

PREDICTING RECIDIVISM AND CRIME SEVERITY IN A MALE JUVENILE
DELINQUENT POPULATION USING THE MMPI-A

by

PAUL J. COHEN

(Under the Direction of Brian A. Glaser)

ABSTRACT

The purpose of this study was to investigate the predictive capabilities of the Minnesota Multiphasic Personality Instrument – Adolescent version (Butcher, Williams, Graham, Archer, Tellegen, Ben-Porath, and Kaemmer, 1992) in determining whether adolescents will go on to commit serious crimes once they have already been introduced to the juvenile justice setting. In addition, the particular individual characteristics of the serious versus non-offender/minor offender personality were under investigation. After stringent screening procedures, 99 of the original 181 male delinquents waiting disposition in juvenile court remained to participate in the study. Each participant was ordered to undergo a psychological evaluation to determine appropriate treatment and/or further placement. As a part of these evaluations, each participant took the MMPI-A. Juvenile offense histories and number and types of offenses were gathered before administration of the MMPI-A and number of days in detention and offense information was tracked for eighteen months post-test administration date via the Juvenile Tracking System. Overall, the MMPI-A proved to be most successful in predicting adolescents

who do not go on to seriously reoffend and it showed limited success in predicting adolescents who seriously reoffend after a period of eighteen months. One subscale on the entire MMPI-A proved to be clinically significantly different between the two groups (Sc6). However, clinically relevant differences were found in sixteen other scales and subscales. Descriptions of the differences in the two groups are discussed, in addition to implications of these findings, and future research suggestions.

INDEX WORDS: Juvenile offenders, Delinquency, Recidivism, Personality, MMPI-A, Prediction

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PAUL J. COHEN

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PAUL J. COHEN

Major Professor: Brian A. Glaser

Committee: Georgia B. Calhoun
James F. Calhoun
Linda F. Campbell
Arthur M. Horne

Electronic Version Approved:

Maureen Grasso
Dean of the Graduate School
The University of Georgia
August 2004

DEDICATION

This work is dedicated to my beautiful daughter Haley Brianna Cohen. For all of the times daddy had to say “not right now”, “give me a minute”, or “go ask your mother”, I would like to say thank you for your patience and support while Daddy finished school. Your angelic face and wonderful smile has kept me grounded throughout this long journey. When the weight of the world seemed to be squarely on my shoulders, you were there to give me a hug and say, “I love you”, which knocked that weight right off of me. I know that Daddy’s work has taken time away from our Daddy-Daughter time, for this I will always regret. However, I can make this promise to you: You will always be Daddy’s princess. I will always be here for you, and ready to have our bedtime talks (no matter how old you get!)

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Chapter 1

INTRODUCTION

History of Predicting Criminal Behavior

Personality assessment with clinical and criminal populations has a rich history that can be traced back to the 18th century. During this time period Franz Josef Gall, who was co-founder of the pseudo-science of phrenology, claimed that personality could be inferred from bodily appearance, especially features of the skull (Hothersall, 1995). Gall traveled to locations such as foundling homes, prisons, and lunatic asylums to take cranial measurements of individuals residing in the institutions. His intention was to pair specific mental or personality characteristics of the “abnormal” populations and associate them with particular bumps of the skull. He eventually summarized his work, and in this doctrine he claimed that personality and intelligence could be reduced to forty-two specific functions. Thus, through his efforts, Gall may have been the first individual to attempt to assess personality by reducing its functions to a limited number of characteristics; much like modern personality instruments today.

Gall’s attempt to classify individuals based on their abnormal personality characteristics can be viewed as an attempt to predict which individuals are more likely to end up in foster care, more likely to commit crimes, or more likely to be in need of psychiatric intervention. To this day, researchers have spent enormous amounts of time and money attempting to predict similar trends in the population. It is popularly believed that the earlier that an individual can be identified as in need of some sort of intervention, the greater the prognosis for rehabilitation, especially in legal settings.

Prediction of Criminal Behavior and Recidivism in Juveniles

Loeber and Dishion (1983) explain that prediction of criminology, particularly with youth, is important and that it serves two main purposes. They believe that more accurate prediction helps parents, teachers, court officials, and therapists to take appropriate action while uncovering possible early warning signs of a juvenile delinquent career. These authors also indicate that the challenge is to identify the conduct problems or behaviors that precede delinquency and are ultimately predictive of its occurrence. Taking preventative actions such as this will make it possible to identify children at highest risk for delinquency on the basis of the conduct problem behavior.

When researching the particular characteristics of the juvenile delinquent, one will find that such information is exhaustive and far-reaching in the literature. Many researchers claim to have a formula that can explain the variance of behaviors that lead to adolescent delinquency. However, progress towards predicting which individuals will engage in more versus less serious criminal behaviors has been largely unsuccessful (Kazdin, 1987; Loeber, 1990; Sorenson & Johnson, 1996). Research compiled by the Office of Juvenile Justice and Delinquency Prevention (OJJDP) (2000) also indicates that researchers cannot definitively predict which individuals will become child delinquents and serious and violent juvenile offenders.

Klein & Caggiano (1986) explain that attempts to predict juvenile delinquent recidivism have not been promising either, as prediction models rarely account for greater than 20% of the variance in recidivism outcome variables. Despite such criticism and claims that serious and violent juvenile offending and reoffending cannot be predicted with reasonable accuracy, Klein & Caggiano and the OJJDP make clear that

most studies of recidivism and violent offending do indicate that such behavior is not a chance event and can be predicted, in other words there are warning signs. Hence, researchers continue to pursue the “holy grail” of juvenile delinquency studies, predicting future criminal behavior in hopes to be able to control these aberrant behaviors before they become problematic and recurrent.

Loeber and Dishion (1983) found that prior histories of delinquency, poor family management techniques, the child’s problem behavior at home and at school, stealing, lying and truancy were all predictors in further delinquency in male adolescents. Grenier & Roundtree (1987) believe that a prior criminal record, the gender of the offender, having delinquent siblings and or friends, having school problems, the race of offender, the type of offense committed, and the quality of home conditions are all valid predictors of recidivism or repeat offending. Patterson, Reid, & Dishion (1992) believe that the highest-risk children are those who show antisocial behavior and internalizing difficulties. Capaldi (1992) showed that boys defined as both depressed and antisocial were most at risk on a variety of factors, including involvement in deviant peer group, poor academic skills, and future involvement with substance use.

Other authors explain a stage model of increasing problem behavior. They explain that in middle childhood problem behavior leads to peer rejection and also academic failure. Peer rejection and academic failure is then associated with depressed mood and increased involvement with deviant peers. Finally, deviant peer involvement is highly associated with the transformation of childhood antisocial behavior into adolescent problem behavior (Dishion, 2000, Dodge, 1983; Boivin, Poulin, & Vitaro, 1994; Dishion, Patterson, Stoolmiller, & Skinner, 1991; Patterson, 1993). Across almost all studies that

were found, age of onset of delinquent behaviors was found to be an extremely important feature in future recidivism.

Vermeiren, Swab-Stone, Ruchkin, DeClippele, & Deboutte (2002) explain that recidivists can be differentiated from non-recidivists by certain demographic, familial, criminological, behavioral, psychiatric, and psychological factors. They were able to find that the combination of two major parameters – psychiatric diagnosis (the presence of conduct disorder and absence of major depressive disorder) and low verbal IQ scores on a standard intelligence test – was able to explain 44% of the variance between recidivists and non-recidivists.

Despite the enormous number of studies that are present in the research literature that identify risk factors for potential delinquency or criminal recidivism, the results of such studies can oftentimes become complicated and inaccurate when attempting to generalize across all youth. To be able to touch on all of the particular risk factors that can contribute to delinquency or recidivism and take into account all of the unique variables of each youth's life, a study must identify an enormous amount of personal, behavioral, and psychological factors. For example, Benda, Corwyn, & Toombs (2001) indicate that those individuals with prior commitment to the department of youth services, those involved in gangs, those that carry weapons, those with peers present during offenses, those that were younger at first offense, those younger at first drug use, persons of color, those who are neglected or abused, youth from larger families, those with higher scores on a chemical abuse scale, those with higher scores on alienation scales, those with mothers who use illicit drugs, those who score high on social maladjustment scales, those with more siblings, those individuals from a family where

one biological parent was not in the home most of the time, those with a father used illicit drugs, those who scored high on an aggression scale, and those with high MMPI Psychopathic Deviate (Pd) subscale scores were most likely to reoffend (predictive factors listed in descending order from greatest influence with respect to recidivism to smallest influence, yet still significant).

Duncan, Kennedy, & Patrick (1995) have attempted to summarize the commonalities that have been found in the large pool of research on recidivism. They indicated that juvenile offenders who recidivate following release from an institutional setting have lower levels of intelligence, poorer verbal abilities, lower academic achievement, fewer neurotic and anxious characteristics, and more sociopathic characteristics. In addition, they reported that the chronic offender tends to have been younger at their first charge, committed more offenses, and displayed poorer institutional adjustment.

Purpose of the Study

Gottfredson & Tonry (1987) explain that the “bottom line” indicator of the efficacy of correctional intervention is its effect on criminal recidivism. Therefore, criminal recidivism is the yardstick by which effective intervention can be measured. Logically, the literature does suggest an over-representation of psychological disorders in delinquent populations, in addition to those housed in correctional facilities, and those that repeatedly commit criminal behaviors (Wierson & Forehand, 1995). Vermeiren et al. (2002) believe that study of the mental health status of delinquents is warranted and may increase our understanding of factors that are predictive of, or that protect against,

recidivism. However, the exact contribution of psychological disturbance to the commitment of additional crimes is not clear. Thus, the study of personality characteristics of individuals who perpetrate criminal behavior is needed.

Despite the enormous amount of literature that attempts to explain criminal behavior and recidivism, these studies attempt to explain delinquency through risk factors that are derived from either genetic characteristics (race) and/or environmental circumstances (socioeconomic status, home environment, family structure, etc). In comparison to the research that describes the personality characteristics of a juvenile offender, there is a paucity of research on the characteristics of adolescents who repeatedly violate the law. Such research is in it's infancy and there is little research examining the personality differences between those adolescents who commit offenses and adolescents who go on to commit additional offenses over and over again. The purpose of the current study is to identify whether particular Minnesota Multiphasic Personality Inventory – Adolescent version (MMPI-A) (Butcher, Williams, Graham, Archer, Tellegen, Ben-Porath, and Kaemmer, 1992) personality profiles predict recidivism in adolescents involved in the juvenile justice system.

Statement of the Problem

It is clear to those who perform court-ordered psychological evaluations and evaluations in forensic settings that personality and cognitive profiles are the data most often utilized in such evaluations (Lindgreen, Harper, Richman, & Stehbens, 1986). A recent survey of practitioners has shown that the Minnesota Multiphasic Personality Inventory –Adolescent version (MMPI-A) is currently the most widely used objective

personality assessment instrument with adolescents (Archer & Newsom, 2000).

Therefore, when completing psychological evaluations with adolescent aged individuals, it would only seem natural that one of the personality instruments used to assess personality profiles would be the MMPI-A.

Currently, much of the research that is found in the literature on the MMPI-A involving a criminal population compares the personality profiles of those who commit particular types of crimes or numerous crimes with a non-offending “normal” population. In addition, the existing literature provides limited understanding of the pathology underlying offense severity or those juveniles who commit numerous offenses. The study of personality characteristics by offenders who commit multiple crimes appears useful for identifying adolescents who may be at risk for repeat offending.

The current study will focus upon MMPI-A profiles obtained from adolescents involved in the juvenile justice system, either adjudicated delinquent or committed to the state. Those individuals involved in the juvenile justice system who are selected to have a psychological evaluation tend to be adolescents who are in need of psychological or psychiatric intervention, re-offend at an alarming rate, or commit heinous or severe criminal acts. Each individual in the current study was referred for psychological evaluation for recommendations to the court. Analysis of the MMPI-A should reveal particular patterns of elevations and low points in individual profiles of those who repeatedly commit crimes and also in adolescents that commit serious versus less serious crimes. Targeting such individuals early with appropriate intervention and rehabilitation could serve to alleviate the strain on our juvenile justice system caused by processing the same individuals over and over.

Operational Terms and Definitions

Adjudication – The process for determining if allegations brought forth in the juvenile court petition is true. An adjudicatory hearing is held to determine the facts of the case and an appropriate course of action (Georgia Department of Juvenile Justice, 2003).

Commitment – A juvenile court disposition that places a youth in the custody of the DJJ for supervision, treatment, and rehabilitation. Under operation of law, the commitment order is valid for 2 years. DJJ makes the placement determination of whether the youth should be placed in the YDC or on an alternate placement. Most often, a youth is committed when probation and/or other services available to the court have failed to prevent a youth from returning to the court on either a new offense(s) or violation of probation (Georgia Department of Juvenile Justice, 2003).

Disposition Hearing - (also referred to as the "*sentencing hearing*" in adult court) is the final step in the juvenile justice process. This is only held if the juvenile has pleaded guilty to a crime or is found guilty by the judge. This hearing is designed to determine the most appropriate way to hold the juvenile accountable for his or her crime and to prevent future violations of the law (Georgia Department of Juvenile Justice, 2003).

Dependency Offenses - Includes actions that come to the attention of a juvenile court involving neglect or inadequate care of minors on the part of the parents or guardians, such as abandonment or desertion. Also includes abuse or cruel treatment; improper or inadequate conditions in the home; and insufficient care or support resulting from death,

absence, or physical or mental incapacity of the parents (U.S. Department of Justice, 1996).

Drug Offenses - Drug law violation include unlawful sale, purchase, distribution, manufacture, cultivation, transport, possession, or use of a controlled or prohibited substance or drug or drug paraphernalia, or attempt to commit these acts. Sniffing of glue, paint, gasoline, and other inhalants is also included (U.S. Department of Justice, 1996).

Person Offenses – The most serious offense for which the youth can be referred to juvenile court, which includes acts or attempts to commit homicide; forcible rape; robbery; aggravated or simple assault; battery; kidnapping; cruelty to animals or other offenses against a person (U.S. Department of Justice, 1996).

Property Offenses – Crimes against property include all non-violent thefts (i.e., burglary, larceny, motor vehicle, and shoplifting); arson; destruction of property; stolen property offenses; trespassing; extortion; and all fraud offenses (U.S. Department of Justice, 1996).

Public Order Offenses - Offenses against public order include weapons offenses; nonviolent sex offenses; liquor law violations which are not status offenses; disorderly conduct; loitering; prowling; obstruction of justice; and other offenses against public

order such as false alarms, immigration, hitchhiking, serious traffic offenses, etc. (U.S. Department of Justice, 1996).

Status Offenses—Includes acts or types of conduct that are offenses only when committed or engaged in by a juvenile and that can be adjudicated only by a juvenile court. Although state statutes defining status offenses vary and some states may classify cases involving these offenses as dependency cases, for the purposes of this study the following types of offenses were classified as status offenses: runaway, truancy, ungovernability, status liquor law violations, violation of laws regulating the possession, purchase, or consumption of liquor by minors, tobacco violation, curfew violation, and violations of probationary status, i.e., aftercare or alternative placement (U.S. Department of Justice, 1996).

Recidivism – Re-arrest and reconviction for any additional crime offense after administration of the psychological evaluation, which included the MMPI-A (U.S. Department of Justice, 1996).

Violation of Aftercare – Can be an allegation that a youth violated one or more of his/her conditions of aftercare or may be a finding within the administrative revocation process (Georgia Department of Juvenile Justice, 2003).

Violation of Alternate Placement – Can be an allegation that a youth violated one or more of his/her conditions of alternate placement or may be a finding within the administrative revocation process (Georgia Department of Juvenile Justice, 2003).

Violation of Probation - An allegation that a youth failed to comply with or abide by one or more of his or her terms or conditions of a valid Court Order of Probation. A Violation of Probation complaint constitutes a new offense filed against the youth (Georgia Department of Juvenile Justice, 2003).

Chapter 2

REVIEW OF RELATED RESEARCH

History of The MMPI with a Juvenile Delinquent Population

The number of investigative research articles that have been published involving the MMPI and the MMPI-A are abundant and seemingly exhaustive. Archer and Krishnamurthy (2002) explain that because the MMPI has been so useful in describing various types of psychopathology, researchers have used it extensively in studies of special populations including alcoholics and drug abusers, chronic pain populations, brain-injured patients, medical patients, prisoners, military personnel, and delinquent adolescents, just to name a few. The application of the original MMPI to a juvenile delinquent population in particular began in the early 1940's, around the time of the original publication of the MMPI (Archer & Krishnamurthy, 2002).

There are particular scales on the MMPI that have proven to be extremely helpful in the identification of individuals with tendencies towards delinquent behavior. The Psychopathic Deviate (Pd) scale on the MMPI has been validated as a scale that can discriminate between delinquent versus more normative, benign adolescent behavior by numerous studies. Capwell (1945a & b) demonstrated the ability of the MMPI to accurately discriminate between groups of delinquent and non-delinquent adolescent girls based on the Pd Scale (Scale 4) elevation. The MMPI Scale 4 differences between Capwell's groups were maintained in a follow-up study that re-evaluated MMPI profiles 4 to 15 months following the initial MMPI administration. In support of such findings with the male gender, Monachesi (1948, 1950) demonstrated that delinquent boys scored significantly higher on Scale 4 than normal male adolescents.

In order to create a comprehensive collection of data to study the MMPI with solely an adolescent population, Hathaway and Monachesi (1952, 1953, 1957, 1961, 1963) undertook the task of collecting approximately 15, 000 MMPI's with adolescent aged males and females. Their aim was to implement a longitudinal/prospective study that would identify personality variables related to the onset of juvenile delinquency. In 1969 they summarized their findings by explaining that the Pd, Schizophrenia (Sc), and Hypomania (Ma) scales (Scales 4, 8, and 9 respectively) were found to be associated with high delinquency rates. These scales were subsequently named the excitatory scales due to their association with increased delinquent or problem behavior. Such findings supported several previous studies that had determined that elevations on scales Pd, Sc, and Ma serve an excitatory function (Briggs, Wirt, & Johnson, 1961, Rempel, 1958, Wirt & Briggs, 1959). These authors determined that higher scores on these scales are predictive of higher rates of "acting out" or delinquent behavior in adolescent samples. In a later study, Huesmann, Lefkowitz, and Eron (1978) found that a simple linear summation of the Pd, Ma, and F (Infrequency) scales served as the best predictor of delinquent and aggressive behavior in a sample of 426 nineteen year old adolescents.

Monachesi and Hathaway (1969) found that the Social Introversion, Depression, and Masculinity/Femininity scales (scales 0, 2, and 5 respectively) were found to suppress delinquent or acting out behavior. These scales were found to be the dominant scales in boys with low levels of delinquency. The variables Hypochondriasis, Conversion Hysteria, Paranoia, and Psychasthenia scales (1, 3, 6, and 7 respectively) were found to have little relationship with delinquency.

In 1992, Weaver & Wootton studied 401 adjudicated male offenders between the ages of 13 and 17 years. In using the MMPI and the MMPI-2, they found significant differences in the MAC (MacAndrews Alcoholism scale), Pd, Re (Social Responsibility), Ma, Ma1 (Amorality), Pd2 (Authority Problems), Aut (Authority Conflict), F, Ma3 (Imperturbability), Hos (Manifest Hostility), and Pa1 (Persecutory Ideas) scales when looking at delinquent personalities compared to a normative population. They also found significant differences in the scores on the Re, Es (Ego Strength), Cn (Control), and St (Social Status) scales when looking at more serious crimes versus less heinous crimes. Those who were found to commit less serious crime scored higher on the Mf1 (Narcissism-Hypersensitivity) and Fam (Family Problems) scales. Those who were more likely to be repeat offenders scored significantly higher on the MAC, Pd, Re scales. These three subscales most clearly differentiated between high and low levels of recidivism. The authors were also able to isolate those individuals that were more likely to commit property offenses. These individuals were more likely to score high on the Pd, Pd2, MAC, Re, and Ma1 scales. The severe offenders' profile had low score on the Re, Es, Cn, St scales. The lower the score on these four scales, the greater the ability to identify which individuals were severe offenders. Weaver and Wootton also found that criminals with assaultive personalities tended to score high on the Ma3, Mf, and Pa2 (poignancy) scales.

In a study using cluster analytic profiles of juveniles using the MMPI, Espilage, Cauffman, Broidy, Piquero, Mazerolle, and Steiner (2003) studied both male and female juvenile offenders who were incarcerated in California. In this study, of the 97 total males, 48% were sentenced for violent crimes, 29% for property offenses, 5% for drug

related crimes, and 18% for other offenses. These authors found two particular clusters in which the male participants fell. The first was a “normative “ cluster in which no clinical elevations were found. The second was labeled as the “disorganized “ cluster. The highest elevations found on the profiles in this cluster were on Scale 8 (Schizophrenia), followed by Scale 6 (Paranoia), Scale 7 (Psychasthenia), and Scale 4 (Psychopathic Deviate).

Panacost and Archer (1988) found that MMPI patterns of contemporary samples of adolescents were elevated above early mean values found on most clinical scales of the MMPI. These findings suggest that the traditional adolescent norms (Marks & Briggs, 1972) of the MMPI may not provide an accurate normative baseline for evaluations of contemporary adolescents. It was findings such as this one that proved that there was a need to develop an updated personality instrument, leading to the creation of the MMPI-A.

The Use of the MMPI-A in a Juvenile Delinquent Population

The profile of a criminal in the 21st century has drastically changed from the typical profile that was seen twenty years ago. There are an increasing numbers of adolescents committing crimes, and the adolescents are committing crimes at younger ages.

Adolescents are becoming involved with the legal system for more numerous offenses and more violent offenses than ever before (U.S. Department of Justice, 1999). As a result of this changing atmosphere in juvenile criminal behavior, there has been a large interest in preventing such criminal behavior in young people. The numbers of studies that look at delinquent and habitual adolescent offenders and their coinciding personality profiles have begun to grow. Despite such growing interest in the criminal justice setting,

Archer, Bolinsky, Morton, & Farris, (2002) report that there has been relatively little research that examines the utility of the MMPI-A in a juvenile justice sample. Archer (1997) explains that the unique adolescent normative group utilized by the MMPI-A, as compared to the MMPI or MMPI-2, has the potential to produce significant improvements in the assessment of psychopathology because there that there are unique aspects of MMPI interpretation that comes with assessing adolescents versus adults. He believes that the MMPI-A has two major functions in the assessment of adolescent psychopathology: (1) It provides the ability to objectively evaluate and describe an adolescent's level of functioning in relation to selected standardized dimensions of psychopathology, and (2) the repeated administration of the MMPI-A can provide the clinician with a means of assessing changes in psychopathology across time. Since the revision and publication of the MMPI-A, several studies have examined the use of the MMPI-A in assessing juvenile delinquents (Hume, Kennedy, Patrick, & Partyka, 1996; Toyer and Weed, 1998; Cashel, Rogers, Sewell, and Holliman, 1998; Gumbiner, Arriaga, and Stevens, 1999; Morton, Farris, and Benowitz, 2002), attempting to replicate previous research done with the MMPI and the MMPI-2. These recent studies with the MMPI-A have generally found similar specific score patterns that were found in the MMPI and MMPI-2 studies that distinguish between delinquents and a normative group. However, there have been specific and unique characteristics found when assessing a delinquent population with the MMPI-A. Archer, Pancoast, and Gordon, (1994) found unique characteristics of boys who scored high on the MMPI-A IMM (Immaturity) scale. Boys in this clinical sample who produced higher IMM scores were more likely to be rated by parents as cruel or bullying, lying or cheating, refusing to talk, showing off or clowning,

threatening people, and being unusually loud. These boys also had lower scores on the Child Behavior Checklist's (Achenbach, 1991) Social Competence scale and higher scores on the Total Behavior Problems and the Externalizing scales. Boys who produce higher IMM scale scores were clearly experiencing more stressful events in both home and academic environments and were more likely to be referred to a therapist or counselor.

Pena, Megargee, and Brody (1996) replicated Hathaway and Monachesi's original findings by identifying scales 4, 6, and 9 and the 4-9 code-type in particular on the MMPI-A as definitive profiles of adolescent delinquent boys. They also found that delinquent boys produced their lowest mean supplementary scale score on the R (Repression) scale and their highest score of any of the MMPI-A scales on the MAC-R (MacAndrews Alcoholism-Revised) scale. These delinquent boys scored higher than non-delinquent boys on supplementary scales MAC-R, ACK (Acknowledgement of Drug/Alcohol Use), PRO (Drug/Alcohol Proneness), and IMM. These scales are associated with impulsivity and acting out tendencies that often involve alcohol or drug abuse. This reflects an uninhibited, sensation-seeking orientation with this delinquent population. Content scales A-ang (Adolescent-Anger), A-cyn (Adolescent Cynicism), A-sch (Adolescent-School difficulties), and A-con (Adolescent-Conduct Problems) were prominent as well as A-trt (Adolescent-Negative Treatment Indicators), A-biz (Adolescent-Bizarre Mentation), and A-sod (Adolescent-Social Discomfort).

Archer (1992) claimed that adolescents whose highest two scales are 4 and 9 show the classic features of Antisocial Personality Disorder in adults and frequently are diagnosed as Conduct Disordered. However it should be noted that the 4-9 code-type is

the most commonly occurring code-type among adolescent boys in psychiatric settings (Archer & Krishnamurthy, 2002). Therefore, this 4/9 9/4 MMPI-A profile is not unique to only teenagers who have been adjudicated delinquent.

Cashel et al. (1998) used a sample of youth from correctional facility and found Scale 4 most elevated followed by 9, 2, 6, and 8. This study also found that the Scale 5 mean score was third most deviant from the normative mean. However, Scale 5 was ignored because the deviation from the norm was not an elevation. Morton, Farris, & Brenowitz, (2002) explain that Scale 5 was virtually omitted from this substantive validation despite having evidence that low scores on Scale 5 may be a frequent characteristic of male juvenile delinquents. Cashel et al. overlooked low points and examined only elevations in scale scores, deviations in the direction of low scores were not considered.

Morton et al. (2002) explain that the emergence of Scale 6 as a prominent feature in delinquents' profiles and the reduction in prominence of Scale 8 may be a result of revisions made in the norming of the MMPI-A. In their study, they found TRIN (True Response Indicator) and F scores were both clinically significantly higher than the normative sample. They also found that scores for Scales 6 and 4 were significantly higher than other scale scores and that Scale 5 scores were significantly lower. Scale 8 scores were also significantly higher than other MMPI-A scale scores and scores on Scale 9 was not significantly elevated. Of the supplementary scales that were elevated in the Pena et al. (1996) sample, only 7 were clinically elevated in this sample (MAC-R, ACK, PRO, IMM, A-biz, A-con, & A-sch), A-ang approached meaningfulness. Low scores on Scale 5 were clearly the most frequent high point in code type found in this study. This

scale was the highest deviation (lowest score) and occurred slightly less than twice as often as any other clinical scale. Morton et al. (2002) found low scores on Clinical Scale 5 (Masculinity-Femininity) and high scores on Scale 6 (Paranoia) and Scale 4 to be predominant in a sample of the delinquents, suggesting stereotypically masculine traits, interpersonal suspiciousness, and antisocial attitudes as central features of male delinquency. Overall, these authors found that the combination of high scores on Scale 4 and Scale 6 and low scores on Scale 5 accounts for approximately 2/3 of the high point codes within their sample.

Glaser, Calhoun, and Petrocelli (2002) performed an investigation using the MMPI-A with a similar male juvenile offender population to the one used in the current study. They found that juvenile offenders who have higher degrees of concern with health, illness, and bodily functioning, Scale 3, and actively avoid getting involved with other people (Social Avoidance) have an unlikely chance of developing alcohol or drug problems. They noticed relatively higher scores on the A –hea (Adolescent-Health) scale was also characteristic juvenile adjudicated for property offenses. They found that male juvenile offenders that have higher degrees of psychomotor retardation and relatively more serious Adolescent-School Problems are more likely to engage in drug offenses. And finally, an examination of group means revealed that those charged with crimes against persons and those that also had drug charges had a potentially greater interest in manipulative and self-oriented behavior and a greater proneness for developing alcohol and drug problems.

Several studies have also been completed on particular or specialized samples within the juvenile delinquent population with the MMPI-A. Hicks, Rogers, & Cashel

(2000) and Katz & Marquette (1997) attempted to examine the MMPI-A patterns of a particularly violent juvenile offender sample. Hicks, et al. (2000) found that elevations on the configural or code-type patterns created by MMPI-A scales 4, 8, and 9 were not useful in prediction total infractions among male institutionalized juvenile offenders. However, they did find that individual scale elevations on scale 9 and 6 were important in predicting particularly violent infractions. Losada-Paisey (1998) investigated MMPI-A profiles among male delinquents with and without histories of sex offenses. Stein and Graham (1999) have also looked at the results of the efforts of incarcerated delinquents to underreport symptomatology with the MMPI-A.

Morton and Farris (2002) have found that using supplementary and content scales, in addition to the basic clinical scales, resulted in improved discrimination between the delinquent sample and the normative sample. Their finding was that 18 of the 31 clinical, content and supplementary scales were, on average, meaningfully elevated in a delinquent sample. Knowing that the MMPI-A scales and subscales can overlap tremendously in their content, Archer and Krishnamurthy (1994) developed MMPI-A Structural Summary based on a scale factor analytic study of the MMPI-A normative sample conducted by Archer, Belevich, and Elkins (1994). According to Pogge, Stokes, McGrath, Belinginer, and Deluca (2002), the Structural Summary provides a promising way of managing the redundancy of the MMPI-A that results from shared item content and overlapping constructs measured by different clinical content and supplementary scales.

One study, in particular, found the use of the MMPI-A structural summary as useful in profile interpretation of the juvenile delinquent. Morton and Farris found the

Structural Summary Factor 2 (Immaturity) as the factor most characteristic of male juvenile delinquents and most effective in discriminating between a normative sample. In addition they found Structural Summary Factor 7 (Familial Alienation) second most important factor in discriminating delinquent juveniles from a normative sample, followed by Structural Summary Factors 1 (General Maladjustment) and 8 (Psychoticism). Their work also revealed that Factor 3 (Disinhibition/Excitatory Potential) may be more common among serious offenders but not among those who commit less serious offenders.

Effects of Ethnicity and Race on MMPI and MMPI-A Results

The impact of ethnicity on results of assessment instruments is a major concern for all researchers and clinicians. It is important that when administering any tests that the examiner is aware of any possible test bias. The research literature concerning the impact of ethnic background on MMPI profile patterns has produced mixed results. Some investigations conducted with the original MMPI showed that African-American adults obtained higher scores than Caucasian adults on scales F, 8, and 9, which caused them to appear more maladjusted (Gynther, 1972). Early MMPI studies with adolescents yielded similar results when investigating the influence of ethnicity on MMPI. However, other studies have suggested that differences in socioeconomic status (SES) may be the determining factor rather than racial differences on MMPI profiles (Dahlstrom, Lachar, and Dahlstrom, 1986).

Archer (1987) found minimal differences in the MMPI profiles of Black and White adolescents when comparing similar SES backgrounds. He investigated a sample obtained from a predominately middle-class public high school. In 2000, Greene

emphasized the point that moderator variables, including SES, education, and intelligence, are important factors to consider in research on MMPI ethnic-group differences. Greene also concluded, based on his review of the MMPI research on Black-White, Hispanic-White, Black-Hispanic, Native American-White, and Asian American-White comparisons, that no consistent or reliable patterns of differences are discernable across samples.

When looking at individual scale validity across ethnicity, Gottesman & Prescott (1989) found that only the use of the MAC-R scale with ethnic minority groups might produce higher rates of false positive errors than with White individuals. A comparative study by Gomez, Johnson, Davis, and Velasquez (2000) examined the MMPI-A scale elevations of African American and Mexican American youthful offenders and found no significant multivariate results as a function of ethnicity. Among individual scales only Repression, on which African American adolescents scored significantly higher than Mexican American teenagers.

Greene (1991) found that age appears to affect the scores on several MMPI clinical scales more than ethnic group membership, and that ethnic group membership appears to have minimal effects on scale scores under the condition of control of socioeconomic status, education, and intelligence variables. Schinka, LaLone, and Greene (1998) explain that demographic variables contributed little incremental variance to the validity and clinical scales; however, demographic variables did explain more than 10% of the score variance for one clinical, two content, and five supplemental scales.

The MMPI-A was intended to be more sensitive to cultural variables than that of the original MMPI. However, only until recently have the effects of ethnicity and culture

been investigated with the MMPI-A. Schinka, Elkins and Archer (1998) believe that the MMPI-A validity and clinical scales are characterized by small, and probably not clinically meaningful amounts of influence by demographic variables as a set. However, individual Scales F and VRIN seem to be influenced most by demographic variables. These authors also found that the MMPI-A content scales do not appear to be meaningfully influenced by demographic variables. The set of demographic variables explained less than 10% of the variance in content-scale scores. The unique variance in only a single scale (BIZ) was found to be explained by demographic variables in this study. Their findings did suggest that with regard to the combination of the F, VRIN, and BIZ scales, that there may be the possibility of an association between ethnic identification and inconsistent responding on the MMPI-A. For the supplementary scales, the demographic variables and individual variables failed to explain meaningful amounts of variance in scale raw scores. The largest contribution of demographic variables in psychopathology was found for scales measuring substance abuse, problems at home or school, and acting out or delinquent behavior. Despite the recent research, Archer and Krishnamurthy (2002) suggest that until more is known about the impact of race, ethnicity, and socio-demographic characteristics on the MMPI-A scale elevations, clinicians should be appropriately conservative in interpreting the MMPI-A profiles of ethnic minority adolescents.

Archer et al. (2002) claim that given the tremendous popularity of the MMPI family of instruments and the fact that some of the earliest and strongest evidence of the utility of the MMPI was with delinquent adolescents, there is a surprisingly limited amount of published research on the MMPI-A within delinquent samples. In addition to the

relatively limited studies with the MMPI-A and juvenile the delinquent population (as compared to all studies completed with the MMPI family of instruments), there is a smaller amount of research that has been completed using the MMPI-A as a predictor of future delinquent behavior in an already delinquent population. The current study seeks to fill the void in the literature by using the MMPI-A to investigate those who continuously commit crimes, the nature and seriousness of their crimes, and their unique personality characteristics.

Chapter 3

METHOD

Participants

The current study was conducted using a sample of male adolescents adjudicated by the Juvenile Court System of several Northeast Georgia counties. Participants were either adjudicated delinquent or committed to the custody of the state of Georgia. Each of the youth used in the current investigation was either residing within the community, in residential treatment, or housed in a local regional youth detention center. Participants were referred for a psychological evaluation that included a clinical interview, intelligence testing, and behavioral, and personality assessment. The offenses that the participants have been charged with cover a vast continuum, from status offenses to serious, violent offenses.

Typically, the juvenile court will refer a youth for evaluation if there is the possibility that he or she has mental health issues that are in need of services. The court will also make a referral for evaluation in the case of a juvenile who commits serious offenses or is a chronic offender. More specifically, the court will find that the juvenile is delinquent, and/or in need of treatment, rehabilitation, and/or supervision. The child's disposition hearing will be continued until a psychological evaluation can be completed in order for the court to consider in connection with the disposition, treatment, and/ or rehabilitation of the juvenile.

The evaluations in the current study were provided to the juvenile court for recommendations regarding further disposition or for other services that the youth may need, such as mental health treatment. The psychological data that was obtained from these evaluations was utilized as part of a placement process that decided what

environment is most appropriate for the child's rehabilitation. This may have included further incarceration, placement in a psychiatric treatment facility, residential group home, or even placement back into the community. Therefore, the clinician's recommendations that are a result of the data gathered in the evaluations were key in the process of placing the juvenile in the appropriate setting.

As a part of their evaluation, all juveniles of appropriate age were administered the MMPI-A. The MMPI-A was designed and normed on adolescents aged 14 to 18 years (Butcher et al., 1992). In this study, the MMPI-A was initially administered to 181 adolescent boys ages 14 to 17 years. Data was collected over an eight-year period from 1995 to 2003. Of the original sample of 181 adolescent boys, 124 (68.5%) were African American, 53 (29.3%) were Caucasian, and 4 (2.2%) were Hispanic.

The unique advantage of using the MMPI-A is that the use of validity scales on the MMPI series of instruments has been further developed than that found of any other widely used psychological assessment instrument (Archer & Krishnamurthy, 2002). According to these authors, the MMPI validity scales allow the interpreter to estimate both the degree of confidence he or she may place in test findings and to the capacity and willingness of the respondent to provide an accurate and valid self-report. On the original MMPI, Hathaway & McKinley (1943) suggested that elevations on the F scale might invalidate the interpretation of the clinical scale profile b/c the participant was careless or unable to comprehend the content of the items. However, McKegney's (1965) argued that the delinquents' atypical experiences rather than reading difficulties drive F scale elevations. In any circumstance, an extremely elevated F Scale score indicates an invalid protocol. The L scale was developed to detect crude attempts to

present oneself in an unrealistically favorable light. In addition, the K scale was developed as a subtler indicator of attempts to deny psychopathology and to present oneself in the most favorable light. Extreme elevations on both the L or K scales points to a greater likelihood of an invalid protocol.

The VRIN scale and the F scale have demonstrated utility in detection of random responding (Archer & Elkins, 1999). The MMPI-A contains two subscales of the F scale that may have usefulness in the detection of random responding, particularly when random responses are differentially more common in either the first (F1) or second (F2) of the MMPI-A test booklet (Archer, Handel, Lynch, Elkins, 2002). Baer, Ballenger, Berry, & Wetter (1997) adolescents appear more likely to introduce random responding in the latter stages of the test booklet due to increased fatigue or boredom. Baer, Kroll, Rinaldo, & Ballenger (1999). The F scale was sensitive to both random responding and over reporting, whereas the VRIN scale was exclusively sensitive to random responding. Overall, Archer et al. (2002) indicate that several MMPI-A validity scales are useful in detecting protocols that have large numbers of random responses.

Therefore, the validity scales on the MMPI-A were used as a means to screen out invalid results of completed instruments. Based on previous research on the MMPI and MMPI-A validity scales, any profile in the current study where the Lie (L) scale score was found to be greater than 70, the Infrequency (F) scale score was found to be greater than 90, the Correction (K) scale score was found to be greater than 70, the Variable Response Inconsistency (VRIN) scale score was found to be greater than 80, the True Response Inconsistency (TRIN) scale score was found to be greater than 80, or the Cannot Say raw score was found to be greater than 30 was eliminated (Morton, Farris, &

Brenowitz, 2002; Peña, Megaree, & Brody, 1996; Buthcer, Graham, & Ben-Porath, 1995).

On the basis of the MMPI-A validity scales, 33 participants were eliminated from the remaining sample. In order to better describe the participants for the current study, juvenile offense histories were accessed via the Juvenile Tracking System and type of offenses were analyzed prior to the test administration date. 26 (14.4%) were eliminated due to inability to gain access to criminal records to track possible recidivism. In the state of Georgia, juvenile records are only kept through the age of 18. Hence, those who were older than 16.5 years at the time of evaluation would have been older than 18 when the tracking period was completed. This study uses only the Juvenile Tracking System, not adult criminal records. Therefore, 18 more participants had to be eliminated from the subject pool because they were over the age of 16.5 years old. Five additional participants were eliminated due to the inability to track them for 18 months, meaning the data was analyzed before the full tracking period had been able to expire on these individuals.

As a result of the stringent screening procedures used in this study, only 99 out of the original 181 participants remained to be examined. The age of the 99 subjects ranged from 14 years to 16.5 years old ($M=15.5$ years, $SD=.76$). 71 (70.7%) of them were African American, 27 (27.3%) were Caucasian, and 2 (2%) were Hispanic. As demonstrated by these numbers, there was a relative equal balance in the racial composition of the remaining subjects as compared to those subjects in the start of the study.

Testing was conducted on an individual basis as each youth participated in a court-ordered psychological evaluation. The participant was given a booklet from which he could read the MMPI-A items and also given an accompanying answer sheet to complete the instrument. The participants were given as much time as needed to complete the instrument and also given needed breaks when requested. The examiner assessed the participant's reading ability by having the participant read the first few items out loud to the examiner. When it was brought to the attention of the examiner that the individual had difficulty reading, the examiner read the items to the participant from a distance as to not influence the answering of the items. However, it is important to note that Newmark (1971) indicated that MMPI profiles produced by adolescents for whom items were read aloud by an examiner resulted in higher K scale scores than results obtained by traditional administration methods. Those individuals who clearly responded to the items in a random manner during examination were excluded from the sample.

Once the MMPI-A was completed, the instruments were scored and entered into a database that included all testing results. Demographics, legal histories, and other pertinent background information were also obtained. Any further recidivism was tracked at a later date through the Georgia Department of Juvenile Justice and their Juvenile Tracking System. The range of stay in detention after the evaluation was completed was 0 days to all 540 days tracked post evaluation. The amount of time incarcerated is typically thought to have an effect on the ability of the juvenile to reoffend. Conventional thinking assumes that it is harder to commit a crime while in detention or that stays in detention deter further criminal behavior. However, some individuals in this study were either charged with crimes while they were in detention or

soon after release. The median stay in detention for the 99 participants in this study was 150 days. Interestingly, 43 of the 99 individuals were incarcerated for over six months post evaluation. Despite this fact, 28 of those 43 went on to reoffend, a 65% reoffense rate. This is compared to 13 out of the remaining 56 who did not stay incarcerated for over six months, a 23% reoffense rate. These statistics prove the assumption that those participants who were incarcerated longer would have lower reoffense rates to be incorrect. Therefore, given these numbers, it is safe to assume that length of stay in detention does not necessarily correlate with lower reoffense rates.

For the purposes of conducting this study, the OJJDP (1999) classification system, which is typically used in classifying juvenile offense charges, was consolidated into those who committed minor or no reoffenses and those who committed serious reoffenses. This was done due to the fact that dependency offenses, status offenses, and offenses against public order are typically viewed as minor offenses. Drug law violations were also grouped with the minor offenses because research has shown that adolescents who have been charged with drug offenses typically have similar MMPI-A profiles to that of other minor offenders (Glaser, Calhoun & Petrocelli, 2002). In order to remain consistent with the majority of research using crime classifications, the individuals charged with crimes against property and crimes against persons were classified as serious reoffenders. According to the OJJDP (2002) website, 64% of all juveniles being held in detention is on violent person, other person, or property offenses. These are considered most serious, and provide a rationale as to why the individual groups were classified in this manner for this study.

The most severe criminal charge that the participant had been adjudicated with prior to his psychological evaluation was recorded at the time that evaluation was completed. Of the 99 participants, 81 (82%) had a serious charge and 18 (18%) had a minor/no offense charge at the time of the referral. Eighteen months later, intervening charges were recorded and 29 (29%) accrued serious charges while 70 (71%) had minor/no offense charges. In order to understand the possible influence of the initial charge, a Chi Square was performed on the frequency data of the following four groups: initial charge minor and post charge no/minor, initial charge minor and post charge serious, initial charge serious and post charge minor, and initial charge serious and post charge serious. The findings were not significant ($\chi^2 = .51, p = .47$). The correlation between initial charge and post charge was not significant ($r = .07, p = .47$). Finally, the correlation between days incarcerated following the assessment and the post charge (no/minor or serious) was very small but significant ($r = .20, p < .05$). The direction is positive, which means that there was a small relationship between days incarcerated and the post offense, meaning that the longer the participant stayed incarcerated, the more likely he was to have a more serious reoffense charge.

Design & Analysis

The present study employs a prospective quasi-experimental descriptive design. A predictive discriminant analysis (PDA) was conducted (Huberty & Lowman, 1998). The purpose of conducting a PDA is to determine the ability of the construct (as measured by the client's age at the time of the assessment and the MMPI-A scales) that underlies the

resultant effects of a grouping variable (no/minor recidivism and serious recidivism) to predict group membership.

In addition to the PDA, means and standard deviations on all MMPI-A scales and subscales were computed for the no/minor reoffenders and the serious reoffenders. In general Butcher et al. regard any T- score exceeding 59 as a moderate elevation and any score exceeding 64 as clinically significant. The MMPI-A manual reports that the standard error of measurement for the MMPI-A basic scales is approximately 2 to 3 raw score points or 4 to 6 T-score points (Butcher et al. 1992). Greene (1987) also argued that on the differences on the MMPI that are smaller than $\frac{1}{2}$ a standard deviation are unlikely to have any clinical relevance due to the large number of degrees of freedom. To be able to ensure that any differences found have a probability of manifesting itself clinically; a T-score difference of at least 5 points is necessary. It is important to realize that low scale-scores, particularly low Scale 5 scores, are of particular importance in studying juvenile delinquents in addition to scale elevations (Morton et al., 2002).

In order to control for the youths' history, the investigator recorded offense history preceding the completion of the MMPI-A. Subsequently, the researcher examined the offense history 18 months after the youth had completed the MMPI-A. In this way, the study is a modified time series design.

The Instrument

The MMPI-A

The MMPI-A (Butcher et al., 1992) is an empirically based measure of adolescent psychopathology based on the construction of the original MMPI. Hathaway and

McKinley developed the original MMPI basic clinical scales in 1943 (Archer, 1999). They used what is called a criterion keying method. This means, that items were selected for scale membership based on the occurrence of item response frequencies that differentiated between a criterion group displaying a specific diagnosis or characteristic, and a comparison group thought not to manifest the trait or characteristic under study. In developing the MMPI-A Butcher et al., (1992) utilized the same procedure with an adolescent population.

The MMPI-A test contains adolescent specific scales designed to make the instrument appropriate for the adolescent population than the original MMPI and also provides gender specific norms. The MMPI-A is used to provide relevant information to aid in problem identification, diagnosis, and treatment planning for youth ages 14-18. The MMPI-A norms are based on adolescents between 14 and 18 (mean 15.5, SD 1.17) (Archer, 1999). The normative sample that was used in creating the MMPI-A was (76%) White, (12%) African American, and 12% other. In addition, the parents of the MMPI-A normative sample over-represented the higher educational levels in comparison to the 1980 US census, and clearly represent a well-educated group (Archer, 1997).

The MMPI-A's item content and language were developed specifically for adolescents and the norms are adolescent-specific. The normative sample of the MMPI-A test consists of 805 adolescent males and 815 adolescent females from eight communities in the U.S. The sites were chosen to maximize the probability of obtaining a balanced sample of subjects according to geographic region, rural/urban residence, and ethnic background.

The MMPI-A contains 478 true/false items and scales that address specific problems areas more likely to be seen with adolescents. In total, the MMPI-A contains 10 Clinical Scales, 15 Content Scales, 6 Supplementary Scales, and 28 Harris Lingoes and 3 Si subscales. The entire instrument is, on average, at a 6th grade reading level and typically takes approximately 45-60 minutes to complete.

Archer (1997) noted that Adolescents tend to report more unusual symptoms suggestive of serious psychopathology and deviant social views, greater impulsivity and rebelliousness, and more isolation and alienation from their social environments, in a manner that is consistent with traditional views of adolescence as a turbulent stage of development, therefore elevating their scale scores on the MMPI-A compared to the original MMPI. Thus, many people felt that an adjustment in cutoff scores on the MMPI-A would need to be employed. However, Fontaine Archer, Elkins, and Johanson (2001) indicated that a reduction in the T-score criterion used to define a “clinical elevation” did not produce a more effective balance between test sensitivity and specificity; that is, lowering the clinical range elevation T-score criterion from 65 to 60 did not improve classification performance.

Limitations

Despite the tireless efforts to obtain a comprehensive sample of adolescents reflective of the population in the United States, the MMPI-A’s normative sample is reflective of the population of adolescents as according to the 1980 census. This, in and of itself, poses a problem due to the lack of current norms reflecting the changing numbers in ethnic backgrounds of adolescents in the United States. In addition, neither the MMPI-A normative or clinical samples (Butcher et al., 1992) specify whether or not

any individuals were involved in the juvenile justice system or included any incarcerated individuals. Therefore, the MMPI-A normative sample is not actually considered a non-delinquent comparison sample because it is unknown what proportion of the males in the normative sample had delinquent histories. If the normative sample matched the general population, approximately 5 to 15% would have histories of delinquency by age 18 (LeBlanc, 1998).

Similar to Morton et al. (2002), the current sample contained a higher proportion of African American Adolescents than did the MMPI-A normative sample. However, no attempt was made to statistically control for the effect of ethnicity. This is because it is believed that the proportion of African American adolescents in the current sample is a reflection of the unbalanced ratio of African American adolescents in the overall adjudicated delinquent population. Therefore, it was determined that the imbalance in racial composition of the sample is due to this trend rather than sampling bias.

There are other ways in which the current sample differs from the MMPI-A norming sample. As a whole, adolescents involved in the juvenile justice system have lower levels of intelligence and come from lower levels of socioeconomic status (SES) than that of the sample used when norming the MMPI-A (Lynam, Moffitt, & Stouthamer-Loeber, 1993; Morton et al. 2002). The sample used in this study is made up of individuals who are typically found in the lower tiers of the SES ladder. These individuals, by and large, have fewer academic opportunities and therefore score lower on I.Q. measures than the higher SES population used to norm the MMPI-A. The mean I.Q. of the individuals found in the normal population is assumed to be around 100. 93 subjects of the current sample were administered the Wechsler Intelligence Scales for

Children – Third Edition (WISC-III) and the mean intelligence scores were found to be 85 for Full Scale I.Q. (S.D. = 13.5), 85 for Verbal I.Q. (S.D.=14.2), and 87 for Performance I.Q. (S.D.=12.6). 6 individuals were administered the Wechsler Adult Intelligence Scales – Third Edition (WAIS-III) and their mean Full Scale I.Q. was 92 (S.D.=11.3), their Verbal I.Q. was 90 (S.D.=12.4), and Performance was 96 (S.D.=7.4). Overall, when averaged together, the sample's mean Full Scale I.Q. was found to be approximately 85 with relatively equal abilities in Performance and Verbal I.Q.

Archer (1997) reports that based on the Flesh-Kincaid reading scale, the MMPI-A item pool varies in reading difficulty from the 1st grade to the 16th grade level. This poses a distinct problem with individuals who might have difficulty in reading. It is well known that juveniles that are involved in the juvenile justice system or incarcerated have a higher likelihood of having reading difficulties than youth that are not. This is why Archer suggests employing a criterion that at least 80% of the MMPI-A item pool should be accurately read and comprehended in order to ensure valid test findings, hence the strict screening procedures in the current study.

The MMPI-A contains an extremely large pool of questions. Newmark & Thibodeau (1979) remark that with an angry or oppositional adolescent, the MMPI-A may present a welcome opportunity to exhibit hostility and resistance by refusing to respond to items, or responding in an inappropriate random manner. It is natural to assume that many of the youth included in the current study, who were court-ordered for a psychological evaluation, may fit Newmark and Thibodeau's description. Significantly elevated scores on Scale F is consistent with findings of the original MMPI, consistent with elevation on TRIN suggests that some boys, when bored, may lapse into an

acquiescent response set rather than marking randomly (Butcher and Williams, 1992). This is why close monitoring of the MMPI-A profiles for validity was employed.

Butcher, Graham, and Ben-Porath (1995) outline more typical problems and limitations that are associated with MMPI-A research. The authors state that the ability to use self-report measures in psychology is dependent on the quality of the data that the respondents provide. They also indicate that in an optimal situation a sample should be drawn randomly from the population with which the test is to be used. However, the reality of clinical research rarely makes this a possibility, therefore we must settle for samples of convenience, as was done in the current study.

Archer (1997) implores those who use the MMPI-A with adolescents have sufficient knowledge of a developmental perspective to understand and interpret test findings. He explains that many normal adolescents experience substantial psychological turbulence and distress, rendering the distinction between normal and abnormal functioning uniquely difficult during this developmental stage. Weaver & Wooten (1992) explain that this is a key reason why prediction of juvenile delinquency is such a difficult task. Adolescents go through a tremendous amount of changes, physical, emotional, social, and other. Therefore, it is not easy to isolate single characteristics that can uniquely account for delinquency.

Despite all of the benefits that came with the creation of the MMPI-A, i.e. more accurate assessment of adolescents because of an updated adolescent normative population, the MMPI-A does pose some difficulties in interpretation. Archer et al. (2002) argue that the large number of individual scales and subscales available on the MMPI-A serves to make the interpretation process quite complex for many researchers.

Many investigators have had extreme difficulty in interpreting the many scales and subscales on the MMPI-A due to the varying degree of overlap between the many scales. Thus, in addition to looking at isolated scales and subscales, an investigation of structural factor summaries is advisable. This was not possible in the current study due to the large number of participants required to run such an analysis.

Another limit of the current investigation is that so many individuals were eliminated from the subject pool due to a strict screening process. Although this was done to increase the probability of obtaining more meaningful results and reducing confounding variables, it would have been nice to have a larger number of participants to analyze with a measure such as the MMPI-A. It also would have been desirable to track the juveniles long-term, i.e. more than 18 months after their MMPI-A evaluation, but since the evaluations in this study were completed at different times, 18 months was determined as an appropriate time period to be able to use a large amount of data gathered over the last year and a half.

It is extremely difficult to track recidivism of individuals who have been involved in the legal system. Another limitation is the fact that the current study must rely on the Juvenile Tracking System for accurate records. This system is relatively new and the older records had to be put into the system. The system is only as good as the individuals who enter the data into the system and it is possible that there may be mistakes or some offenses that have not been recorded. This is more likely in the cases of archived records of individuals who offended prior to this system being put into effect. The JTS system only tracks offenses committed in Georgia. It is possible that those individuals in the study who went on to reoffend or commit crimes outside of the state of Georgia may not

have been tracked successfully. However, it is unlikely unless the offender was never placed on probation in Georgia after initial adjudication. It is most likely the case that the individual would have been charged with a crime out of state and also additional crimes in Georgia, such as Violation of Probation, due to being on probation in Georgia for previous crimes.

It is clear that there are a tremendous amount of external variables that may play a part in the recidivism of an individual besides personality characteristics measured by the MMPI-A. Environmental influences have a tremendous effect on an individual's behavior. In performing the current investigation, all of these external factors that may influence an individual's criminal behavior are well known. However, if it were possible to be able to identify and isolate common personality characteristics among those that commit specific offenses using the MMPI-A, it would have tremendously useful and far-reaching implications. If successful, it could reduce some of the "hit-and-miss" success of treatment with juvenile offenders by being able to administer the proper specific treatment before a juvenile is able to reoffend.

Assumptions

It is assumed that participants in this study represent a typical juvenile offender population currently being detained by the Department of Juvenile Justice. It is assumed that the MMPI-A instrument accurately screened out individuals who responded in an invalid manner on the instrument. It is also assumed that all audited placement and offense histories for each juvenile offender are accurate and current in the Juvenile Tracking System.

Research Questions

Despite the warnings that it is a difficult task to isolate characteristics responsible for juvenile delinquency, there has been an incredible amount of research completed on determining the typical MMPI profile of the delinquent adolescent. The current study was conducted based on the premise that many researchers have already discovered MMPI and MMPI-A scales that are linked to delinquency, severity of crimes, even specific criminal behavior. However, as Glaser, Calhoun, and Petrocelli (2002) indicate, much of the research literature that involves male juvenile offenders and the MMPI-A has focused on the basic differences that delinquent adolescent males have with non-offending “normal” males. Unlike with the original MMPI, there has been little or no research conducted based on comparing MMPI-A profiles of individuals with a known history of involvement with the juvenile justice system and with individuals that repeatedly commit criminal offenses. In fact, Morton et al. (2002) call for a study that addresses what MMPI-A scales or scale combinations can distinguish the majority of delinquents from those who commit serious or violent offenses or those who are chronic offenders.

There are four main questions for the current study:

1. Do age and MMPI-A validity and basic scales collectively predict subsequent membership for those delinquent youth who commit no/minor offenses and those who commit serious offenses during 18 months following the administration of the instrument?

2. Do age and MMPI-A content and supplementary scales collectively predict subsequent membership for those delinquent youth who commit no/minor offenses and those who commit serious offenses during 18 months following the administration of the instrument?
3. Do age and MMPI-A Harris-Lingoes and Si subscales collectively predict subsequent membership for those delinquent youth who commit no/minor offenses and those who commit serious offenses during 18 months following the administration of the instrument?
4. Are the individual Validity, Basic, Content, Supplementary, and Harris-Lingoes scale and subscale scores significantly different between those delinquent youth who commit no/minor offenses and those who commit serious offenses during 18 months following the administration of the instrument?

Chapter 4

RESULTS

A Collective Construct of Predictors of Recidivism

In order to describe grouping variable effects, a predictive discriminant analysis (PDA) was conducted (Huberty & Lowman, 1998). The purpose of conducting a PDA is to determine the ability of the construct (as measured by the client's age at the time of the assessment and the MMPI-A validity and basic scales for Question 1, age and MMPI-A content and supplementary scales for Question 2, and age and Harris-Lingoes and Si scales for Question 3) that underlies the resultant effects of a grouping variable (no/minor recidivism and serious recidivism) to predict group membership. This statistical analysis was utilized to answer the following research questions:

Research Question 1. Do age and MMPI-A validity and basic scales collectively predict subsequent membership for those youth who commit no/minor offenses and those who commit serious offenses during 18 months following the administration of the instrument?

The analysis examined the relationship between age, MMPI-A validity and basic scales, and recidivism. That is, are age and these MMPI-A scales able to predict membership in the no/minor recidivist group or the serious recidivist group? The means for these variables (separated by level of recidivism) are reported in Table 1, and are graphically displayed in Figure 1. Following the PDA, an external analysis was conducted (Huberty, 1994). Specifically, the findings were cross-validated with a leave-one-out classification analysis (Table 2). The resulting PDA yielded an improved prediction over chance (76.5% of original grouped cases correctly classified; $z = 3.49$, p

< .01). As can be seen in Table 2, there were improvements over chance with regard to the prediction of no/minor recidivism (59/70 for 84.3% prediction rate; $z = 2.61$, $p < .01$) and with regard to the prediction of more serious recidivism (16/28) for 57.1% prediction rate; $z = 3.14$, $p < .01$).

These results suggest that the collection of age and MMPI-A scales provide some incremental improvement in prediction over chance in determining membership in both groups.

Table 1

Means of Age and Validity and Basic Scale Scores for Participants Who Committed No/Minor and Serious Offenses

	No/Minor		Serious	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Age at Time of Psychological	15.6	0.7	15.1	0.8
F1	57.0	12.3	60.6	13.3
F2	53.0	12.5	54.7	13.0
L	54.9	8.4	53.4	8.2
K	50.5	8.1	54.0	8.5
Hs (1)	50.5	10.5	54.9	14.3
D (2)	55.7	8.8	54.1	12.0

Hy (3)	49.8	8.8	53.4	12.0
Pd (4)	59.9	9.8	57.3	11.9
Mf (5)	44.2	9.2	42.6	9.0
Pa (6)	53.4	12.1	56.4	15.3
Pt (7)	50.7	10.5	49.9	11.1
Sc (8)	52.7	11.8	52.9	12.5
Ma (9)	55.3	10.4	56.8	11.9
Si (0)	49.7	10.0	47.6	10.0

Figure 1. MMPI-A Validity and Basic Scales

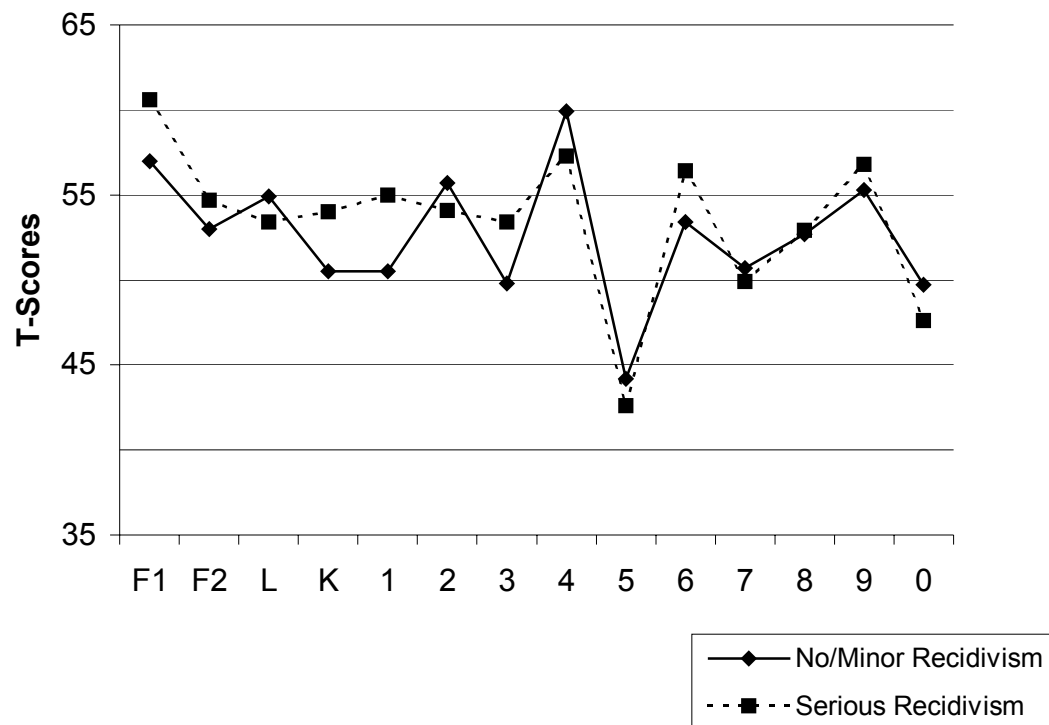


Table 2

Cross-validated (Leave-one-out) Classification Analysis for Age and Validity and Basic MMPI-A scales

		<u>Predicted Group Membership</u>	
Actual group membership	<u>n</u>	No/Minor	Serious
No/Minor	70		
<u>n</u>		59	11
%		84.3%	15.7%
Serious	28		
<u>n</u>		12	16
%		42.9%	57.1%

Note. Overall percentage of correctly classified cross-validated cases = 76.5%.

Research Question 2. Do age and MMPI-A content and supplementary scales collectively predict subsequent membership for those youth who commit no/minor offenses and those who commit serious offenses during 18 months following the administration of the instrument?

The analysis examined the relationship between age, MMPI-A content and supplementary scales, and recidivism. That is, are age and these MMPI-A scales able to predict membership in the no/minor recidivist group or the serious recidivist group? The means for these variables (separated by level of recidivism) are reported in Table 3, and are graphically displayed in Figure 2a & 2b. Following the PDA, an external analysis was conducted (Huberty, 1994). Specifically, the findings were cross-validated with a leave-one-out classification analysis (Table 4). The resulting PDA yielded an improved

prediction over chance (69.8% of original grouped cases correctly classified; $z = 2.34$, $p < .01$). As can be seen in Table 4, there were improvement over chance is limited to the prediction of no/minor recidivism (57/68 for 83.8% prediction rate; $z = 2.49$, $p < .01$) while the prediction of more serious recidivism was no better than chance (10/28) for 35.7% prediction rate; $z = .66$, n.s.).

These results suggest that the collection of age and MMPI-A scales provide some incremental improvement in prediction over chance in determining membership in the no/minor recidivism group but not for the serious recidivist group.

Table 3

Mean Content and Supplementary Scale Scores for Participants Who Committed
No/Minor and Serious Offenders

	No/Minor		Serious	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Age at Time Of Psychological	15.6	0.7	15.0	0.8
A-anx	52.8	10.9	52.6	13.4
A-obs	50.7	9.8	50.3	10.3
A-dep	53.6	11.7	53.2	10.8
A-hea	52.6	11.5	56.9	14.7
A-aln	51.2	10.8	49.8	12.1
A-biz	52.8	12.0	56.3	12.5

A-ang	50.0	10.7	47.2	9.7
A-cyn	55.3	10.5	51.4	7.1
A-con	53.1	10.8	53.9	10.8
A-lse	51.9	12.1	52.3	10.5
A-las	51.0	11.1	47.4	7.9
A-sod	50.0	10.7	46.0	9.5
A-fam	52.9	10.3	51.6	10.7
A-sch	55.0	11.3	56.8	12.7
A-trt	52.0	13.1	53.1	13.1
A	50.7	10.6	49.1	11.5
R	48.7	8.8	51.0	8.8
MAC-R	62.2	9.2	65.0	11.6
ACK	54.0	10.5	56.1	11.6
PRO	54.8	9.5	56.5	8.3
IMM	52.8	10.7	53.5	12.3

Figure 2a. MMPI-A Content and Supplementary Scales

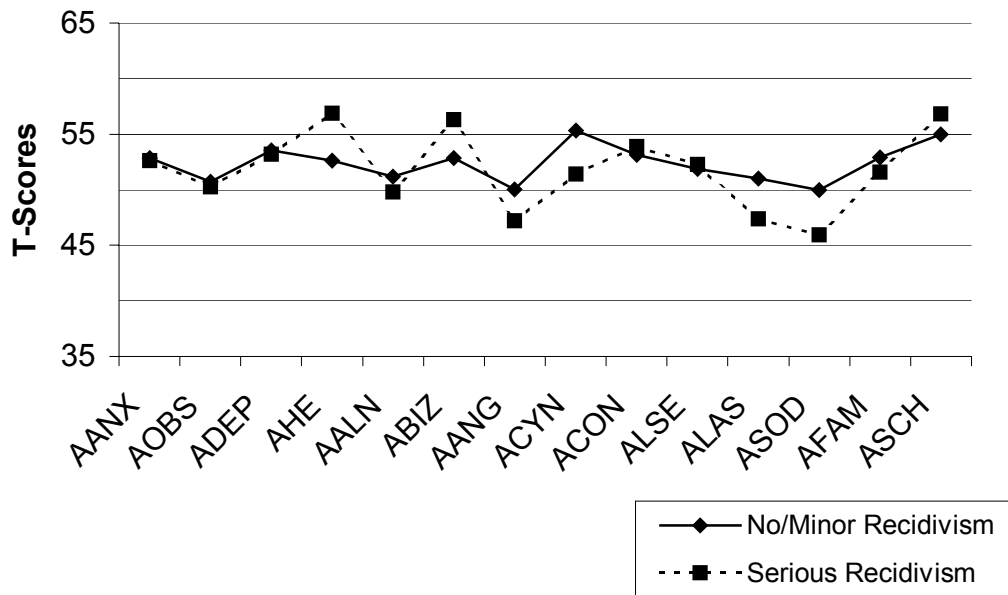


Figure 2b. MMPI-A Content and Supplementary Scales

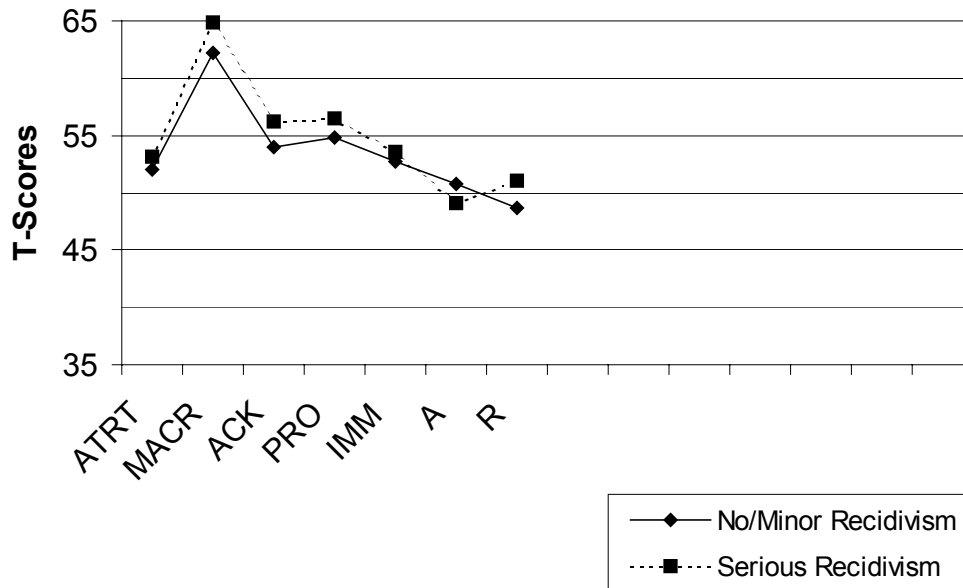


Table 4

Cross-validated (Leave-one-out) Classification Analysis for Age and Content and Supplementary MMPI-A scales

		<u>Predicted Group Membership</u>	
Actual group membership	<u>n</u>	No/Minor	Serious
No/Minor	68		
<u>n</u>		57	11
%		83.8%	16.2%
Serious	28		
<u>n</u>		18	10
%		64.3%	35.7%

Note. Overall percentage of correctly classified cross-validated cases = 69.8%.

Research Question 3. Do age and MMPI-A Harris-Lingoes and Si subscales collectively predict subsequent membership for those youth who commit no/minor offenses and those who commit serious offenses during 18 months following the administration of the instrument?

The analysis examined the relationship between age, MMPI-A Harris-Lingoes and Si scales and recidivism. That is, are age and these MMPI-A scales able to predict membership in the no/minor recidivist group or the serious recidivist group? The means for these variables (separated by level of recidivism) are reported in Table 5, and are graphically displayed in Figures 3a, b, & c. Following the PDA, an external analysis was conducted (Huberty, 1994). Specifically, the findings were cross-validated with a leave-one-out classification analysis (Table 6). The resulting PDA yielded an improved

prediction over chance (75% of original grouped cases correctly classified; $z = 3.24$, $p < .01$). As can be seen in Table 6, there were improvement over chance is limited to the prediction of no/minor recidivism (61/69 for 88.4% prediction rate; $z = 3.36$, $p < .01$) while the prediction of more serious recidivism was no better than chance (11/27) for 40.7% prediction rate; $z = 1.22$, n.s.).

These results suggest that the collection of age and MMPI-A Harris-Lingoes and Si scales provide some incremental improvement in prediction over chance in determining membership in the no/minor recidivism group but not for the serious recidivist group.

Table 5

Mean Harris-Lingoes Subscale Scores for Participants Who Committed No/Minor and Serious Offenses

	No/Minor		Serious	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Age at Time of Psychological	15.6	0.7	15.1	0.8
D1	54.8	11.0	53.6	12.8
D2	53.8	9.5	49.0	8.6
D3	58.1	7.9	54.3	11.9
D4	52.3	10.6	50.6	13.5
D5	52.5	11.1	52.1	10.8

Hy1	53.1	9.2	56.2	8.3
Hy2	48.2	9.2	49.4	7.4
Hy3	52.0	10.9	52.1	12.4
Hy4	50.7	9.7	54.2	12.1
Hy5	48.8	11.0	52.5	8.7
Pd1	51.6	8.4	50.9	8.4
Pd2	60.5	7.8	59.8	9.1
Pd3	52.3	10.9	54.0	9.4
Pd4	56.3	9.5	54.3	10.4
Pd5	58.3	9.8	54.6	10.0
Pa1	58.6	11.5	58.0	11.5
Pa2	50.1	11.8	51.7	12.1
Pa3	44.1	8.3	46.1	7.8
Sc1	54.2	11.3	51.4	10.5
Sc2	54.1	11.3	51.3	11.8
Sc3	53.1	10.1	52.4	11.2
Sc4	53.4	10.6	50.2	11.9
Sc5	51.1	11.0	54.6	12.6
Sc6	50.9	11.0	57.6	13.4
Ma1	56.3	9.1	55.9	10.8
Ma2	49.5	8.2	47.5	9.9
Ma3	54.6	9.9	58.0	9.8
Ma4	52.4	9.5	52.7	8.7

Si1	47.8	9.1	43.1	9.0
Si2	49.3	9.7	48.6	9.3
Si3	52.6	9.7	52.3	9.1

Figure 3a. MMPI-A Harris-Lingoes and Si Scales

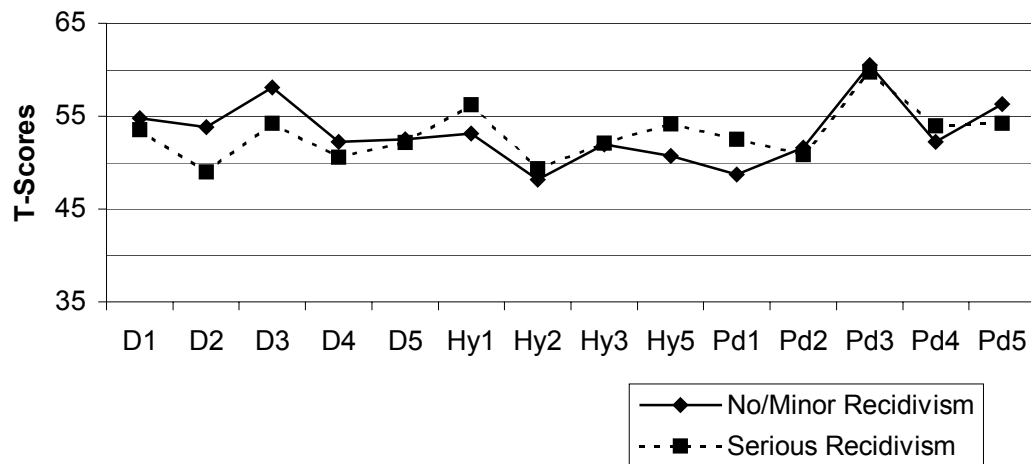


Figure 3b. MMPI-A Harris-Lingoes and Si Scales

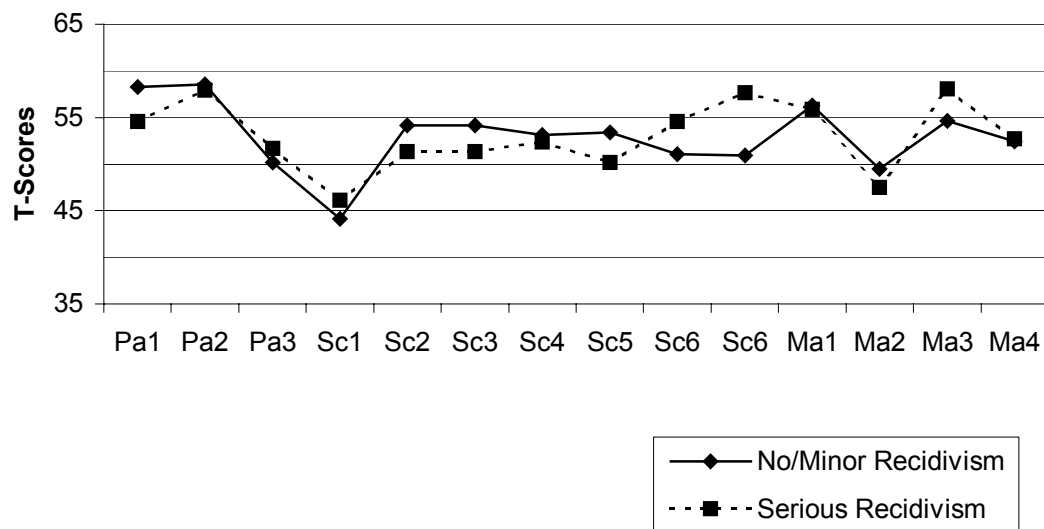


Figure 3c. MMPI-A Harris-Lingoes and Si Scales

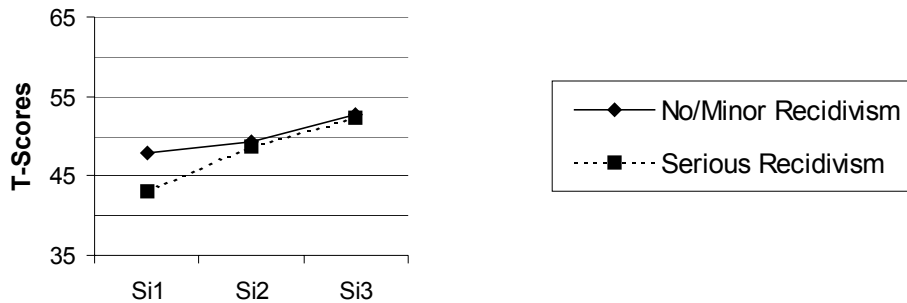


Table 6

Cross-validated (Leave-one-out) Classification Analysis for Age and Harris-Lingoes and Si MMPI-A scales

Actual group membership	<u>n</u>	<u>Predicted Group Membership</u>	
		No/Minor	Serious
No/Minor	68		
<u>n</u>		61	8
%		88.4%	11.6%
Serious	28		
<u>n</u>		16	11
%		59.3%	40.7%

Note. Overall percentage of correctly classified cross-validated cases = 75.0%.

Describing the Differences Between the Serious Reoffender and the No/Minor Reoffender Groups

Research Question 4. Are the individual Validity, Basic, Content, Supplementary, Harris-Lingoes, and Si scale and subscale scores significantly different

between those delinquent youth who commit no/minor offenses and those who commit serious offenses during 18 months following the administration of the instrument?

The best ways to answer these questions is to look at Tables 1, 3, and 5 and compare mean scores of all scales and subscales between the no/minor and serious recidivist groups. It is key to remember that previous studies have been inconsistent in what a significant difference in scores represents. Therefore we will use Greene's (1987) argument that differences on the MMPI that are smaller than $\frac{1}{2}$ a standard deviation are unlikely to have any clinical relevance due to the large number of degrees of freedom. To be able to ensure that any differences found have a probability of manifesting itself clinically; a T-score difference of at least 5 points will be used. In Table 7 you can see the scales that are significantly different between the two groups. Positive scores indicate that the serious reoffenses group scored that amount higher than the no/serious reoffenses group. Negative scores indicate that the no/minor reoffenses group scored that amount higher than the serious reoffenses group. The scores that differ by 5 points are considered "clinically significant" or meaningful (Morton et al., 2002), while the scores that differ by at least 3.5 are not significant, but considered "of clinical interest" and should be considered for possible implications in clinical treatment.

These results suggest that the individual MMPI-A scales and subscales of the two groups do not differ significantly, except for in one Harris-Lingoes subscale (Sc6). There are however several scales and subscales across the MMPI-A that show differences that may be of clinical interest.

Table 7

MPPI-A Scales That Represent Clinically Significant Differences Between Those
Who Commit Serious Reoffenses and No/Minor Reoffenses

Basic and Validity		Content and Supplementary		Harris-Lingoes	
Scale	Difference	Scale	Difference	Scale	Difference
F1	3.6*	A-anx	-0.2	D1	-1.2
F2	1.7	A-obs	-0.4	D2	-4.8*
L	-1.5	A-dep	-0.4	D3	-3.8*
K	3.5*	A-hea	4.0*	D4	-1.7
Hs(1)	4.4*	A-aln	-1.4	D5	-1.7
D(2)	-1.6	A-biz	3.5*	Hy1	-0.4
Hy(3)	3.6*	A-ang	-2.8	Hy2	1.2
Pd(4)	-2.6	A-cyn	-3.9*	Hy3	0.1
Mf(5)	-1.6	A-con	0.8	Hy4	3.5*
Pa(6)	3.0	A-lse	0.4	Hy5	3.7*
Pt(7)	-0.8	A-las	-3.6*	Pd1	-0.7
Sc(8)	0.2	A-sod	-4.0*	Pd2	-0.7
Ma(9)	1.5	A-fam	-1.3	Pd3	1.7
Si(0)	-2.1	A-sch	1.8	Pd4	-2
		A-trt	1.1	Pd5	-3.7*
		A	-1.6	Pa1	-0.6
		R	2.3	Pa2	1.6

MAC-R	2.5	Pa3	2.0
ACK	2.1	Sc1	-2.8
PRO	1.7	Sc2	-2.8
IMM	0.7	Sc3	-0.7
		Sc4	-3.2
		Sc5	3.5*
		Sc6	6.7**
		Ma1	-0.4
		Ma2	-2.0
		Ma3	3.4
		Ma4	0.3
		Si1	-4.7*
		Si2	-0.7
		Si3	-0.3

* Of Clinical Interest

** Clinically Significant

Chapter 5

DISCUSSION

Statement of the Problem

Juvenile forensic psychologists receive referrals to perform psychological evaluations on adolescents that are involved with the juvenile justice system. Typically, the only information that is available to them at the time of the evaluation is their age and current offense information and their offense history. Gathering additional peripheral information can be difficult and time consuming. Additionally, such information may not be available by the time the report is needed by the court. Once the test results are gathered from the assessment procedures, the referral source usually would like to know whether the juvenile is a potential danger to himself or anyone in the community. Making such predictions can be difficult, it is necessary to know what the prognosis is for the adolescent so that the psychologist can make appropriate recommendations for placement and the court can make the appropriate decisions as to the legal disposition of the child. The current research suggests that age, and offense data, along with information from the MMPI-A can give marginal information of who is headed for serious trouble. It does a better job at identifying those adolescents who are not going to seriously reoffend. This information can be extremely useful in making decisions for future placement and treatment of the juvenile.

For almost 60 years, the MMPI has been used to distinguish between the delinquent personality and the normal personality. Many instruments have come and gone, touting that they were better in differentiating the delinquent personality. However, the MMPI has stood the test of time by changing and modifying itself and

being one of the most researched instruments in the history of psychology. From the rigorous testing of the MMPI, came the MMPI-A in 1992 (Butcher, Williams, Graham, Archer, Tellegen, Ben-Porath, & Kaemmer.)

We all have heard the saying that the best predictor of future behavior is past behavior. However, Ashford & LeCroy (1990) state that juveniles have a much shorter history from which to make predictions about their future behaviors. As a consequence, it is unclear what will enable us to accurately predict recidivism in adolescents. This quandary has become the bane of the juvenile justice system. It is not sufficient to wait for a pattern of delinquent behavior to be established, especially with juveniles committing more serious offenses at an earlier age. How can we differentiate between those adolescents who get in trouble once and stay out of the juvenile justice system and those that repeatedly get into trouble and seem to live a life of bouncing around in the justice system and move from one placement to the next? Such studies are few and far between and have not yielded much in the way of prediction.

It is true that there are many more circumstances involved in criminal activity than just the personality of the individual. Criminal behavior is largely dependant upon the context and circumstances facing the individual at the time of the crime. It is likely that most people facing circumstances where they find themselves downtrodden, with no money, job, or supportive home, and they are forced to live a life where they repeatedly get treated badly for reasons that are beyond their control, they would likely engage in some criminal activity in order to survive and provide for the ones that they love. It is also true that there are other individuals who act out against society for different reasons as well. However, it is extremely interesting that some individuals involved in the

juvenile justice system are able to rise above the criminal behavior and find themselves resisting this criminal activity. It is those qualities that we are trying to investigate. If we can identify those who are most at risk based on personality, we would be able to identify individuals who need particular treatments in a timelier manner. Can the MMPI-A predict whom these youth are and what aspects of their personalities tend to make them resilient to their circumstances and resist serious reoffending?

If you were to look at the mean MMPI-A scores of a group of individuals in a clinical setting, it would surprisingly look similar to a normal group of adolescents. Archer, Handel, & Lynch, (2001) indicate that with few exceptions, research has shown that the mean basic scale profile for groups of psychologically or behaviorally disturbed adolescents is within normal limits across a variety of settings. This is precisely why we needed to look at the MMPI-A scales and subscales as a whole, not just as individual scales as much of the research has done in the past. In addition, it would provide a means to compare already delinquent individuals who do not reoffend or do so in a less serious manner to those who seriously reoffend.

In the current study we use the MMPI-A to investigate whether or not it can successfully predict serious reoffenders from a population of juvenile offenders. In addition, we are trying to examine the subtleties of the MMPI-A and see whether or not it can distinguish differences in a sample of youth that either did not reoffend or reoffended with minor charges and a sample of youth who reoffended with serious charges.

Statement of the Procedures

The MMPI-A (Butcher, Williams, Graham, Archer, Tellegen, Ben-Porath, & Kaemmer, 1992) was initially administered to 181 male adolescents involved in the juvenile justice system from a population of approximately 100,000 people in Northeast Georgia. These participants were involved in the juvenile justice systems in a catchment area of 10 counties in the northeast region of the state. Each participant was awaiting disposition and was either being held in the regional youth detention center, being housed a residential treatment facility, group home, or was in the community. The evaluations were provided to the juvenile court for recommendations regarding further disposition or for other psychiatric/psychological services for which the youth may be in need. The psychological data that was obtained from these evaluations was utilized as part of a placement process that decided what environment is most appropriate for the child's rehabilitation, and as a part of this evaluation procedure, each participant was administered the MMPI-A. Audited placement and offense histories of each juvenile were accessed via the Juvenile Tracking System and categorized according to a classification system described below.

In order to control for the youths' history, offense histories were recorded prior the completion of the MMPI-A. The offense histories and detention days for eighteen months following the date the youth completed the MMPI-A were also tracked for the research purposes of the study. Detention days were defined as the number of days in the post-test administration period that the juvenile was detained in a regional youth detention center, committed to a state youth detention center, or committed to a residential rehabilitation program. Offenses were categorized according to a glossary of

terms formulated by OJJDP (1999) with a classification system including status offenses, drug law violations, offenses against public order, crimes against property, and crimes against persons. As a separate and distinct category, post-test offenses were counted and categorized, and a two-group classification category was formed. If the juvenile offender committed no offense or a minor offense in the eighteen months post MMPI-A administration, he was placed in Group 1. If he committed a more serious offense in the eighteen months post MMPI-A administration, he was placed in Group 2. Group 1 equals *no/minor offense*, and Group 2 equals *serious offense*. A description of charges for each offense category and its inclusion in the minor or serious offense category can be found in Table 8.

In order to describe grouping variable effects, a predictive discriminant analysis (PDA) was conducted (Huberty & Lowman, 1997) to investigate the collective predictive ability of age, MMPI-A validity and basic scales; age, MMPI-A content and supplementary scales; and age, and MMPI-A Harris-Lingoes subscales in predicting serious versus no/minor reoffenders. The purpose of conducting this PDA was to answer the first three research questions. Additionally, means of the individual scales and subscales on the MMPI-A were compared across the two groups to determine significant differences found in the individual scales and subscales.

Table 8

Juvenile Offenses Across Five Categories

Category	Offenses
Status (Minor)	Runaway, truancy, ungovernable, unruly, possession/purchase/consumption of alcohol, curfew violation
Drug Law Violations (Minor)	Unlawful sale, purchase, distribution, manufacture, cultivation, transport, possession, or use of controlled or prohibited substance
Offenses against Public Order (Minor)	Possession/carrying weapon, nonviolent sex offenses (statutory rape, indecent exposure), liquor law violations not status (public intoxication), disorderly conduct, obstruction, loitering/prowling, violation of probation, contempt of court/violation of bond, giving false name, traffic violations, affray
Crimes against Property (Serious)	Burglary, larceny, shoplifting, motor vehicle theft, arson, vandalism, buying/receiving/possessing stolen property, criminal trespass, extortion, forgery, counterfeiting
Crimes against Person (Serious)	Homicide, rape, robbery, aggravated assault, simple assault, battery, kidnapping, incest/sodomy, unlawful restraint, false imprisonment, reckless endangerment, harassment, terroristic threats

Research Questions Used

The research question informing this study was derived after careful review of the juvenile delinquency research, particularly as it pertained to juvenile offending and personality characteristics. Since many factors investigated in prior research have come from researching differences in personality, biological, and environmental characteristics of offenders, the current study seeks to use personality profiles in the prediction of juvenile recidivism, or repeat offending. The current study seeks to do this by using the MMPI-A to examine four questions:

1. Do age and MMPI-A validity and basic scales collectively predict subsequent membership for those delinquent youth who commit no/minor offenses and those who commit serious offenses during 18 months following the administration of the instrument?
2. Do age and MMPI-A Harris-Lingoes and Si subscales collectively predict subsequent membership for those delinquent youth who commit no/minor offenses and those who commit serious offenses during 18 months following the administration of the instrument?
3. Do age and MMPI-A content and supplementary scales collectively predict subsequent membership for those delinquent youth who commit no/minor offenses and those who commit serious offenses during 18 months following the administration of the instrument?

4. Are the individual Validity, Basic, Content, Supplementary, and Harris-Lingoes scale and subscale scores significantly different between those delinquent youth who commit no/minor offenses and those who commit serious offenses during 18 months following the administration of the instrument?

Conclusions

A summary of the findings suggests that it seems that not all of the collective scales on the MMPI-A appear to be useful in predicting serious recidivism. The results of this study show that the age of the offender, in combination with the validity and basic scales of the MMPI-A together as a collective construct, provides a good source of predicting serious further offending. The constructs of age and the content and supplementary scales, as well as age and the Harris-Lingoes subscales, do not provide an accurate prediction of which offenders will go on to be serious reoffenders. However, they do provide a much better than chance prediction in determining whether or not offenders will not reoffend or they will commit a minor reoffense.

In the current study the construct of age, validity, and basic scales on the MMPI-A correctly predicted 84.3% of the individuals to be in the no/minor reoffending group with only a 15.7% false positive rate, meaning that 15.7% of the no/minor reoffending population will be placed in the serious reoffending group. At the same time, this construct predicted 57.1% of the serious reoffenders to be in the correct group, this is a false negative rate of 42.9%, meaning that those who are not serious reoffenders will be placed in the serious reoffending group 42.9% of the time. This false positive rate

seems rather high, but when compared to the Hare Psychopathy Checklist (PCL) family of tests, which have been touted for being able to predict violence and recidivism in adults and adolescents, the MMPI-A Validity and Basic scales seem to come out ahead. Freedman (In Press) reports that across all of the studies that have been done with the PCL family of tests, the research has demonstrated false positive rates of between 50-70%. Interestingly though, it is only the validity and basic scales that provide any predictive ability. It can only be assumed that the MMPI-A does not provide better prediction across all of its collective scales because the instrument only measures one construct, personality. The MMPI-A cannot take into account context and environment in which the individual that is being evaluated is set.

The construct of age and the content and supplementary scales proved to not be as successful in correctly predicting individuals who belonged in the serious reoffender group, resulting in a 35.7% prediction rate, which is less than chance. However, this construct still did a very good job (83.8% prediction rate) in correctly classifying individuals who did not reoffend or did so in a minor manner. The construct of age, the Harris-Lingoes subscales and the Si scales on the MMPI-A also proved to do a poor job in classifying individuals who belonged in the serious reoffender group (a less than chance 40.7% rate.) However, this construct, like the previous constructs, did a good job in correctly predicting the individuals who belonged in the no/minor reoffender group by a rate of 88.4%.

When looking at the individual scales and subscales on the MMPI-A, the serious reoffenders and those that did not reoffend or committed a minor reoffense did not appear to differ in their profiles to a significant degree. Only one subscale differed significantly

in the two groups. The Sc6 or the Bizarre Sensory Experiences subscale was found to be significantly different and much higher in the serious reoffending group. Higher scores on Sc6 are characteristic of individuals who have strange or unusual sensory experiences, a loss of emotional control, and endorse a variety of neurological symptoms including, paralysis, loss of balance, or involuntary muscle movements (Archer, 1997). This subscale seemed to be the best determinant in differentiating the serious reoffenders from the less serious or non-reoffenders in this current study.

In addition to this one subscale, there were several scales and subscales that were seen as noticeably different and of clinical interest. The Serious reoffenders tended to score noticeably higher on the F, K, Hs, Hy, A-hea, A-biz, Hy4, Hy5, and Sc5 scales and subscales. The F scale typically measures strange or unusual experiences, thoughts, sensations, ideations, and antisocial attitudes and behaviors. The K scale is a defensiveness scale, which detects individuals who underreport psychological problems and symptoms. The Hs scale relate to somatic concerns or complaints. The A-hea is also related to somatic complaints, misbehavior, school problems, and poor academic problems. The A-biz scale measures general maladjustment in normal adolescents, however it is also associated with bizarre sensory experiences and psychotic symptoms in a clinical sample. The Hy4 subscale is associated with somatic complaints and concerns as well. The Hy5 subscale is associated with people who deny hostile or aggressive impulses, they tend to be perfectionistic, they perceive themselves as decisive and socially sensitive. Lastly higher scores on Sc5 are characteristic of individuals who have a loss of control over their emotions or impulses, they are restless, irritable and

hyperactive, they can have episodes of uncontrollable laughter or crying, and they possibly experience dissociative symptoms (Archer, 1997).

The sample that included those that did not go on to reoffend in addition to the minor reoffenders scored noticeably higher on the A-cyn, A-las, A-sod, D2, D3, Pd5, and Si1 scales. The A-cyn scale is associated with guardedness and suspiciousness, and is unfriendly and hostile in relationships. The A-las scale are individuals with few educational or life goals, do not apply themselves, and tend to give up when faces with frustration. The A-sod scale measures social discomfort and withdrawal, along with shyness and social introversion. The D2 subscale is associated with lack of energy or inability to mobilize resources, social withdrawal, social avoidance, and denial of aggressive or hostile impulses. The D3 scale can be associated with concerns and preoccupation with physical health and a reporting of a wide array of physical symptoms. Pd5 is associated with emotional discomfort and unhappiness, problems in concentration and attention, feelings of guilt, regret, and remorse, along with the possibility of excessive alcohol use. Lastly, the Si1 subscale represents those that are shy around others and easily embarrassed, they are uncomfortable in social situations as well as with new situations (Archer, 1997). If one is to take all of these scales and look at the composite differences, one can get a greater picture of the typical serious reoffender as compared to the non-reoffender or minor reoffender in the current study.

Implications

The current study does a good job in supporting the idea that the MMPI-A is useful in assessment with juvenile delinquents and can be used to describe an individual

who is more likely to be a repeat offender. The initial focus of this study was to determine if the MMPI-A could identify the serious reoffender among male juvenile delinquents. The Validity and Basic Scales on the MMPI-A, along with age as a construct, was able to do a better than chance job of correctly classifying serious reoffenders. However, it appears that the most useful information garnered from the current study is that the MMPI-A does a very good job at identifying those that will stay out of significant trouble, not predicting the individuals who will go on to seriously reoffend. This result is softened somewhat by the fact that serious reoffending has a low base rate. In other words, the majority of juvenile delinquents will not go on to seriously reoffend.

As stated earlier, there are many variables, i.e. context, historical, biological, environmental, etc. that may lead a juvenile to reoffend. Personality characteristics alone cannot do a great job of predicting recidivism. However, thorough evaluation and assessment of the possible risk variables that the individual has, which have been documented throughout the juvenile delinquency research, a clinician may be better equipped to identify which youth may pose a greater risk for repeat offending.

The differences found in the MMPI-A individual scales suggest that there is one significant difference in these groups. The experience of bizarre sensory experiences, such as the one that are related to psychotic symptoms or with having extremely atypical experiences as an adolescent, seem to differentiate between those who do not reoffend or do to a minor degree and those that commit serious reoffenses. This has significant implications to determining the potential dangerousness of juvenile offenders.

In addition to the one significant difference found in the MMPI-A scores, there are more subtle differences in the personalities between those that do not go on to reoffend or that commit minor reoffenses and those that commit serious reoffenses. Based upon the current study's results, the no/minor reoffenders' overall profile is very similar to that of the serious reoffender group. However, the no/minor reoffender can be regarded as more guarded around people, is lower in achievement orientation, more uncomfortable in social situations, shy, and is more depressed. Whereas, the serious offender is more likely to experience strange or unusual thoughts, have bizarre sensory experiences or psychotic symptoms, engage in antisocial acts, underreport their psychological problems and complain of health problems instead, have problems in school, be aggressive, impulsive, irritable, and unable to control his emotions.

Such information would be most useful to judges, probation officers, counselors, therapists, psychiatrists, and psychologists, as well as to the community, so that these adolescents may be placed in the appropriate rehabilitative environments to receive the treatment needed in order to prevent repeat offending. This would keep children from entering the juvenile justice system and staying there by identifying the kids most at risk and providing the appropriate intervention. In turn, this would save the community money from having to invest their tax money in dealing with the same minority of adolescents committing the majority of crimes.

It is cautioned, however, that psychologists do not rely solely on age, previous record, and MMPI-A results in determining whether or not an adolescent is potentially dangerous. As mentioned earlier, criminal activity is largely dependent on the context of the situation. Age, MMPI-A, and offense history can be useful in determining who is

susceptible to future offending, however, it is not a flawless predictor. These methods described in this study should not be used in deciding sentences, how long an individual should be held in detention, or any other form of punishment. Such information should be used in determining the appropriate treatment for the rehabilitation of the adolescent.

Recommendations for Future Research

Due to the significance of some of the findings of this study, it would be justified to repeat the methods of the study while expanding upon them to achieve even more useful findings for future work with juvenile offenders. It may prove useful to compare whether or not the MMPI-A scales mentioned in this study can do a more effective job in predicting serious criminal behavior and reoffending when compared to instruments such as the Hare PCL: YV (Forth, Kosson, & Hare, 2003) or the MAYSI-2 (Grisso & Barnum, 2000).

Methodological improvements to this study could be to increase the sample size and expand it to include several geographical areas. Since this study relied solely on self-report data, it would be helpful to investigate this same type of data using the collateral data found in the psychological assessment such as background information, data from multiple sources (parents, teachers, siblings, etc.), other assessment instruments measuring intelligence, achievement, motor activity, etc. to gain the most accurate picture of the serious offender.

It may also be advised to interview the participants, parents, siblings, and the juvenile court workers in order to corroborate the information on offense history gained from the Juvenile Tracking System. Sometimes adolescents do not get caught when they

engage in delinquent activities, in this way, a more accurate picture of the level and type of recidivism could be gained since only crimes that are reported by the court show up in a juvenile's offense record.

It is clear that an underrepresented population in the research involving juvenile delinquents is that of the female. This study focused only on male juvenile offenders, so in the future to be able to incorporate the same type of methods to investigate recidivism in female juvenile offenders would be beneficial. It is critical that we get a better picture of the chronic juvenile offender. Jails and prison populations are swelling at an unconscionable rate. If we are to reduce the time, money, and energy we spend as a society in dealing with the criminal population, we need to start at an early age and understand what it is that starts a criminal down the path of societal no return and actually give these youth the services in which they are in need.

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