher expected count of parole violations.

Relative to all PII scales examined, the PII Adjustment Scale classifications displayed the strongest relationship with the criterion outcomes of interest. Offenders with severe adjustment problems had an expected count of felony arrests 50% greater and an expected count of probation revocations 86% greater than offenders with low adjustment risk,

respectively. These differences were especially pronounced for parole revocations and escape attempts. Relative to prisoners with low adjustment risk, those with severe adjustment risk had 151% more predicted parole revocations and 227% more escape attempts.

The PII Stress Coping Abilities risk threshold displayed significant associations with the criterion variables examined but was a weaker predictor of the criterion measures than the PII violence and adjustment scales. When predicting self-report number of felony arrests, probation revocations, and parole revocations, prisoners classified with problem stress coping risk had a higher expected count of the given outcome than offenders in the severe risk classification, suggesting a non-linear relationship between stress coping risk classification and the outcomes of interest. While not as strongly related to the criterion outcomes of interest, the PII Stress Coping Abilities Scale was significantly associated with the criterion measures. Prisoners classified with low stress coping risk had lower predicted counts than prisoners with medium, problem, or severe stress coping risk. For example, prisoners with severe stress coping risk had an expected count of probation revocations 26% greater than offenders with low stress coping risk and an expected count of parole revocations 51% greater than offenders with low stress coping risk.

Discussion and Conclusion

This study tested the construct and criterion validity of select PII scales on a large sample of prisoners. The PII Truthfulness Scale was found to identify inmates who minimized or denied previous criminal history. The PII Adjustment Scale was the behavioral measure most strongly associated with the criterion measures examined, followed by the PII Violence Scale, where the PII Stress Coping Abilities scale displayed acceptable but relatively low construct and criterion validity. Implications of these results are discussed, followed by a description of the limitations and future directions of this research.

The PII Truthfulness Scale was able to accurately identify prisoners who minimized their self-report criminal history, with each increasing truthfulness scale risk classification being associated with a lower number of criminal history events relative to the low risk group. Without an indication of the truthfulness of each prisoner's responses or access to official records, prison administrators and officials could receive an underestimate of previous criminal history and potentially make decision regarding supervision levels and interventions based on incorrect information. Based on these results, adjusting the remaining PII scales for the truthfulness of prisoner's responses should in fact provide more accurate estimates of these behavioral domains than if these scales were not adjusted for response bias.

Of the PII scales included in analyses, the PII Adjustment Scale displayed the strongest relationship with the construct and criterion factors analyzed. The PII Adjustment Scale is a multi-faceted construct measuring inmates' propensity towards a number of behaviors indicating problematic emotional, aggressive, and substance use behaviors, making its' association with serious criminal and prison related offenses straight forward. The findings of this study suggest the PII Adjustment Scale offers prison officials a single measure that can be used to quickly assess the risk an inmate poses in terms of potential for re-arrest once released from prison and potential for serious infractions while completing their prison sentence.

The PII Violence Scale also displayed strong associations with the criminal history outcomes of interest. The relationship between the PII Violence Scale and criminal history measures examined here lacks precision without information concerning the type of offenses contributing to felony arrests, probation or parole violations, yet prisoners assessed to have high violence risk did have higher values of these criminal outcomes. Measures assessing the potential for violence among inmates are of increasing importance with a large proportion of prisoners being incarcerated for violent crimes.

Of the PII scales examined, the Stress Coping Abilities scale displayed the weakest association with the criminal history outcome measures. Unlike the PII Adjustment and Violence scales, items included in the Stress Coping Abilities Scale do not account for behaviors closely linked to criminal activity such as violence and anger, instead measuring prisoners' perceived stress and abilities to cope with that stress. The PII Stress Coping Abilities Scale captured behaviors more distally related to crime than those of the Adjustment and Violence Scales, yet was still significantly associated with the criminal outcomes of interest. Measures regarding prisoners quality of life while completing the prison sentence and ability to readjust to life post-incarceration are outcomes that may be better predicted by the PII Stress Coping Abilities scale than the other PII scales examined here, which were more closely associated with crime and delinquency.

Limitations and Future Directions

An initial limitation of this study was the cross-sectional nature of the PII database that did not allow for a longitudinal research design. Without proper temporal ordering of the criminal history measures and PII scales, the casual relationship between these measures could not be assessed. Having the prisoner complete the PII pre-and-post sentence would enable assessment of change in prisoners' behavioral characteristics attributable to their time in prison, with more regular testing of prisoners allowing examination of behavioral trajectories and their antecedents. Collection of longitudinal data would increase the cost of administering the PII, but would provide data necessary to test whether the PII could be used to preemptively indicate which offenders had the greatest likelihood of committing offenses during their prison sentence.

The criminal history measures examined were self-reported, and collected at the beginning of the prison sentence, excluding the possibility of using the PII scales to predict outcomes that occurred during the prison sentence. Follow-up information on violence and violation of prison codes could be used to assess how the PII scales are related to problems that place other prisoners and prison officials at risk.

Accurately identifying prisoners who pose risks to the safety of themselves, other inmates, prison officials, and the general public is of significant importance. Recently, many probation and parole departments have begun implementing strategies that address inmate risk. One strategy with demonstrated benefits is inmate risk evaluation using reliable and valid instruments (PEW Center on the States, September 2011; Austin, 2003). Several unpublished studies have examined the psychometric properties of the PII and it demonstrated acceptable reliability and validity (Davignon, 2007; Degiorgio & Lindeman, 2012). As noted earlier, the PII combines both static and dynamic factors to categorize offender risk. By including both static and dynamic factors in one assessment, the PII provides an alternative to the use of multiple intake tests by corrections, and treatment staff. This is particularly important when resources (budgetary, staff, facilities) are limited. Reduced recidivism, reduced expenses, increased prison safety, and increased public safety

are benefits associated with using well developed risk assessments that accurately identify inmate problem severity (PEW Center on the States, September, 2011). Early identification of high risk inmates provides correctional staff with information necessary to prevent inmate violence, promote adjustment, and provide interventions which may reduce the potential for re-incarceration.

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