Establishing Construct and Predictive Validity of the Prison Inmate Inventory (PII) for use with

Female Inmates

Abstract

This study establishes the validity of the Prison Inmate Inventory (PII) for use among female inmates (n = 628). Contrast groups were used to establish construct validity; negative binomial regression analysis was used to confirm predictive validity. Female inmates who were arrested at a younger age demonstrated more severe problems with violence, antisocial traits, distress, adjustment to prison life, and judgment. Results from the negative binomial analysis revealed that inmate risk (low and severe) predicted expected counts of probation revocations, parole revocation, and escape attempts. Expected counts were not related to race/ethnicity in this sample.

Keywords: risk assessment, female inmate, validity, negative binomial

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Historically, more men than women are incarcerated each year; however, the rate of female incarceration has been consistently increasing over the past three decades (West, Sabol, & Greenman, 2011; United States Commerce, Economics and Statistics Administration, 2011). Reports published by the Department of Justice, Bureau of Justice Statics (2011) revealed that overall violent crime arrests and incarcerations have increased 60% in recent years and female incarcerations represented a growing percentage of the overall violent crime rate. Given that women have historically comprised only a small percentage of the offender population, female offenders have been overlooked in criminal justice research; however, their numbers are steadily growing, and research reveals the predictors of female offending do not parallel those of men (Van Voorhis, Wright, Salisbury, & Bauman, 2010). Contemporary risk assessments have demonstrated mixed results in predicting female risk and recidivism (Harer & Langan, 2001; Reisig, Holtfreter, & Morash, 2006; Stuart & Brice-Baker 2004). The purpose of this study was to validate the Prison Inmate Inventory (PII, Behavior Data Systems, 2012) using a sample of female inmates. This article provides an overview of female inmate characteristics, recidivism risk factors, limitations of actuarial assessments, as well as description of the Prison Inmate Inventory (PII) and the procedures for the analyses.

Female Inmates

A majority of incarcerated women are between the ages of 30-40 years old, considered low-income, undereducated, and non-white (United States Commerce, Economics and Statistics Administration, [USCESA] 2011). It has also been reported that a majority of incarcerated females are mothers to one or more minor children (National Criminal Justice Reference Service

[NCJRS], 2012; USCESA). Female inmates are more likely to be incarcerated for property or drug related crimes, and the rate of violent arrests for female offenders has increased over the last decade (Glaze & Bonczar, 2011). Female inmates are more likely to experience drug abuse, mental illness, intimate or partner abuse, sexual and physical abuse, and are more likely to be victims of crime than male inmates.

The number of women on probation, parole or receiving community supervision has been increasing (USCESA, 2011). Glaze and Bonczar (2011) reported that women represented 25% of the offenders receiving community supervised probation and 12% of the offenders receiving supervised parole. The Bureau of Justice Statistics (2010) reported that 58% of women recidivated within three years of their release; 40% had their probation revoked for a technical violation while 17% were arrested for a new crime. Women released from prison anticipate reunification with their children and expect to resume their parenting responsibilities, often as the head of household.

Proactive efforts adopted by many corrections departments include strategies and policies that identify inmate risk and potential needs during incarceration, while simultaneously seeking to improve public safety once inmates are released. These 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, 2004). Improving outcomes for women released from prison begins by accurately identifying characteristics and factors associated with female inmate risk that can be addressed through intervention or treatment (Andrews & Bonta, 2010; Bloom, Owen & Covington, 2002).

Risk Factors

Austin (2004) asserts that in corrections managing risk means preserving public safety by identifying attributes, characteristics, and behaviors of individuals who commit crimes.

Identifying offender risk represents a movement in the field of juvenile assessment and is the focus of this paper (Young, Moline, Farrell, & Bierie, 2006). Early research into risk identification and its impact on recidivism were conducted using large samples of inmates who were overwhelmingly male. In addition, assessment instruments that rely on measures of violence, aggression, and antisocial behaviors, traits more closely associated with male inmates, may inappropriately classify female inmates. This section reviews risk factors associated with female inmates.

Using structured interviews and correctional records, researchers (Stuart & Brice-Baker, 2004) explored risk factors and recidivism using a sample of 60 female inmates. The inmates were recruited from minimum, medium, and maximum security levels. Findings revealed a relationship between the static factors of age of first arrest, age of first imprisonment, offense type (e.g. violent crime, property crime, drug crime), and recidivism. These findings are consistent with larger meta-analyses examining both male and female rates of recidivism (Andrews & Bonta, 2010).

Antisocial traits of female inmates were strongly associated with incidents of misconduct while they were incarcerated (Skopp, Eden, & Ruiz, 2007). In a study using 113 female inmates, researchers examined the criterion validity of the Personality Assessment Inventory for use among female prisoners. The results found that even when controlling for criminal background static factors, antisocial traits of female inmates were more effective predictors of general misconduct, aggressive and defiant behavior, as well as covert infractions that resulted in misconduct charges.

Substance abuse has also been linked to recidivism rates for both males and females; however female inmates seem to be disproportionately impacted by substance dependence.

Estimates for alcohol dependence for female inmates ranged from 10-24% and estimates for drug

dependence ranged from 30-60% (Fazel, Bains, & Doll, 2006). In a state prison survey, 59% of

female inmates reported using drugs in the month prior to their arrest. Women are more likely to

be arrested for a drug crime or property crime (to obtain money for drugs) than men.

The relationship between substance abuse treatment outcomes and recidivism for women

released from prison has also been explored (Matheson, Doherty, & Grant, 2011; Messina,

Burdon, Hagopian, & Pendergast, 2006). Findings indicated that women who completed

substance abuse treatment were less likely to be re-incarcerated while receiving community

supervision. An additional predictor of re-incarceration identified was the presence of a mental

illness. Women who were diagnosed with substance dependence and a mental illness reoffended

and returned to custody sooner than those without co-occurring problems (Matheson et al.,

2011). It seems clear that addressing substance abuse issues can impact recidivism rates and

facilitate successful community reintegration for female inmates.

Two additional factors that have predicted reoffending and recidivism among female

inmates include a future orientation and education status. Stuart and Brice-Baker (2004)

explored whether female inmates were looking forward to release (dynamic factor) and rates of

recidivism and found a correlation between these variables. Harer and Langan (2001), using a

large sample of female prisoners, found that educational attainment at the time of prison

admission improved the predictive ability of risk classification for federal prisons.

Assessment Limitations. While the use of assessment tests has been steadily increasing,

and predictive validity improving, there are problems associated with actuarial instruments and

their interpretations. Frequently expressed concerns include, false positive errors, response bias,

cultural relevance, and gender bias.

Actuarial risk predictions are estimated using actual occurrences of an event (base rates). Prediction precision is compromised when base rates are relatively low, such as violence crime committed by female inmates. False positive errors occur when individuals are incorrectly identified (low risk who reoffend; inmates identified as high risk who do not reoffend) and when base rates are low the probability of making an error increases (Craig & Beech, 2009). This limitation needs to be considered when interpreting individual offender risk predictions by gathering information from multiple sources, including clinical judgment.

The accuracy of self-report responses may be biased by the respondent's ability to minimize or deny the extent of their problems. Response bias has been defined as the systematic tendency to provide inaccurate answers to question items (Paulhus, 2002) and has been studied extensively with regards to criminal behavior (Benedict, & Lanyon 1992; Grann & Weddin 2002; Piquero, Farrington, & Blumstein 2003; Roberts & Wells 2010). The potential for problem minimization is high among prisoners seeking to obtain lower supervision levels and early release, necessitating the use of validity scales designed to quantify problem minimization and denial. Prisoner assessment procedures should include some strategy to assess the veracity of inmate responses.

Another limitation regarding risk assessments has been the lack of validity and reliability analyses using non-white populations. The most frequently cited risk assessments were developed in North America, Australia, and the United Kingdom. These instruments may not reflect prison populations or racial, ethnic, and cultural backgrounds (Craig & Beech, 2009; Hannah-Moffat, 2004; Zinger, 2004). As noted by Lindeman (2011) there have been some issues involving risk assessments that have been used with Asian and African American populations. These cultural limitations must also be carefully considered when interpreting individual results.

Feminist critiques of actuarial assessments assert that a majority of risk assessments are derived from male driven theories of criminology and ignore gender differences and contextual factors, including economical disadvantages, social disadvantages, victimization, and trauma, which disproportionately impact female offenders (Reisig, Holtfreter, & Morash, 2006). Moreover, normative procedures for risk assessments rely on data which is contributed, disproportionately by male inmates. In addition, most actuarial scales weight criminal offenses equally (violent crimes versus property crimes) which results in female offenders being classified as high risk and provided supervision or treatment which does not match their level of violence or escape potential (Van Voohis & Presser, 2001).

Very few studies have examined male and female differences on risk assessments. Harer and Langan (2001) explored the role of assessment in prediction of violence for female offenders. The researchers used a very large sample of federal prisoners and found that the risk classification instrument used in the federal prison system was equally predictive of male and female violent, prison misconduct. The authors noted that large sample sizes would be needed to replicate these findings because women represent a small percentage of prison admissions and have lower violence rates than male inmates. Without model stability (provided by a large sample size) researchers may erroneously conclude that gender differences and predictors of violence exist and provide inappropriate risk classification and mismatched treatment needs.

A validation of the Personality Assessment Inventory found antisocial traits of female inmates were more effective predictors of general misconduct, aggressive and defiant behavior, as well as covert infractions that resulted in misconduct charges (Skopp et al., 2007). Reisig and colleagues (2006) examined a popular risk classification system, the Level of Supervision Inventory-Revised (LSI-R). Using the pathway to crime framework, the researchers examined rates of recidivism for women released to community supervision. Results indicated that the LSI-

R misclassified a large number of female probationers, adding to the debate on the accuracy of risk classification for female inmates. The findings from both studies provide support that women may be overclassified as severe risk by actuarial assessments.

This study explored the validity of the Prison Inmate Inventory (PII), a widely used risk assessment (Behavior Data Systems, 2012), on a sample of female inmates from across the United States using risk severity. This analysis established construct validity of the PII with female inmates using risk severity and demonstrated that severe risk inmates are more likely to have experienced probation and parole violations. Earlier validation studies of the PII used data from samples of predominately male inmates (Degiorgio & Wegner, 2013); however, establishing the PII as a valid assessment instrument can ensure that corrections staff using the PII are measuring domains of female inmate risk that provide important information concerning potential for future offenses, as well as identifying problem areas that can be addressed through treatment or other interventions.

Methods

Participants

Data received from 4, 444 inmates across the United States who completed the PII between November 2009 and October 2012 were used in this analysis. Participant data were submitted to the Behavior Data Systems (BDS) database by corrections, probation, and treatment staff across the United States who implemented the PII as part of their inmate screening or intake procedures. Information on test administration procedures and security classification were not available to the researcher. Ohio, Arkansas and Pennsylvania contributed the most data to the BDS database. Information on marital status was missing for two offenders. There were no missing data for the demographic or criminal history items.

Eighty-six percent (3, 816) of the inmates were male and 14% (628) were female. The female inmates were overwhelmingly white (83%), single (38%), and had less than a high school education (37%). These characteristics were similar to those of the male inmates in the sample.

Female inmates also provided information about their criminal and arrest history. Female inmates in this sample had extensive criminal histories; 99% reported one or more lifetime felony arrests; 97% reported one or more arrests; 37% reported one or more alcohol-related arrests; 79% reported one or more drug arrests; 36% reported one or more DUI arrests; 58% reported one or more probation sentences, and 44% reported one or more parole sentences. Thirty-five percent of offenders reported their first arrest when they were 18 or younger. Table 1 provides descriptive statistics of the criminal history items, and PII scales for the current study.

Measure

The Prison Inmate Inventory (PII) is a self-report assessment that addresses domains associated with offender risk. The PII was designed to help correction staff establish inmate supervision and security levels. The PII consists of 160 items using true/false and multiple choice formats to comprise 10 scales (domains) associated with prisoner behavior and attitudes. The 10 scales include: Truthfulness Scale, Adjustment Scale, Alcohol Scale, Drugs Scale, Antisocial Scale, Violence Scale, Distress Scale, Self-esteem Scale, Judgment Scale, and Stress Coping Abilities Scale. The PII requires approximately 35 minutes to complete, is appropriate for high school ages through adulthood, and can be administered individually or in groups. The PII training manual recommends that test results be used in conjunction with a review of available records and experienced staff judgment. The PII scales are described fully along with additional information at www.prison-inmate-assessment.com.

All PII scales demonstrate moderately high to high reliability coefficients (>.86) and the inter-item correlation coefficients for the PII scales range between .131 and .865. The PII

classifies inmates into four risk ranges: Low Risk (zero to 39th percentile), Medium Risk (40th to 69th percentile), Problem Risk (70th to 89th percentile), and Severe Problem (90th to 100th percentile). Risk ranges represent degree of severity. Risk ranges were established by converting raw scores to percentile scores using cumulative percentage distributions (Behavior Data Systems, 2012). Early instrument development included the use of content experts to confirm the proposed risk ranges. Data analyses, in combination with field reports from experienced evaluators have confirmed that these percentile categories provide accurate identification of problem behavior (Behavior Data Systems). It is important to note that data for analyses and risk range confirmation was contributed largely by male offenders and its application to female offenders may be compromised or inappropriate.

In addition to establishing risk thresholds, the risk ranges serve an important role when interpreting Truthfulness Scale scores. A truthfulness concern is identified when a Truthfulness Scale score is at or above the Problem Risk range (70th percentile). These respondents are typically cautious, guarded or may be defensive in their answers. Scores in the Problem Risk range should be interpreted cautiously. Severe problem scores on the Truthfulness Scale (90th percentile and above) invalidates all other scale scores. Individuals with invalided tests are retested according to Behavior Data Systems guidelines (2012) and the retest data is submitted to the database along with the invalidated scores. For purposes of this study, the invalidated results were excluded. The impact of truthfulness on test scores is largely contingent on the severity of the client denial or problem minimization (Behavior Data Systems, 2012).

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). For this analysis,

female inmates were grouped into two categories, *18 or Younger* and *19 and Older* based on their self-reported age at first arrest. As noted by DeLisi (2006), there is a relationship between age at first arrest and chronic criminal activity; offenders arrested prior to the age of 18 were associated with more severe types of offending. DeLisi found that offenders with the youngest reported ages had a "sustained involvement in criminal activity" (pg. 22). In addition, the work of Stuart and Brice-Baker (2004) identified age at first imprisonment as a recidivism predictor for female offenders. It was anticipated that the *18 and Younger* inmates would have higher mean scale scores than the *19 and Older* inmates, with the exception of the Self-Esteem Scale and Stress Coping Abilities Scale. Scoring for these scales is reversed so that higher scores are associated with better stress management skills and higher self-esteem; *18 and Younger* inmates were expected to score *lower* on these scales. *T*-test analyses were conducted to examine whether the differences in mean scores were statistically significant. Variances were not equal so adjusted *t* and *df* are presented in Table 2. Bonferroni's correction was applied to control for experimentwise error (Field, 2009).

To assess the predictive validity of the PII, separate negative binomial models were generated using Low Risk and Severe Risk groups as predictors and three criminal history items representing the dependent variables. The Low Risk group included inmates who had only *one* scale score above the 70th percentile; all other scale scores were below this threshold. The Severe Risk group included inmates who had scale scores above the 70th percentile. Twenty-three percent of female inmates were categorized as Low Risk and 77% were categorized as Severe Risk.

Negative binomial regression is in the family of generalized linear models and its use is appropriate and necessary when analyzing non-normally distributed data like criminal history responses, which are count variables. Number of lifetime parole revocations, probation

revocations, and escape attempts represented factors contributing to an inmate's return to prison

or extension of her jail sentence. The criminal history items chosen as outcomes represent

moderate to severe violations that place the individual at risk of returning to jail. Three separate

binomial regression models were developed, one for each predictor factor. Race/ethnicity and

education were dummy coded for inclusion in the model. Race/ethnicity was coded White and

non-White for this analysis, because the majority of inmates in the sample were White, with too

few inmates represented in other categories for adequate analysis and later interpretation.

Categories for education included less than high school, high school diploma/GED, more than

high school education. Education was coded using less than high school as the reference

category.

To illustrate the predictive capacity of the PII expected counts were calculated using the

formula $100(e^{\beta} - 1)$ and represent the percent of change in expected counts of the criminal

history items relative to the Low Risk group. Age was selected as an offset variable to account

for the increased time an inmate has to accumulate a criminal history.

[INSERT TABLE 1 ABOUT HERE]

Results

A comparison between the mean scores of the *18 or Younger* and *19 and Older* group

found higher mean scale scores for the *18 or Younger group* on all scales except the Truthfulness

Scale. As expected the *18 or Younger* group scored lower on the Self-Esteem Scale, and Stress

Coping Abilities Scale. *T*-test analyses were conducted to examine whether the differences in

mean scores were statistically significant. Results are presented in Table 2. Results were

statistically significant on the Self-Esteem Scale, Judgment Scale, Distress Scale, Violence Scale,

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Antisocial Scale, and Adjustment Scale. Results were not statistically significant on the

Truthfulness Scale, Alcohol Scale, Drug Scale, and Stress Coping Abilities Scale. Effect sizes

using Cohen's *d* were calculated and ranged from about .2 -.9, representing small to large effects

respectively.

< INSERT TABLE 2 ABOUT HERE >

Results of the negative binominal analyses revealed that across all criterion factors

(probation revocations, parole revocations, and escape attempts) inmates in the Severe Risk

group had expected counts greater than the Low Risk group. Inmates in the Severe Risk group

had an expected count of probation revocations 6% greater [100 * (1.06 -1) = .02] than inmates

in the Low Risk group When comparing parole violations. Severe Risk inmates had expected log

counts 166% greater [100* (2.66 -1) =1.62] than the Low Risk group When comparing escape

attempts. The Severe Risk group had expected counts 334% greater [100* (4.34-1) =1.10] than

the Low Risk group, when comparing parole revocations.[1]

There were no differences in expected counts based on race (White or non-White) for

probation revocations, parole revocations and escape attempts. Moreover, there were no

differences in expected counts based on education.

[INSERT TABLE 3 ABOUT HERE]

Discussion

Research into the validity of risk assessments for use on female inmates has been limited

and results have been mixed. Some assessments have demonstrated risk scales used for men are

equally valid with female inmates (Harer & Langan, 2001; Skopp, Eden, & Ruiz, 2007) while

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1 Reviewer feedback suggested conducting a logistic regression to examine escape attempts as a binary
variable. Results of this analysis found that the severe group of offenders had higher counts of escape
attempts than low risk offenders.

others have not (Reisig, Holtfreter, & Morash, 2006). This study examined the psychometric properties of the PII and the findings provide empirical support for the PII as an inmate risk assessment that effectively differentiates between female inmates who represent greater risk while they are incarcerated and for the community upon release.

To establish construct validity, offenders were grouped into two categories based on age at first arrest, *18 and Younger,* and *19 and Older.* Age at first arrest was selected as the criteria because of its relationship to criminal history and offense severity. Results were statistically significant for six of the 10 scales including, the Self-Esteem, Judgment, Distress, Violence, Antisocial, and Adjustment Scales. This would suggest that the PII is able to distinguish between offenders who present greater risk and greater needs on these domains.

The results of the Alcohol Scale and Drug Scale were surprising and worthy of comment. It was anticipated that the Severe Risk group of offenders, who represented greater risk and as having more severe problems, would have significantly higher scores on both the Alcohol and Drug Scales. Upon reflection, similar scores for both groups in the current study are consistent with prior research. Research indicates that the rate of drug arrests and drug dependence is disproportionately represented by female inmates (Fazel, et al., 2006) and approximately 50% percent of women in state prison reported using alcohol, drugs, or both at the time of their arrest (USCESA, 2011). Therefore, we would not necessarily expect to find differences between the groups when using age at first arrest as the criteria.

Results from the negative binomial analyses revealed that inmate risk (low and severe) significantly predicted the number of probation revocations, parole revocation, and escape attempts for female inmates. Using expected counts (incident ratios), the Severe Risk group was 6% more likely to experience a probation violation, 166% more likely to experience a parole

violation, and 334% more likely to attempt escape from prison. As the severity level of the offense increases (probation revocation versus escape attempt) the greater the expected counts for the Severe Risk group. Results from this analysis also add to the limited research into female inmates, risk classification and need identification.

Early identification of female inmate risk provides corrections staff with opportunities to address inmate needs through appropriate matched treatment and supervision levels. Improving outcomes for women released from prison begins by accurately identifying characteristics and factors associated with risk that can be addressed through intervention or treatment (Andrews & Bonta, 2010; Bloom et al., 2002).

Accurately implementing assessments is just as important as identifying risk potential (Austin, 2004). The process of inmate screening and initial classification typically takes place in diagnostic centers where approximately 70% of prison inmates are assessed (Coolidge, 2009). These screening processes often involve the administration of quick assessments to aid in initial incarceration decisions. This initial screening may be followed by more extensive and thorough evaluations to determine security classification, significant disorder identification, and possible adjustment issues (Christensen & Warwick, 2009). The PII provides corrections personnel an alternative to using multiple intake tests. This is particularly important when resources (budgetary, staff, facilities) are limited. Moreover, the PII provides insight into co-morbid factors including substance abuse, antisocial tendencies, distress, and violence that provide a more complete picture of the inmate and his or her risk profile. The multidimensional features of the PII also support its use among non-White and female inmate populations.

Limitations

Despite the promising psychometric findings of the PII there are some limitations related to this study, the results, and the PII. These limitations include issues of administration,

psychometric properties, and methodology. As noted earlier, the authors and test designers have limited knowledge, or input into, how the PII is administered to inmates by the various corrections department or probation agencies. Inmate data was returned to the authors for analysis and interpretation. Corrections staff were provided general test administration guidelines as outlined in the training manual; however inconsistencies in test administration, security classification, and environment may impact results. Field research using the PII should include a description of administration procedures, as well as examine accuracy of risk prediction on recidivism rates. To this end, collaboration with agencies to examine long term test data would expand the existing knowledge of inmate recidivism and treatment planning. Moreover, access to these additional variables would facilitate prediction model studies using advanced correlation approaches (Bellini & Rumrill, 2009).

Since data collected in this PII study were not longitudinal, a causal relationship between scale scores, recidivism rates, and treatment outcomes could not be established. Collecting longitudinal data is time and resource intensive; however, it may be worth considering as this type of methodology would provide the necessary data to test whether the PII could identify, at an individual level, which offenders had the greatest likelihood of committing offenses during their incarceration and upon release. While a limitation for this project, the collection of longitudinal data is an area for future research.

Despite the impressive reliability, it is generally accepted that Cronbach's alpha reliability coefficients are directly proportional to the number of test items (Murphy & Davidshofer, 2001). The average number of items per scale was 20; the high reliability coefficients that were obtained may be the result of the large number of items, however, the inter-item correlations challenge this criticism.

Finally, the methodological approach adopted by this study assumes the offender is static and that prior criminal acts reflect a persistent state or criminal propensity. Static factors, such as prior criminal history, have demonstrated strong predictive abilities on recidivism (Andrews & Bonta, 2010), however, research does demonstrate that prosocial activities, substance abuse treatment, and strong positive peer relationships can reduce recidivism rates. This reliance on a static dependent variable introduces bias into the study (Saltzman, Paternoster, Waldo, & Chiricos, 1982) and may lead to an overestimation of the relationship between the variables. For this reason, caution should be used when interpreting the results of this study or other studies which use this type of methodology.

Conclusions

The Prison Inmate Inventory (PII) was developed to assess inmate risk, as well as identify inmate coping abilities, adjustment, and psychological needs. Moreover, risk assessments like the PII have demonstrated significant advantages over risk assessments that rely solely on interviews and clinical impressions. These findings support the PII as a risk assessment tool that effectively measures characteristics of female inmates, and differentiates between female inmates who represent low and severe risk. In addition, identifying areas of inmate need and facilitating the development of pro-social skills including self-regulation, problem solving, and anger management strategies, as well as aiding prisoners in identifying noncriminal alternatives and noncriminal peers while women are incarcerated will reduce the incidents of reoffending.

These properties are essential for identifying inmates who demonstrate higher severity and consequently may have more complex needs (Austin, 2004). Addressing risk and needs early can facilitate successful community reintegration for the inmate and enhance public safety (PEW Center on the States, September 2011).

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Table 1

Criterion Variables and PII Scales

	Min	Max	Mean	SD
Criminal history				
Probation revocations	0	10	.91	1.21
Parole revocations	0	10	.56	1.25
Escape attempts	0	2	.04	.20
Scales				
Truthfulness	6	98	57.43	28.87
Alcohol	1	100	55.31	28.24
Drug	1	99	62.42	26.63
Antisocial	1	99	45.30	26.84
Violence	1	99	38.94	28.30
Adjustment	1	99	53.09	28.94
Distress	1	99	61.87	29.29
Self-esteem	1	99	40.54	27.62
Judgment	1	99	57.12	28.15
Stress Coping Abilities	1	99	37.23	28.89

Table 2

Mean Score Comparison and t-Test Results

Scales	18 or Younger Mean Score	19 and Older Mean Score	t	df	d
Truthfulness	5.52	6.28	2.05	480.27	.16
Alcohol	20.23	19.30	.810	450.472	.07
Drug	36.96	34.97	2.18	450.88	.18
Antisocial	44.97	36.17	9.00*	424.46	.77
Violence	19.49	13.20	6.93*	379.52	.62
Adjustment	29.91	23.46	11.33*	478.60	.93
Distress	26.28	23.05	2.92*	455.25	.24
Self-esteem	4.92	1.01	3.27*	443.96	.27
Judgment	25.55	21.93	6.78*	461.930	.56
Stress Coping Abilities	79.09	85.33	1.99	479.51	.16

* indicates scales that were statistically significant at the Bonferroni adjusted value p <.005

Table 3

	Probation revocations		Parole Revocations		Escape Attempts	
	b	Exp (*b*)	*b*	Exp (*b*)	*b*	Exp (*b*)
Race						
White (Reference category)						
Non-white	-1.99	.14	-1.8	.16	-2.2	.12
Education						
< HSD (reference category)				.		
HSD/GED	-1.4	.25	-1.1	.33	-1.3	.28
Post-high school	-3.7	.02	-3.9	.02	-3.9	.02
Risk						
Low Risk (reference category)						
Severe Risk	.06*	1.06	.07*	1.07	-.07*	.934
Criminal History						
Arrests	.65*	1.92	.92*	2.52	.15*	1.16
Felony	-.28*	.75	-.26*	1.30	-.42	.66
Alcohol related Arrests	-.17	.84	-.06	1.06	-.57	.57
Drug related Arrests	-.14	.87	-.17	1.18	-.30	.74

Negative Binomial Results

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*p <.001**Author Information**

Lisa Degiorgio, PhD
Thomas University

27615 N. 63rd Drive
Phoenix, AZ 85083
520-661-8-3877
ldegiorgio@thomasu.edu