

Juvenile Pretrial Test Standardization Study: Assessment of Juvenile Offenders

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1-28-02

ABSTRACT

The Juvenile Pretrial Test (JPT) is a juvenile offender test that accurately measures offender risk of violence (lethality), substance (alcohol and drugs) abuse, adjustment, emotional and mental health problems. There were 1,156 juvenile offenders used in this study. Reliability analyses showed that all JPT scales had very high alpha reliability coefficients of between .85 and .91. JPT scales were validated in several tests of validity. Discriminant validity was shown by significant differences on JPT scale scores between first and multiple offenders. The Violence Scale correctly identified 99.4% of the offenders that admitted to being violent. The Alcohol Scale correctly identified 100% of the offenders that had been treated for alcohol problems. The Drugs Scale accurately identified 97.5% of offenders that had drug problems. JPT classification of offender risk was shown to be very accurate. All JPT scale scores were within 2.0% of predicted risk range percentile scores. This study demonstrated that the JPT is a reliable, valid and accurate juvenile offender test.

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Introduction

The juvenile justice system is an important contact point for offending juveniles. Youth in trouble can be placed by the courts into appropriate programs for treatment and rehabilitation. Many youths end up in court on substance abuse charges, but violence and assault behavior have become more frequent in recent years. Assessment tests aid the courts in deciding on appropriate programs and placements for the juveniles. A multidimensional assessment test can provide useful and timely information for identifying juvenile risk and needs, selecting appropriate supervision levels and providing information regarding what intervention and treatment programs would be appropriate for the youths. Service programs need to address multiple problems in both substance abuse and criminal activity. Assessment tests also help in understanding offenders who may not be at high-risk but who would benefit from programs aimed at changing juvenile delinquent behavior.

Troubled youth often send signals regarding their intentions to commit acts of violence. Violence can lead to more serious degrees of violence, including homicide. Substance abuse in combination with even mild forms of violence can lead to more serious violence and lethality. Intervention and treatment are long-term solutions to stop youths' violent behavior. Effective treatment is largely contingent upon early problem identification. Assessment tests can screen violence potential in offenders and aid in the early selection of appropriate levels of intervention and treatment.

The Juvenile Pretrial Test (JPT) is a multidimensional test that was developed to meet the needs of juvenile court screening and assessment. JPT scales measure violence (lethality) tendencies (Violence Scale), adjustment problems (Adjustment Scale), alcohol and drug abuse severity (Alcohol & Drugs Scales) and emotionally or mental health problems (Distress Scale & Stress Coping Abilities Scale). In addition, the Truthfulness Scale measures offender truthfulness while completing the test. Truthfulness Scale scores are used for truth-correcting other scale scores. A test that is multidimensional lends itself to recidivism prediction.

Violence, adjustment, distress and stress coping abilities are personality and attitude factors that are relevant to juvenile problem-prone behavior. These factors are measured by the JPT. Personality and attitude factors, often referred to as "dynamic variables," are capable of change and are amenable to intervention or treatment. Positively changing offenders' personality and attitudes can lead to behavioral change and reduce recidivism.

For ease in interpreting juvenile offender risk, the JPT scoring methodology classifies offender scale scores into one of four risk ranges: low risk (zero to 39th percentile), medium risk (40 to 69th percentile), problem risk (70 to 89th percentile), and severe problem risk (90 to 100th percentile). By definition the expected percentages of offenders scoring in each risk range (for each scale) is: low risk (39%), medium risk (30%), problem risk (20%), and severe problem risk (11%). Offenders who score at or above the 70th percentile are identified as having problems. For example, offenders' Alcohol Scale scores of 70 or above identify them as problem drinkers. Offenders scale scores at or above the 90th percentile identify severe problems. The accuracy of the JPT in terms of risk range percentages was examined in this study.

This study validates the JPT in a sample of juvenile offenders that were processed as part of court-ordered juvenile offender evaluation procedures. Two methods for validating the JPT were used in this study. The first method (discriminant validity) compared first and multiple offenders' scale scores. Multiple offenders were offenders with two or more arrests and first offenders had only one or no arrest. A test that measures severity level ought to show on average that multiple offenders score higher than first offenders. It was hypothesized that statistically significant differences between multiple and first offenders would exist and the test would differentiate between first and multiple offenders. Multiple offenders would be expected to score higher on JPT scales because having a second arrest is indicative of problem-prone behavior. Comparisons between first and multiple offenders on the JPT scales identifies offender problems and needs.

The second validation method (predictive validity) examined the accuracy at which the JPT identified violent prone offenders, problem drinkers and problem drug abusers. Tests that measure severity of problems should be able to predict if offenders have problems by the magnitude (severity) of their scores. Scores that fall in problem ranges should indicate that problems exist. To be considered accurate an offender test must accurately identify violent individuals, drinkers or drug abusers. Accurate tests differentiate between problem and non-problem offenders. An inaccurate test, for example, may too often call non-problem drinkers problem drinkers or vice versa. In the JPT, treatment information is used to determine accuracy because it is readily obtained from the offenders' responses to test items. Having been in treatment identifies offenders as having an alcohol or drug problem. Undoubtedly, there are juveniles who have an alcohol or drug problem but have not been in treatment. Nevertheless, juveniles who have been in treatment would be expected to score in the corresponding scale's problem range. In regards to violence, offenders' direct admissions of violence problems were used as the criteria.

Offenders were separated into two groups, those who had treatment or admitted problems and those who have not had treatment or did not admit to problems. Then, offender scores on the relevant JPT scales were compared. It was predicted that juvenile offenders with an alcohol and/or drug treatment history would score in the problem risk range (70th percentile and above) on the Alcohol and/or Drugs Scales. Similarly, offenders that admit problems are predicted to score higher than offenders not admitting problems. Non-problem is defined in terms of low risk scores (39th percentile and below). The percentage of offenders that have been in treatment or admit problems and also score in the 70th percentile range and above is a measure of how accurate JPT scales are. High percentages of offenders with treatment and problem histories and elevated problem risk scores would indicate the scales are accurate.

Method

Subjects

There were 1,156 juvenile offenders tested with the Juvenile Pretrial Test. There were 784 males (67.8%) and 372 females (32.2%). The ages of the participants ranged from 11 through 20 as follows: 12 & under (3%); 13 (7%); 14 (16%); 15 (26%); 16 (33%), 17 (14%), 18 (2%) and 19 & over (<1%). The demographic composition of participants was as follows. Race/Ethnicity: Caucasian (53%); Black (38%), Hispanic (7%) and Other (3%). Education: Sixth grade or less (6%); Grade 7 (10%); Grade 8 (28%); Grade 9 (31%), Grade 10 (16%), Grade 11 (9%), High School graduate/GED (1%) and Some college (<1%).

Over half (45%) of the youths were first time offenders (one or no arrest). Twenty-one percent of the participants had been arrested twice, 13 percent had three arrests and 26 percent were arrested four or more times. Eighty percent of the youths had been on probation one or more times. Sixteen percent of the offenders had one or more alcohol arrests, 12 percent had one arrest, three percent had two arrests and two percent had three or more arrests. Twenty-five percent of the youths had one or more drug arrests, 18 percent had one drug arrest, four percent had two arrests and three percent had three or more drug arrests.

Procedure

Participants completed the JPT as part of their evaluation in court service and community service programs. The JPT contains seven measures or scales. These scales are briefly described as follows. The Truthfulness Scale measures the truthfulness of the respondent while taking the JPT. The Alcohol Severity Scale measures severity of alcohol use and the presence of alcohol-related problems. The Drugs Severity Scale measures severity of drug use or abuse. The Violence (Lethality) Scale measures use of force to injure, damage or destroy. It is a measure of juvenile proneness to commit violence. The Distress Scale measures experienced anxiety and depression, and the strain imposed by pain, worry, physical torment or suffering. The Adjustment Scale assesses youths’ ability to adapt, conform and function. This scale recognizes personal and social stressors at home, school and in authority relationships. It incorporates personal and social forces involved in adapting to life conditions that confront the youth. The Stress Quotient Scale measures ability to cope with stress, anxiety and pressure. Stress exacerbates symptoms of emotional and mental health problems. This scale is a non-introversive way to screen for the presence of established emotional and mental health problems.

Results and Discussion

The inter-item reliability (alpha) coefficients for the seven JPT scales are presented in Table 1. All scales were highly reliable. All of the alpha reliability coefficients for all JPT scales were between 0.85 and 0.91. These results demonstrate that the JPT is a very reliable juvenile offender assessment test.

Table 1. Reliability of the JPT

JPT Scale	Alpha	Significance Level
Truthfulness Scale	.86	p<.001
Alcohol Severity Scale	.90	p<.001
Drugs Severity Scale	.91	p<.001
Adjustment Scale	.85	p<.001
Distress Scale	.90	p<.001
Violence (Lethality) Scale	.87	p<.001
Stress Quotient Scale	.91	p<.001

Discriminant validity results are presented in Table 2. Over half (55.1%) of the participants in this study had two or more arrests. These multiple offenders scored significantly higher than first-time offenders on the JPT Alcohol Scale, Drugs Scale, Adjustment Scale, Distress Scale,

Violence Scale and Stress Coping Abilities Scale. Higher scores on these JPT scales are associated with more severe problems. Table 2 presents the mean scale scores for each JPT scale for first and multiple offenders along with t values and statistical significance.

The JPT answer sheet item “Number of times arrested” was used to define first offenders and multiple offenders (2 or more arrests). There were 519 first offenders and 637 multiple offenders. The Alcohol and Drugs Scales were also analyzed using alcohol and drug arrests. “Number of alcohol arrests” was used for the Alcohol Scale, which had 1,107 first offenders and 49 multiple offenders. “ Number of drug arrests” was used for the Drugs Scale, which had 1,084 first offenders and 72 multiple offenders.

Table 2. T-test Comparisons between First Offenders and Multiple Offenders.

JPT Scale	First Offenders Mean	Multiple Offenders Mean	T-value	Level of significance
Truthfulness Scale	9.13	10.08	t = 2.80	p=.005
Alcohol Severity Scale*	4.16	16.67	t = 7.88	p<.001
Drugs Severity Scale*	8.73	22.53	t = 11.67	p<.001
Violence (Lethality) Scale	12.09	20.57	t = 15.24	p<.001
Distress Scale	17.25	23.27	t = 7.99	p<.001
Adjustment Scale	14.62	18.75	t = 8.45	p<.001
Stress Quotient Scale	92.69	86.64	t = 2.60	p=.009

Note: Offender status defined by alcohol and drug arrests. The Stress Quotient Scale is reversed in that the higher the score the better one copes with stress.

All JPT scales demonstrate that multiple offenders score significantly higher than first offenders on JPT scales that measure severity or proneness toward problem behavior. Multiple offenders have a history of arrests and, therefore, can be considered problem prone. Multiple offenders would be expected to have higher JPT scale scores than first offenders and the results reported in Table 2 support this conclusion. Offenders who have a history of arrests score higher on JPT scales than first time offenders. Multiple offenders also scored significantly higher on the Stress Coping Abilities Scale than did first offenders. Offenders who have prior arrests demonstrate poorer stress coping skills. JPT scale scores identify problem prone offenders.

Correlation coefficients between JPT scales and court history are presented in Table 3. These correlation results show that the Violence Scale is highly correlated with number of arrests and age at first arrest. These results suggest that violent youth get arrested young and have many arrests. The Alcohol Scale is highly correlated with alcohol arrests and the Drugs Scale is highly correlated with drug arrests. These results are in agreement with the above discriminant validity results. These results also support the validity of JPT scales.

Table 3. Correlations between Court History with JPT Scales

	<u>Alcohol Scale</u>	<u>Drugs Scale</u>	<u>Violence Scale</u>	<u>Distress Scale</u>	<u>Adjustment Scale</u>	<u>Stress Coping</u>
Age at first arrest	-.065	-.002	-.414	-.191	-.189	.109
Times arrested	.240	.206	.534	.181	.223	-.034
Alcohol arrests	.448	.137	.124	.031	.035	.039
Drug arrests	.171	.386	.107	.073	.058	.020

Predictive validity results for the correct identification of problem behavior (violence tendencies, drinking and drug abuse problems) are presented in Table 4. Table 4 shows the percentage of offenders that had or admitted to having problems and who scored in the problem risk range. For the Alcohol and Drugs Scales problem behavior means the offender had alcohol or drug treatment. For the Violence Scale the offenders admitted they were violent. In these analyses scale scores in the Low risk range represent “no problem,” whereas, scores in the Problem and Severe Problem risk ranges (70th percentile and higher) represent problems.

In separate analyses the JPT demonstrated it accurately identified problem prone drinkers and drug abusers. Youths who had alcohol or drug treatment were accurately identified by their Alcohol Scale and Drugs Scale scores. Having been in alcohol treatment identifies youths as having had an alcohol problem. Having been in drug treatment identifies them as having a drug problem. Similarly, JPT Alcohol and Drugs Scale scores at or above the 70th percentile identify youths who have alcohol and drug problems, whereas, scores at or below the 39th percentile indicate youths do not have an alcohol or drug problem. In this analysis it was predicted that youths with an alcohol and/or drug treatment history would score in the problem risk range (70th percentile and above) on the Alcohol Scale and/or Drugs Scale. Alcohol and drug treatment information was obtained from participant answers to JPT test items “I have been in alcohol treatment for my drinking problem.” and “I have been in counseling or treatment for my drug use.” The Violence Scale criterion item was, “I am a violent person.”

The JPT Alcohol Scale was very accurate in identifying youths who have had alcohol problems. There were 70 youths who reported having been in alcohol treatment and these youths were classified as problem drinkers. All 70, or 100 percent, had Alcohol Scale scores at or above the 70th percentile. The Alcohol Scale correctly identified all of the youths categorized as problem drinkers. This result validates the Alcohol Scale.

The JPT Drugs Scale was also very accurate in identifying youths who have had drug problems. There were 157 youths who reported having been in drug treatment, of these, 153 youths, or 97.5 percent, had Drugs Scale scores at or above the 70th percentile. This results validate the JPT Drugs Scale.

For Violence Scale comparisons there were 159 juveniles who admitted being a violent person. Of these 159 offenders, 158 individuals or 99.4 percent had Violence Scale scores in the Problem or Severe Problem ranges. This results validate the Violence Scale.

Table 4. Predictive Validity of the JPT

JPT Scale	Correct Identification of Problem Behavior
Alcohol Severity	100%
Drugs Severity	97.5%
Violence (Lethality)	99.4%

The Violence Scale accurately identified offenders (99.4%) who described themselves as a violent person. The direct admission of a violence problem validates the Violence Scale. The Alcohol and Drugs Scale accurately identified offenders who had alcohol and drug treatment. These results strongly support the validity of the JPT Violence, Alcohol and Drugs Scales.

Risk range percentile scores are derived from scoring equations based on offender pattern of responding to scale items, truth-corrected scores and criminal history, if applicable. These results are presented in Table 5. There are four risk range categories: Low Risk (zero to 39th percentile), Medium Risk (40 to 69th percentile), Problem Risk (70 to 89th percentile) and Severe Problem or Maximum Risk (90 to 100th percentile). Risk range percentile scores represent degree of severity.

Analysis of the accuracy of JPT risk range percentile scores involved comparing the offender's obtained risk range percentile scores to predicted risk range percentages as defined above. The percentages of offenders expected to fall into each risk range are: Low Risk (39%), Medium Risk (30%), Problem Risk (20%) and Severe Problem or Maximum Risk (11%). These percentages are shown in parentheses in the top row of Table 5. The actual percentage of offenders falling in each of the four risk ranges, based on their risk range percentile scores, was compared to these predicted percentages. The differences between predicted and obtained are shown in parentheses.

Table 5. Accuracy of JPT Risk Range Percentile Scores

Scale	Low Risk (39%)	Medium Risk (30%)	Problem Risk (20%)	Severe Problem (11%)
Truthfulness Scale	38.2 (0.8)	30.7 (0.7)	20.5 (0.5)	10.6 (0.4)
Alcohol Severity Scale	37.8 (1.2)	30.3 (0.3)	20.9 (0.9)	11.0 (0.0)
Drugs Severity Scale	37.0 (2.0)	30.9 (0.9)	21.1 (1.1)	10.8 (0.2)
Violence Scale	38.5 (0.5)	31.2 (1.2)	19.8 (0.2)	10.5 (0.5)
Distress Scale	39.5 (0.5)	29.7 (0.3)	20.1 (0.1)	10.7 (0.3)
Adjustment Scale	37.5 (1.5)	31.4 (1.4)	20.1 (0.1)	11.0 (0.0)
Stress Quotient	39.4 (0.4)	30.2 (0.2)	19.4 (0.6)	11.0 (0.0)

Table 5 demonstrates that the obtained risk range percentages for these juvenile offenders were very accurate. The seven Juvenile Pretrial Test scales closely approximate the predicted percentages. All of the obtained risk ranges for all risk categories and all scales were within 2.0 percentage points of the predicted percentages. Of the 28 possible comparisons (7 scales x 4 risk ranges), 22 obtained percentages were within one percentage point of predict percentages. Only one

obtained risk range percentage deviated from the predicted percentage by 2 percentage points. These results demonstrate that the Juvenile Pretrial Test risk range percentage scores are accurate.

Conclusions

This study demonstrated that accurate juvenile offender assessment is achieved with the Juvenile Pretrial Test. Results corroborate and support the JPT as an accurate assessment test for juvenile offenders. The JPT accurately measures juvenile risk of violence (lethality), substance (alcohol and drugs) abuse, adjustment, emotional and mental health problems.

Reliability results demonstrated that all seven JPT scales were highly reliable. Reliability is necessary in juvenile screening tests for accurate measurement of offender risk. Validity analyses confirm that the JPT measures what it purports to measure, that is, juvenile offender risk. The JPT accurately identified juvenile offenders who admitted violence-related problems. Multiple offenders (having prior arrests) scored significantly higher than first offenders (discriminant validity). Moreover, the Violence, Alcohol and Drugs Scales correctly identified juveniles who have problems (predictive validity). And, obtained risk range percentages on all JPT scales very closely approximated predicted percentages. JPT scale classifications of offender risk were 98% accurate. These results strongly support the validity of the JPT.

Violence prone youth exhibit many behavioral characteristics that can be identified with the JPT. Early identification of these problems and prompt intervention can reduce a juvenile offender's risk of recidivism or future violence. JPT measures facilitate juvenile offender understanding. They provide an empirical basis for recommending appropriate intervention and treatment programs.

One of the most important decisions regarding a juvenile offender is what supervision level and/or intervention program is appropriate for the offender. The JPT can be used to tailor intervention (levels of supervision and treatment) to each juvenile offender based upon their assessment results. For example, scale scores in the low risk range suggest educational programs and minimum levels of supervision. Medium risk scores suggest counseling with medium levels of supervision, whereas, problem risk scores may require outpatient treatment along with increased supervision levels. Severe problem risk scores are often associated with intensive outpatient or even inpatient treatment. In short, the JPT can be instrumental in establishing levels of supervision and when warranted recommend treatment and/or intervention options. Early problem identification with appropriate treatment can reduce youths' violent behavior. This would lead to reductions in recidivism and future violence.