USING THE MMPI-A TO PREDICT RECIDIVISM IN ADJUDICATED MINORS

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This study explored the ability of selected subscales of the Minnesota Multiphasic Personality Inventory-Adolescent; an objective measure of personality used in the psychological evaluation of juvenile delinquents (Archer & Krishnamurthy, 2002), to predict recidivism. Previous literature suggested the subscales reflecting "excitatory" behavior have been useful in discriminating delinquent from non-delinquent adolescents. In this study, three scales that reflect excitatory behavior, including one Clinical Scale (4- Psychopathic Deviate) and two of the Content Scales (Adolescent-Conduct Problems and Adolescent-Cynicism), were used to predict recidivism for adjudicated minors. For the purposes of this study, recidivism was defined by legal charges, excluding detainment. Participants included 107 males, ages 12-17 (x= 14.5 sd= 1.25), with the following ethnic representation, 32 Caucasian (30%), 34 Native American (32%), and 41 Hispanic American (38%). Juveniles were assessed and then followed for one-year post-assessment, and recidivism was measured according to the presence or absence of subsequent legal charges, not including detainment. Results showed that both A-Conduct Problems and Scale 4 successfully predicted recidivism with the strongest relationship between A-Con and re-offense. In the regression analysis, A-Con explained 29.8% of the variance, and Scale 4 increased the predictive utility by 2.7% accounting for 32% of the variance in recidivism. Results suggest that the content of the A-Con scale may capture some of the attitudes and behaviors that characterize these high-risk adolescents.

Interest in the trajectory of juvenile crime has increased as the frequency and cost of these crimes to society has also increased. The amount of juvenile crime rose a dramatic 88% between 1989 and 1998. The emotional and financial cost of juvenile crime is high: One-fourth of juvenile crimes are classified as violent crimes, and

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there is an estimated cost of $20 million dollars per year for prosecution and treatment (U.S. Department of Justice, 2004.) These costs illustrate how important it is to identify and treat these most serious offenders. Some of the most common ways to identify high-risk, potentially criminogenic adolescents include the collection of a detailed offense history, a diagnosis of a conduct disorder, and results from a comprehensive psychological assessment.

Detailed offense histories have shown that in the area of juvenile crime, recidivism appears to begat recidivism. Speirs (1989) found that two referrals to juvenile court before age 15 led to more criminal activity for 69% of referred youth; as the number of court referrals increased, so did the probability of future offending. Additional research validated the predictive value of an offense history (Loeber, 1982; Moffit, 1993; Stouthamer-Loeber & Loeber, 1988). The predictive value is likely to be a function of the relatively stable behavior of a small group of offenders who commit the majority of crimes. In fact, meta-analyses have indicated that approximately 5-6% of offenders commit more than 50% of crimes (Farrington, 1983; Moffit, 1993; Wolfgang, Figlio, & Sellin, 1972). The cost of rehabilitation and treatment is high and appears to have differing effects on recidivism (Lambert, Wahler, Andrade, & Bickman, 2001). Although offense history is one of the most powerful predictors of juvenile crime, we may miss the opportunity for intervention if we wait until an individual's recidivism data are available.

The results of a psychological evaluation which may include the use of standardized objective and projective measures of personality, intelligence, clinical interview including mental status and diagnostic impressions, and a review of collateral data and health history is another method used to identify the adolescents with the highest risk to re-offend. Research from juvenile justice, developmental, and clinical psychology has identified a diagnosis Conduct Disorder (CD) Childhood-Onset Type (APA, 2000) as a powerful predictor of recidivism. This diagnosis is one factor likely to predict membership into the high-risk group of adolescents, those who are likely to commit a disproportionate amount of criminal acts. Extensive research has differentiated Life Course Persistence (LCP)

antisocial behaviors which have a developmentally early onset, from the time-limited, less severe Adolescent Limited (AL) pattern of anti-social behaviors (Moffitt, 1993.) A comprehensive review (Vermeiren, 2003) showed that most delinquent adolescents had received the Conduct Disorder diagnosis. Overall, the relationship between the diagnosis of CD and recidivism appears to be strong. However, some questions remain regarding the strength of the CD diagnosis in the predictive equation for recidivism.

If the aggregated results from a psychological evaluation can be used to identify which adolescents are most likely to re-offend, rehabilitation dollars can be used to target the highest risk group of adolescents. Another attempt to predict recidivism has involved the use of a wide range of instruments, including functional assessments, neuropsychological, and domain-specific personality assessments. Functional assessments typically capture stable factors such as number of offenses, age of onset, and ethnicity, which have contributed to the prediction of recidivism. However, research has shown that in addition to the above mentioned stable factors, the dynamic factors related to psychological distress, which are also measured by the Child and Adolescent Functional Assessment Scale (CAFAS), predict recidivism (Quist, Matshazi, & Dumiso 2000.)

In addition to functional assessment, research has identified neuropsychological deficits in both intelligence and memory as predictors for recidivism (Vermeiren, Schwab-Stone, Ruchkin, DeClippele, & Deboutte, 2002). Thus, results from neuropsychological testing, which may involve additional, specific assessment of neuro-cognitive functioning related to intellect, memory, learning and concentration may provide additional discriminative data regarding potential to re-offend. Using a multivariate analysis that included a conduct disorder diagnosis, verbal intelligence scores, and presence of depression, Vermeiren, et al., (2002) developed a model that included data from a psychological evaluation that was able to account for 44% of the variance in re-offending. In other research, a domain-specific assessment measure, the Hare Psychopathy Checklist: Youth Version (PCL:YV; Forth, Kosson, & Hare, 1996) was used to incrementally improve the ability to predict

re-offense when controlling for a variety of other predictors, including CD diagnosis, age of first offense, and offense history (Gretton, Catchpole, & Hare, 2004).

In spite of a lack of adolescent norms, the Minnesota Multiphasic Personality Inventory (MMPI-2), an objective measure of personality, demonstrated predictive validity for recidivism in a population of male juvenile offenders (Duncan, Kennedy, & Patrick, 1995). The MMPI-A was released as a revision of the MMPI-2 that was formulated specifically for the adolescent population (Archer, 1997). Since its introduction, the MMPI-A has become the most common clinical assessment measure for adolescents (Archer & Newsome, 2000) The MMPI-A is relevant for the juvenile offender population as the clinical scales have been able to successfully differentiate between delinquent and non-delinquent juveniles (Morton, Farris, & Brenowitz, 2002). Their results showed that profiles of delinquent males had significantly higher elevations on Scales 4 (Psychopathic Deviate) and 6 (Paranoia) than non-delinquents. Earlier research by Pena, Megargee, and Brody (1996) showed similar results in differentiating delinquent from non-delinquent adolescents with higher clinical elevations on Scales 4, 6, and 9 (Mania) which reflect excitatory or risk behaviors. In addition, they found significantly higher elevations on a range of supplementary and newer content scales. The content scales of the MMPI-A are face valid and easily understood as they contain age-appropriate items that have been both empirically and rationally developed. The 23-item A-Con (Adolescent Conduct Problems) and the 22-item A-Cyn (Adolescent Cynicism) content scales reflect some of the heterogeneous items found in the Clinical Scale 4 (Psychopathic Deviate). The A-Con scale includes items related to behavioral or legal problems, lack of remorse, and high-risk peers; the A-Cyn scale is elevated in boys described as argumentative and unusually active. Earlier research found that both of these content scales were elevated in the assessment of juveniles with criminal behaviors (Pena, et al., 1996).

In this study, we were interested in replicating the results showing elevations on Clinical Scale 4 and Content Scales A-Con and A-Cyn. In addition, we were interested in learning if there was a

positive relationship between an adolescent's scores on these scales and recidivism as measured by new legal charges, excluding detainment, during a one-year follow-up.

METHOD

Participants

Participants for this study were 118 adjudicated males, ages 12-17 (x = 14.5.), from a rural Midwest community. Eleven participants were not included in the study because they could not be assessed according to standardized assessment procedures. The racial distribution of the 107 included participants was 32 Caucasian (30%), 34 Native American (32%), and 41 Hispanic American (38%). The juveniles were first-time offenders undergoing a mandated psychological evaluation prior to disposition. The purpose of the assessment was to identify the potential need for mental health or substance abuse treatment prior to or concurrent with legal consequences.

The standard psychological evaluation included the Wechsler Abbreviated Scale of Intelligence, Wechsler Individual Achievement Test – Screener, Minnesota Multiphasic Personality Inventory-Adolescent, Rotter Incomplete Sentences, Child and Adolescent Substance Abuse Inventory, Substance Abuse Subtle Screen-2A, and Projective Drawings including house-tree-person and kinetic family drawing. In addition, the juveniles received history and physical assessment by a physician and urinalysis. This research, which explored the predictive ability of selected scales of the MMPI-A, was a small part of a larger data-collection and research project that examined the utility of pre-disposition, psychological evaluations of adjudicated minors.

The evaluation occurred in a secure hospital facility over a four-day period. The assessments were completed according to standardized testing instructions in a testing room with a licensed psychologist. The participants were followed for one year post-assessment. Recidivism was measured by incursion of legal charges over the follow-up year. The data were coded dichotomously

(yes/no) based on the presence or absence of new legal charges. Detainments were not included, nor did we analyze number of legal charges because the low base-rate prevented meaningful analysis. Recidivism data were taken from juvenile records, and no follow-up contact with the juveniles was required.

RESULTS

Twenty-two of the 107 juveniles (20.6%) re-offended during the follow-up period. Analysis of Variance was conducted to determine if there was a significant difference between the groups of juveniles (recidivists vs. non-recidivists) in their responses on the identified scales (Scale 4, A-Con, and A-Cyn). Results showed significant differences in mean responses between groups for each of the three variables, Clinical Scale 4 $F (1, 105) = 44.61$, $p < .001$; A-Con $F (1, 105) = 34.75$, $p < .001$; A-Cyn $F (1, 105) = 24.02$, $p < .001$. These results validate previous research that indicates the MMPI-A successfully differentiates between two groups of adjudicated adolescents; those likely to re-offend vs. those not likely to re-offend.

Predictors of recidivism

A stepwise multiple regression analysis was performed to estimate the predicted effect of the three scales on recidivism. Table 1 [page 178] illustrates the results showing that juveniles' score on the A-Con Scale was the strongest predictor of recidivism (ß = .546 p < .001). The A-Con Scale accounted for 29.8% of the variance in recidivism. When the Clinical Scale 4 (ß = .228 p < .05) was added to the equation, the predictive probability increased slightly, accounting for 32.5% of the variance in the prediction of recidivism. This result indicates that an adolescent's response on a personality measure that identifies the presence of excitatory behaviors increases our ability to predict which adolescents are likely to re-offend. A-Cyn Scale was not a significant predictor of recidivism and, therefore, was not entered into the predictive equation.

Table 1
Summary of Multiple Regression Analysis for Variables
Predicting Re-offense (N=107)

Variable	B	SE B	ß
Step 1			
Conduct	1.75	.003	.546**
Step 2			
Conduct	1.24	.004	.386**
Scale 4	8.19	.004	.228*

Note. R^2 = .298 for Step 1; ΔR^2 = .27 for Step 2 (ps< .05)

** p < .001.

* p < .01.

DISCUSSION

The results partially supported our hypotheses that the content scales of the MMPI-A would be a valid predictor for recidivism of delinquent behavior in adjudicated minors. The A-Con scale was the strongest predictor, with the Scale 4 adding a small, but significant increment to the predictive equation. A-Cyn did not add any predictive value to the equation. The utility of the MMPI-A and the specific strength of the A-Con may be a result of two factors. First, the rational development of the MMPI-A content scales provided face validity as well as a familiar reference of behaviors, thoughts, and feelings. Furthermore, as Pena et al., (1996) suggested, the items on the A-Con scale are fairly obvious, and the adolescents had little trouble understanding and responding to the items.

The specific strength of the A-Con to predict recidivism is likely a function of the content of the scale's items. Many of the items are related to an offense history. The predictive value of an offense history is well validated (Loeber, 1982; Moffit, 1993; Stouthamer-Loeber & Loeber, 1988). The youth's responses may allow for an honest self-report of his offense history. In fact, some adolescents may be proud of their high-risk behavior and perceive the excitatory behaviors as valued experiences within a deviant peer

group. From an intervention perspective, the report and predictive power of these experiences could allow mental health providers to specifically target appropriate and intensive intervention.

An additional influence that may have contributed to the significant results of this study is the young age (x=14.5) of this subject sample. Offenses by early adolescents may indicate that these young men were more likely to fall into the high-risk, childhood-onset subgroup of conduct disorder rather than the late-onset, less severe group of adolescent limited conduct disorder. It could be that the items in A-Con most specifically target those behaviors common in the early-onset CD population. Following that assumption, we would expect their delinquent behavior to be relatively stable, leading to future legal violations. The small incremental variance explained by Scale 4 may be related to item overlap or heterogeneity. Taken together, the variables were able to successfully contribute to the prediction of recidivism.

Psychological testing has long been understood as an important part of the assessment process for adjudicated minors. These results suggest that specific scales may contribute to our understanding of this population. Future research may want to explore the relationship between offense history and the A-Con scale to determine if the A-Con scale is significant because it captures offense history, or if it adds predictive utility beyond what can be gained from actuarial offense history data.

Limitations

There were a variety of limitations of this study, including a relatively small sample size of 107 adolescents and limited generalizability because the data were gathered in one county in a rural Midwest area. Additional limitations included the decision to code the data as dichotomous frequency data rather than by severity of legal charge. Finally, we realize that the results of a psychological evaluation provide a necessary but insufficient knowledge of the complex matrix of adolescent behavior.

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