

SUBTYPES OF DEPRIVED JUVENILE OFFENDERS: A CLUSTER ANALYSIS OF THE
MINNESOTA MULTIPHASIC PERSONALITY INVENTORY – ADOLESCENT VERSION

by

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(Under the Direction of Georgia B. Calhoun)

ABSTRACT

The current study investigated the personality subgroups of juvenile offenders and determined if significant differences in personality existed between deprived and non-deprived juvenile offenders. The Minnesota Multiphasic Personality Inventory-Adolescent Version (Butcher et al., 1992) was administered to 331 juvenile offenders. Two hundred eighty seven cases were used to complete the analysis. A four stage approach of data analysis was utilized, which included a pre-analysis data-examination and data preparation stage (Stage 1), cluster analyses on the entire data set in Stage 2, and examination of differences between deprived and non-deprived juvenile offenders in Stage 3. Stage 4 concluded the statistical process of the study with a One Way ANOVA providing a detailed analysis of differences via deprivation. Three distinct clusters were established: normative/oppositional; normative/defended; and the withdrawn detached. Significance between group differences were extrapolated.

INDEX WORDS: Juvenile offenders, Minnesota Multiphasic Personality Inventory, Cluster analysis, Deprivation, Maltreatment

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DEDICATION

“In every conceivable manner, the family is link to our past, bridge to our future.” ~ Alex Haley

This dissertation represents far more than the accomplishments of one dedicated student, it represents the triumphs of a family and it is to this family I dedicate this manuscript. The late Mary Esther (Queen) Roberts, my maternal grandmother, dreamed of a day she would have a doctor in the family. Of course, her dreams were of a medical doctor, perhaps someone who would discover the cure to cancer, the disease that claimed her life. However, today in some respects, our family reaches that goal. As the first in our family to complete the requirements for a doctoral degree, it is my desire to assist many in the journey towards a different aspect of health and healing; the healing of emotional wounds. As I embark on this new professional voyage, I choose to honor all the sacrifices my family made in order for me to have the opportunity to complete this academic endeavor. And I hope to inspire future generations to strive for excellence in all pursuits.

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dissertation is also dedicated to the host of aunts, uncles, cousins and friends who stood by me throughout this journey. This accomplishment is not mine alone, but ours together.

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“The world is a severe schoolmaster, for its frowns are less dangerous than its smiles and flatteries, and it is a difficult task to keep in the path to wisdom.” ~Phillis Wheatley

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CHAPTER 1

INTRODUCTION

Juvenile delinquency is a significant problem in the United States. National reports of juvenile delinquency which include both official reports and self-reports, paint a staggering picture of crime and delinquency within the adolescent population. In 2002, juvenile offenders were involved in approximately 1,300 murders (Snyder & Sickmund, 2006). Delinquent acts are far more common. The Office of Juvenile Justice and Delinquency Prevention defines a delinquent act as: “An act committed by a juvenile for which an adult could be prosecuted in a criminal court, but when committed by a juvenile is within the jurisdiction of the juvenile court. Delinquent acts include crimes against persons, crimes against property, drug offenses, and crimes against public order, when juveniles commit such acts” (www.ojjdp.ncjs.org). In a longitudinal, national survey of 9,000 individuals, 33% of all youth reported being suspended from school, 8% disclosed gang membership, 37% participated in acts of vandalism, 27% reported assault with intent to cause serious bodily harm, and 16% reported selling drugs (Snyder & Sickmund). Offending behaviors within the adolescent population negatively impact society by placing great demands on resources for intervention programs and rehabilitation efforts. It has also been determined that delinquent youth are at an increased risk of later violence and chronic offending (Loeber & Farrington, 2001).

Considering the likelihood that juvenile offenders become adult criminals, it is imperative that criminologists, psychologists, and sociologists produce research that provides a better understanding of offenders in order to develop more effective intervention programs. The

research literature provides information on what type of juvenile is likely to participate in delinquent behaviors as well as reasons for offending. When interpreting the reported characteristics of juvenile offenders it is important to note that the constructs identified are not confirmatory of delinquent behavior. Juvenile offenders typically represent adolescents from lower socioeconomic families and neighborhoods, living in negative familial environments including but not limited to, poor socialization (i.e., weaken parental control and/or antisocial attitudes and behaviors of parents), weak family attachments, broken homes, and child victimization/maltreatment and report negative school experiences such as poor academic performance, low cognitive ability, and being detained (Cox, Allen, Hansen, & Conrad, 2008). Demographically, juvenile offenders are between the ages of 10-18, and are predominantly male, although in 2005, females accounted for 42% of all juvenile arrests (Cox et al., 2008). Juveniles engage in delinquent behavior for a variety of reasons, including but not limited to, financial gain, inability to succeed by conventional methods, peer pressure, impulsivity, and poor socialization (Barry, 2006).

There are a variety of established risk and protective factors that contribute to an adolescent's propensity to offend. Risk and protective factors exist within a variety of levels best explained within an ecological model. The aforementioned risk factors focus on family and community levels. More individual risk factors include risk taking behavior and antisocial attitudes (Shadler, 2003). Protective factors include positive social involvement, warm supportive familial relationships, academic commitment and engagement, as well as positive peer influence.

The typical characteristics of juvenile offenders combined with the information on reasons for offending, as well as, risk and protective factors inform the juvenile justice system

and have been used to create intervention programs that are successful with many offenders. However, considering the pervasiveness of and significant risk factors associated with juvenile delinquency, court officials are often the first to recognize possible trends in the juvenile delinquent population. Once possible trends are recognized, the juvenile justice system seeks etiology and rationale from research. One such phenomenon identified by court officials involves a unique subset of the juvenile offending population. Judges question the impact deprivation on youth's propensity to participate in delinquent acts. Such subsets of the juvenile offending population require more comprehensive exploration and specialized treatment. The deprived juvenile offender is a child with offending history who is also the victim of child abuse and/or neglect. Researchers have identified that adolescents who experienced child abuse and/or neglect were significantly more likely to be arrested for delinquent acts and were more likely to commit more violent and serious crimes than their non-abused counterparts (Curtis, 1999; Thornberry, 1995; Widom & Maxfield, 1996). Experiences of abuse, neglect and abandonment often translate into antisocial attitudes in an effort to self-protect. Children in abusive homes have a skewed perception of social norms which make it difficult to successfully navigate within a law-abiding society. Without secure attachments, appropriate nurturing and effective socialization, it is probable that victims of child abuse and/or neglect will represent a significant danger to themselves and society as a whole. Not only are victims of child abuse more likely to participate in delinquent acts, they also manifest several other issues such as mental health concerns and alcohol and other drug problems (Arthur, 2007; Bangard, 1997; Bensley, Van Eenwyk & Simmons, 2000). Juvenile offenders with a history of child abuse and neglect place particular demands on multiple agencies including the department of family and children services, the juvenile justice system, and public schools. Without specific knowledge detailing the

characteristics of deprived juvenile offenders, agencies' efforts at meeting basic needs and providing effective services are limited.

Much of the information compiled on juvenile offenders has been acquired through the scientific investigation of personality. Since the 1900s psychologists, sociologists, and criminologists recognized the usefulness of personality assessments in understanding and working with juvenile offenders. The study of personality with juvenile offenders has led to the extensive framework addressed thus far as well as providing a clearer understanding of delinquent and problem behavior, identifying risk and protective factors and conceptualizing high risk youth.

Recognizing that general information on the personality traits of juvenile offenders is helpful, astute researchers have determined that specificity is needed to advance the work in the field of juvenile justice. More recently, social scientists have turned their attention to identifying typologies in an effort to develop a more succinct profile of offenders. A specific statistical analysis, cluster analysis, is often used to provide researchers with a more precise typology of juvenile offenders. Espelage and colleagues (2003) used cluster analysis to explore the personality differences in male and female juvenile offenders involved in serious crimes. Likewise, Stefurak, Calhoun, and Glaser (2004) used cluster analysis to determine typologies of male juvenile offenders. In both studies distinct typologies emerged providing support of the utility of cluster analysis with juvenile offenders (Espelage et al., 2003; Stefurak et al., 2004). Expanding on these research efforts; researchers can identify subsets within the juvenile offending population that may present unique personality traits, such as the deprived juvenile offender discussed beforehand, and extrapolate that information to rehabilitation, intervention, and prevention programs better suited for those youth.

Statement of the Problem

In order to reduce the rate of juvenile delinquency in the United States, more precise knowledge on the characteristics, experiences, and environment of current juvenile offenders is necessary. The literature is comprised of general typologies of offenders, however, when considering the levels of influence or various environments youth interact with, it is unproductive to assign these typologies to all youth offenders. To progress the science of juvenile offenders, researchers must begin to investigate the subsets within the juvenile offending population. While research indicates that deprived children or child victims of abuse and neglect are at a higher risk for delinquency, limited research is available on the personality traits of this population. Lack of knowledge on the characteristics of such a vulnerable subset of youth offenders leads to misdiagnosis, ineffective rehabilitation efforts and missed opportunities at prevention.

Purpose of the Study

The purpose of this study is to identify personality clusters of subtypes of juvenile offenders, and to assess any differences that may exist when comparing deprived juvenile offenders to non-deprived juvenile offenders. This study will expand on the general research of juvenile offenders with a history of child abuse by providing clear delineation of personality traits which will allow for greater clarity of the manner in which maltreatment relates to the juvenile offending population.

This study involves two components: (a) to identify clusters within a population of juvenile offenders by using the Minnesota Multiphasic Personality Inventory–Adolescent Version (MMPI-A) and (b) to determine if significant differences exist for juvenile offenders with a documented history of child abuse or neglect.

Significance of the Study

In general, this study attempts to determine whether or not specific typologies exist for juvenile offenders and to identify differences with deprived and non-deprived juvenile offenders. This research on juvenile offenders will add to both the research literature of child maltreatment and juvenile offending. By exploring the personality clusters of deprived offenders and the personality differences of deprived juvenile offenders; psychologists, social workers, educators and juvenile probation officers will be able to design resources that serve as both intervention and prevention programs for children and adolescents with similar profiles and a history of deprivation.

Definitions

Abuse: According to the Georgia Department of Family and Children Services and for the purposes of this study, abuse includes any physical injury to a minor by a parent or caretaker that results in bruises, welts, fractures, burns, cuts or internal injuries or sexual abuse where a parent or adult uses a minor for sexual stimulation.

Adolescent: Individuals between the ages of 13-17.

Crimes Against Persons: Homicide, forcible rape, robbery, aggravated assault, simple assault, and other person offenses such as terroristic threats, reckless endangerment, etc.

Crimes Against Property: Burglary, larceny, motor vehicle theft, arson, vandalism, stolen property, trespassing, fraud, etc.

Deprived Juvenile Offender: “Any child who is without proper parental care or control, subsistence, education as required by law, or other care or control necessary for the child’s physical, mental, or emotional health or morals; has been placed for care or adoption in violation

of law, has been abandoned by his or her parents or other legal custodian; or is without a parent, guardian, or custodian.” (www.djj.state.ga.us/ReferenceLibrary/reGlossary.shtml)

Juvenile Offender: Any adolescent who has been adjudicated for committing delinquent acts (e.g., crimes against persons, crimes against property, status offenses, and/or crimes related to substance abuse). (www.doleta.gov/sga/rfp/rfp/rfp03-09)

Maltreatment: According to the U.S. Department of Health and Human Services Administration for Children and Families and for the purpose of this study, maltreatment is an act or failure to act by a parent or caretaker as defined under state law which results in physical abuse, neglect, medical neglect, sexual abuse, emotional abuse, or presents an imminent risk of severe harm to a child.

Neglect: Failure of the parent or caretaker to provide the minor with basic needs (e.g., food, clothing, shelter, medical care, and/or adequate supervision).

Personality: Unique psychological attributes that predispose an individual to a variety of characteristic behavior patterns throughout the individual’s lifespan.

Status Offense: Offenses exclusive to the adolescent population. These crimes include but are not limited to runaway, unruly child, truancy, and ungovernable child.

CHAPTER 2

REVIEW OF THE LITERATURE

The purpose of this study is to determine personality clusters of juvenile offenders using the MMPI-A, to identify if there are distinct clusters of deprived juvenile offenders and to explore differences between the two sub populations of juvenile offenders. A comprehensive review of the literature requires exploration of the general juvenile offending literature, the theories of offending most commonly used, deprivation and juvenile offending, personality formation and review of the MMPI instruments, the MMPI-A specifically and its use with juvenile offenders and ethnic minorities. Careful review of the literature supports the need for this study.

The Juvenile Offending Literature

The scientific community has developed an extensive knowledge base on juvenile delinquency. A critical review of the general juvenile offending literature provides a solid framework for further research endeavors. Much of the research has focused on predicting offending behaviors in the adolescent population. One such way of predicting delinquency is to investigate the personality traits of individuals involved in the juvenile justice system. Personality characteristics have been identified as a significant predictor of future delinquent behavior. Parker, Morton, Lingefelt, and Johnson (2005) used the MMPI-A to identify personality traits generally associated with serious and violent male juvenile offenders. The findings revealed that violent crimes could be predicted by several personality traits including but not limited to emotional liability, poor anger control, impulsivity, low self-esteem, and

paranoia (Parker et al, 2005). Intelligence has also been linked to delinquency. Typically, juvenile offenders score an average of 8 points lower on standardized intelligences tests than their non-delinquent counterparts.

Theories of Offending

Understanding the etiology of offending behavior has been a significant research area for social scientists. Theories of offending have been investigated to provide a base for creating effective rehabilitation and prevention programs. Typical theories attribute delinquency to one of four areas; biology, psychology, development or sociology. More recently, researchers have begun to explore the concept of integrative theories of offending; recognizing that offending behavior is more complex than originally anticipated. In order to gain a clear perspective of juvenile delinquency, varying theories of offending must be explored.

Early research on offending behavior focused on the biological or genetic differences in antisocial behavior. Psychological theories of offending have developed from both psychoanalytic and behavioral perspectives. Researchers focused on the behavioral concepts of reward and punishment to expand Bandura's social learning theory as a comprehensive explanation for antisocial behavior. Bandura (1977) posited that individuals learn behavior through observation and that all human behavior is a reciprocal interaction between cognitive, behavior and environmental influence.

Moffitt (1993) provided a thorough dual taxonomy of juvenile delinquency that outlines two theories of antisocial behavior. Moffitt identified two types of offenders: (1) the adolescent limited offenders whose criminality is time-limited and situational, and (2) the life-course persistent offender. The life-course persistent offender represents very early offenders with persistent delinquency and marked with problematic neuropsychological functions (Moffitt).

Other developmental theories of offending include the age-graded theory and the general theory of crime. The Age-Graded Theory (Sampson & Laub, 1993; 2005) ascribed antisocial or criminal behavior to the weakening of an individual's bond to society. According to Sampson & Laub's age-graded theory an individual's involvement in conventional activities impact that person's likelihood of offending. Gottfredson and Hirschi (1990) established a general theory of crime that focuses on control. The general theory of crime identified conformity rather than criminal behavior as the variable of interest in determining one's propensity for antisocial behavior; assessing that individual's with low self-control are more likely to view conformity as less desirable and see delinquency as a more desired course of action. With its focus on conformity and self-control, Gottfredson and Hirschi's General Theory of Crime identified parental monitoring and control as key influences in determining a child's propensity for problem behaviors.

General strain theory is another perspective on offending behavior. The central theme of general strain theory is negative relationships (Agnew, Brezina, Wright, & Cullen, 2002). General strain theory identified three primary types of strain that increase negative emotion and prompt an effort towards corrective action; which has the potential to be a delinquent act (Agnew et al.). Agnew et al. operationalized strains as: (a) prevention of achieving goals; (b) removal or threatened removal of positive stimuli (e.g., change in schools, death of family or friends); and (c) the presence of or threatened presence of negative stimuli (e.g., maltreatment, victimization).

Interactional theory is a developmental perspective of delinquency that encompasses two constructs to explain offending behavior. Bidirectional causality and social structural influences are two primary constructs that influence delinquency. Interactional theory posits that individuals with poor social controls due to unhealthy familial relationships, poor school involvement, and a

perceived belief in one's inability to succeed with conventional goals (Thornberry, Lizotte, Krohn, Smith & Porter, 2003). According to Interactional Theory, the dynamics of the family system greatly influence adolescents' involvement in prosocial or deviant activities, academic endeavors, and the selection of social networks; prosocial or delinquent. With age, the impact of the family system weakens and the adolescents' social network gains significantly more influence over the adolescents' decision-making process. Therefore, as the adolescent matures in age, the impact of the family becomes unidirectional, increased parental control and increased attempts at parental attachment become inconsequential (Thornberry et al.).

Deprivation and Juvenile Offending

Theories of offending behavior are a baseline for working with offenders; providing researchers with a framework upon which to build more complete assessments of offending. One unique subsection of the offending research is the relationship between deprivation or maltreatment and juvenile delinquency. Maltreatment is a powerful component of dysfunctional family dynamics that is closely related to delinquent behaviors in adolescents. Much research has focused on the intersection of family dynamics and juvenile offending. Studies have identified parental control, effectiveness, attachment, and involvement as key constructs in levels of offending. When families involve serious dysfunction, manifesting as maltreatment, adolescents are at a greater risk for engaging in delinquent behaviors. Smith and Thornberry (1995) researched the relationship of maltreatment and delinquency and found that adolescents with a history of maltreatment were more likely to present with self-reported acts of delinquency and have official records of delinquency. In many cases, the more pervasive and serious the maltreatment, higher rates of delinquency result (Smith & Thornberry).

In an attempt to clarify the impact of maltreatment on offending behaviors in adolescents, Ireland, Smith, and Thornberry (2002) explored the developmental impact of maltreatment on juvenile offenders, by investigating the age at which the adolescent experienced the maltreatment. The research utilized three distinct developmental periods: childhood only maltreatment (ages 0-11); adolescence only maltreatment (ages 12-17); and maltreatment throughout (ages 0-17). After controlling for several factors, researchers found that adolescence only maltreatment and maltreatment throughout were highly correlated with self-reported delinquency and official delinquency (Ireland et al., 2002; Thornberry et al., 2003).

Child maltreatment has been linked to a myriad of problem behaviors. These problem behaviors begin to manifest during adolescence and can continue throughout adulthood. Juvenile delinquency, teenage pregnancy, alcohol and other drug problems, poor academic achievement, and the development of mental health concerns have all been identified as consequences of child maltreatment (Kelley, Thornberry, & Smith, 1997; Widom, 1994).

Throughout this study, the terms maltreatment (which includes various forms of abuse and neglect) and deprivation will be used interchangeably. Previous research on the relationship of maltreatment and offending supports the finding that child maltreatment is a contributing factor to delinquency. Volumes of studies have identified several risk factors associated with offending behavior including family poverty, poor child-rearing and disrupted families (Farrington, 2004). These familial constructs have a probability of leading to forms of maltreatment.

Juby and Farrington (2001) found that broken families separated by disharmony produced higher delinquency rates than those families permanently separated by death. These findings support the hypothesis that children/adolescents that experience neglect are at a greater

risk for delinquency. Ryan, Herz, Hernandez, and Marshall (2007) studied juvenile offenders with a history of child abuse or neglect. The study investigated three aspects of the relationship between child maltreatment and juvenile offending. In particular, the study tested the hypothesis that maltreated youth represent a unique subpopulation of the juvenile justice system. Ryan et al. concluded that maltreated youth have distinct characteristics that support this hypothesis. Juvenile offenders who have a history of child abuse or neglect are typically female, African-American, are younger at the time of first arrest, and are arrested for more serious offenses including violent and sexual crimes.

Contemporary trends in offending research focus on a biopsychosocial perspective of antisocial behavior. Utilizing a biopsychosocial model, several alternative levels of impact are identified for abuse and neglect (Quinsey, Skilling, Lalumiere, & Craig, 2004). Quinsey and colleagues acknowledge three primary ways abuse and neglect impact delinquency. The first alternative is that abuse and neglect reflect a genetic influence of antisocial parents; secondly, abuse and neglect could be seen as a predictable outcome of inappropriate attempts at parental control of an antisocial child. And as a third alternative, Quinsey and his colleagues hypothesized that abuse and neglect could represent an “etiological agent” determined by the presence of certain genetic constitutions (Quinsey et al.). Essentially, the relationship between abuse, neglect and delinquency includes both biological and environmental components requiring extensive investigation of the unique interplay of these three constructs. Conclusions from the Rochester Youth Development Study sponsored by the Office of Juvenile Justice and Delinquency Program indicated that maltreated youth are more likely to participate in offending behavior and that offending behavior will be more frequent and involve more serious and violent offenses (Kelley et al., 1997).

Investigating the relationship between maltreatment and offending behavior presents unique challenges as many reported cases are unsubstantiated and other valid cases are never reported. Previous research provides “little data comparing the referral histories of substantiated and unsubstantiated maltreated youth with juveniles referred to the court for status offenses or delinquency” (Thompson et al., 2001, p. 1210). Findings revealed that abused youth are more likely to recidivate than neglected youth or youth with unsubstantiated cases of maltreatment (Thompson et al., 2001)

Theories of Personality Formation

While the significance of the study of personality is firmly established within psychology, the concept of personality formation is widely debated. Bronfenbrenner’s Bioecological Systems Theory will serve as the theoretical framework for this study. Bronfenbrenner (1979) posited that a child’s development is based on the context of a variety of interpersonal relationships within several environments. The influence of relationships and experiences are bi-directional and solidify the personality (Bronfenbrenner). This theory of personality formation is useful in understanding the relationship of deprivation and offending because of the emphasis in environmental influence on development and behavior.

The Minnesota Multiphasic Personality Inventory-Adolescent (MMPI-A)

The MMPI, the parent assessment of the MMPI-A, has a long history of use as an instrument for determining adolescent delinquent behavior. Capwell (1945) established that delinquent adolescents created profiles with elevations on scales 4 (Psychopathic Deviate), 6 (Paranoia), 7 (Psychasthenia), 8 (Schizophrenia), and 9 (Mania). These findings led researchers to use the MMPI to identify youth that may be predisposed to delinquency (Pope & Butcher, 2006). In a study of 144 juvenile offenders (Espelage et al., 2003), the MMPI was used to

determine four psychological profiles. These four profiles revealed differences based on gender, with two profiles, normative and disorganized most apparent in male offenders. Female offenders fell in two separate categories, impulsive-antisocial and irritable-isolated clusters (Espelage et al.).

The MMPI instruments have a long standing history of use with the adolescent population; however, this use has not been without criticism (Toyer & Weed, 1998). Reported disadvantages were administration time, the advanced reading level, inappropriate normative sample, and outdated language (Archer, Maruish, Imbof, & Piotrowski, 1991; Toyer & Weed). In response to these criticisms, the MMPI-A was developed. The MMPI-A was developed in 1992 in an effort to provide a more valid and reliable instrument for assessing the personality characteristics of the adolescent population (Pope & Butcher, 2006). Designed for use with adolescents aged 14-18, the MMPI-A has been used extensively with several clinical populations as well as the delinquent population. The MMPI-A provides the evaluator with a codetype which is interpretative of the test taker's general personality tendencies. The 4/9 codetype has been established as the typical profile of juvenile offenders. While other scales do show elevations, historically, the highest and most consistent elevations occur on scales 4 and 9 (Pope & Butcher, 2006). The Minnesota Multiphasic Personality Inventory–Adolescent Version (MMPI-A) (Butcher et al., 1992) is the standard personality instrument used to assess adolescent psychopathology and criminal propensity. Researchers have extensively investigated the validity and reliability of the MMPI-A in assessing the juvenile offender population. Toyer and Weed found that the MMPI-A exhibited concurrent validity in identifying adolescents with conduct disordered behavior, supporting the assertion that the MMPI-A is an appropriate tool for use with juvenile offenders. Elevations were found in scale 4 as well as supplementary and content scales;

MAC-R (MacAndrew Alcoholism Scale), IMM (Immaturity), A-Con (Adolescent-conduct problems), and A-Sch (Adolescent-school problems) (Toyer & Weed). Archer, Bolinsky, Morton, and Farris (2002) investigated the MMPI-A structural summary with a male juvenile delinquent population and found that the immaturity dimension was most frequently elevated and serves as a significant indicator of delinquent behavior. Using the MMPI-A structural summary researchers have identified family hostility and conflict as typical experiences of male juvenile delinquents (Morton & Farris, 2002).

The MMPI-A is commonly used to provide significant information on the personality traits most prevalent within the adolescent offender population. Morton, Farris and Brenowitz (2002) investigated the high points of the MMPI-A with a sample of male juvenile offenders and confirmed that low scores on scale 5, and elevated scores on scales 4 and 6 are typical in male juvenile offenders. The consistent reporting of low scores on scale 5 suggests the significance of any deviation from the normative sample. Elevations on the supplementary and content scales were also confirmed (Glaser, Calhoun, & Petrocelli, 2002; Morton et al.).

While the MMPI instruments have a long history of reliability and validity, when utilizing the instruments, specifically the MMPI-A, with ethnic minorities, consideration must be given to the instrument's sensitivity to cultural difference. The MMPI-A normative sample consisted of nearly 2,500 adolescents, with an ethnic distribution consistent with the ethnic distribution of the United States general population as reported in the 1980 census (Archer & Krishnamurthy, 2002). As with any assessment tool, moderator variables impact results and must be considered in the interpretation (Greene, 2000). Socioeconomic status, educational attainment and cognitive factors may influence results and play a significant role in appropriately assessing the personality characteristics of ethnic minorities.

Researchers comparing the MMPI-A results of African-American and European-American adolescents have found that the content scales have the possibility of overpathologizing African-American adolescents (Greene, 2000; Wrobel & Lacher, 1995). Archer and Krishnamurthy (2002) advise clinicians to use caution in the interpretation of the MMPI-A with adolescents from diverse populations specifically ethnic minorities. It has been indicated that some content scales produce elevations in African-American adolescents producing profiles that escalate psychotic, somatic and phobic symptoms in African-Americans (Wrobel & Lachar).

More recent studies focus on the relationship between racial identity development and MMPI-A results. Whatley, Allen, and Dana (2003) studied the relationship between the Racial Identify Attitude Scale-Black, short form with the MMPI and found that the RIAS-B short form served as a predictor of MMPI scale scores. The results produced from this study provide credence to the importance of racial and ethnic identity development in interpreting the results of MMPI instruments.

Hall, Borsal, and Lopez (1999) completed a meta-analyses of 25 MMPI/MMPI-2 studies. The purpose of the meta-analyses was to review all MMPI/MMPI-2 research from 1967 to 1998 and determine if when direct comparisons were made on the basis of ethnicity if any statistically significant differences were present. Results revealed subtle difference in aggregate effect sizes for African-American males as compared to European American males, African-American females as compared to European Americans females as well as differences in Latino males compared to European American males. However none of these differences constituted statistically significant deviations (Hall et al.).

The conclusion of this meta-analysis found that the MMPI/MMPI-2 behavioral measurement is functionally equivalent regardless of race. Psychopathology as measured by the MMPI/MMPI-2 reveals relatively few ethnic differences and when differences are revealed those differences are insignificant. These findings support data that suggests little ethnic difference in both psychopathology and personality structure as measured by MMPI/MMPI-2.

The research on the use of MMPI instruments, specifically the MMPI-A with ethnic minority populations recognizes the importance of interpretation with caution. Researcher must consider moderator variables, cultural difference and racial and ethnic identity development when working with minorities. These considerations ensure that participants are not overpathologized.

Conclusions

The preceding research provides a general overview of the juvenile offending literature including the intersections of deprivation and juvenile offending, theories of offending, theories of personality development and the use of personality assessments, specifically the MMPI-A within the juvenile justice system and with ethnic minorities. While researchers have created an extensive base of research on the typical juvenile offender, there is little research that addresses the unique aspects of the deprived juvenile offender. Considering the likelihood of deprived juvenile offenders to recidivate, to commit more serious and violent crimes and to persist into adult criminal behavior, it is necessary for researchers begin to focus more energy on the deprived juvenile offender.

The proposed study intends to not only to investigate the possibility of distinct personality clusters within the deprived juvenile offender population, but also aims to provide

information on the distinct personality differences of deprived and non-deprived juvenile offenders.

CHAPTER 3

METHOD

The present study was designed to determine whether clusters exist within a sample of juvenile offenders and whether there are significant differences based on an experience of abuse and/or neglect as indicated by the juvenile justice system with an original deprived charge. A cluster analysis of the MMPI-A clinical scales was performed to determine subtypes for both deprived and non-deprived juvenile offenders. A one way ANOVA was performed to identify any specific differences within the two sub populations of juvenile offenders, thereby revealing distinct differences within the deprived juvenile offending population. Participants of the study are male and female juvenile offenders referred to the Juvenile Counseling and Assessment Program. Ward's Hierarchical Cluster Analysis and a one way ANOVA were used to analyze the data.

Participants

Data were collected from 331 adolescents involved in the juvenile justice system in the southeastern United States. Of the 331 adolescents, only 287 participants returned valid assessments. Of the 287 adolescents, 248 were male and 42 were female. 56.8% were African-American, 4.2% were Hispanic and 39.0% were white. The participants had a mean age of 15.28 with a standard deviation of 1 ranging from 12.03 to 19.03.

The offenses of the participants ranged from status offenses (e.g., truancy, curfew violations, etc.) to crimes against property and/or crimes against persons (e.g., assault, burglary, etc.). 26.5% of the participants committed status offenses, 27.2% were charged with crimes

against property, 28.2 % were charged with crimes against persons, and 18.1% were charged with a drug related offense. Only 8.7% were identified as deprived.

Procedures

Data collection was gathered as protocol for the Juvenile Counseling and Assessment Program (JCAP). JCAP is a psychologically based intervention program designed to address the unique needs of the juvenile offender. JCAP provides psychological assessment and counseling to hundreds of adjudicated youth. Referred youth and his/her parent or guardian participated in an orientation which includes consent, assent, and discussions on the voluntary nature of research. Participants were also informed of confidentiality.

Following orientation, trained graduate students administered the instrument, providing participants with the standard MMPI-A booklet, answer sheet and writing instrument. The administrator verified that the participant could read and understand the instrument. If the participant demonstrated difficulty in reading, the administrator would either read the questions to the participant or provide a pre-recorded audiotape of the instrument.

Research Instrument

The Minnesota Multiphasic Personality Inventory-Adolescent (MMPI-A) form is derived from the Minnesota Multiphasic Personality Inventory (MMPI), a classic assessment tool designed to evaluate personality functions, specifically psychopathology within an adult population. The MMPI instruments represent an objective and empirically validated assessments of personality (Lees-Haley, 1992). The MMPI has a long history of use with an adolescent population including specific utility with juvenile offenders (Archer, 2005). In response to the need for a valid and reliable personality instrument designed to address the developmental and maturational issues of the adolescent population, the MMPI-A was published in 1992 (Butcher et

al., 1992). The 478 item MMPI-A includes 4 validity scales, 10 clinical scales, 15 content scales, 6 supplementary scales and 28 Harris-Lingoes subscales.

Statistical Analysis

Cluster analysis is the statistical method employed to classify cases within the sample population while determining the degree of similarity between cases within a heterogeneous group. A multivariate statistical procedure, cluster analysis works to reorganize variables within a dataset into more homogeneous groupings (Aldenderfer & Blashfield, 1984). For this study cluster analysis was used to identify personality clusters within a group of juvenile offenders.

The clusters were determined using the T-scores derived from the MMPI-A. Cluster analysis seeks to identify organic structure within data by imposing structure (Alenderfer & Blashfield, 1984). In doing so, researchers can assess the clusters for theoretical significance and practical implications. Within the study of juvenile offending, the ability to classify offenders based on a multivariate approach serves to improve the juvenile justice department's corrective action, treatment planning and rehabilitation efforts (Kamphaus, DiStefano, & Lease, 2003).

Statisticians employ a variety of techniques for executing cluster analysis. For the purposes of this study, Ward's (1963) method was used and optimizes the minimum variance within clusters (Ward). This method of cluster analysis allows the researcher to conduct exploratory clustering in order to identify the most succinct groups (Fleckenstien, 2006).

Research Questions

This study focused on determining the personality clusters present in deprived and non-deprived juvenile offenders and identifying the differences if any between the two population utilizing the MMPI-A.

Null Hypothesis 1: No cluster subtypes of juvenile offenders will be found using scores from the MMPI-A.

Null Hypothesis 2: There will be no significant difference between non-deprived juvenile offenders and deprived juvenile offenders on the MMPI-A profiles.

CHAPTER 4

RESULTS

In Chapter 3, the research approach undertaken in the present study was discussed. A four stage approach of data analysis was utilized, which included a pre-analysis data-examination and data preparation stage (Stage 1), cluster analyses on the entire data set in Stage 2, and examination of differences between deprived and non-deprived juvenile offenders. The present chapter presents the results of these three stages of data analysis, while a subsequent chapter presents a discussion of the results. Stage 4 concluded the statistical process of the study with a One Way ANOVA providing a detailed analysis of differences via deprivation. The various analyses in the present study were undertaken using the SPSS 12.00 and 16.0 computer programs.

Stage 1: Pre-Analysis Data Examination and Data Preparation

Examination of the data set revealed that of the 331 adolescents who completed the survey, data on type of juvenile offender was available for 287 of the respondents. Table 4.1 represents the profiles of the respondents which were included in further analyses. As can be seen from the table, more than half of the respondents (71.1%) were between 15 and 17 years old, most were male (85.4%), African American (56.8%) and committed an offense against another person (28.2%) or property (27.2%). Approximately 91% of the sample was non-deprived.

A total of sixty-two scales and subscales were utilized from the MMPI-A. The means and standard deviations are shown below in Table 4.2.

Table 4.1

Respondent Profiles

Background Variables		N	Percent
Age			
Valid	12-under 13 years	1	0.3
	13-under14 years	9	3.1
	14-under15 years	53	18.5
	15-under16 years	105	36.6
	16-under17 years	99	34.5
	17-under 18 years	18	6.3
	18 years and above	2	0.7
	Total	287	100
Gender			
	Male	245	85.4
	Female	42	14.6
		287	100.0
Race			
	African American	163	56.8
	Caucasian	112	39.0
	Hispanic	12	4.2
		287	100.0
Type of Offense			
	person	81	28.2
	property	78	27.2
	drug	52	18.1
	status	76	26.5
	Total	287	100.0
Maltreatment			
	Non-deprived	262	91.3
	Deprived	25	8.7
	Total	287	100

Table 4.2

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation
hs	287	84	22	87	51.62	11.32
d	287	62	32	94	56.76	10.13
hy	287	58	28	86	52.81	10.39
pd	287	62	33	95	58.85	10.79
mf	287	47	30	77	45.85	9.87
pa	287	63	25	88	54.53	12.47
pt	287	51	30	81	49.44	11.46
sc	287	61	30	91	52.08	13.54
ma	287	56	29	85	52.50	11.54
si	286	52	30	82	49.28	9.51
d1	287	56	33	89	53.44	11.37
d2	287	51	30	81	54.06	9.59
d3	287	56	33	89	58.08	10.00
d4	287	57	35	92	51.72	11.92
d5	287	52	33	85	51.32	11.06
hy1	287	35	31	66	54.50	9.25
hy2	287	50	30	80	50.55	10.42
hy3	287	60	33	93	51.30	12.04
hy4	287	57	35	92	52.09	11.71
hy5	287	44	30	74	50.48	10.57
pd1	287	43	32	75	50.96	9.13
pd2	286	51	35	86	60.47	9.32
pd3	287	38	30	68	54.07	10.06
pd4	287	47	31	78	54.38	10.72
pd5	287	51	32	83	55.56	10.39
pa1	287	55	35	90	56.06	11.84
pa2	287	55	30	85	49.34	12.59
pa3	287	72	5	77	48.00	10.65
sc1	287	50	30	80	51.74	12.10
sc2	287	48	34	82	53.21	11.13
sc3	287	47	35	82	51.71	11.35
sc4	287	54	34	88	51.81	11.09
sc5	287	51	31	82	49.05	11.69
sc6	287	53	34	87	51.85	12.65
ma1	287	43	31	74	52.92	10.68
ma2	286	44	30	74	46.18	9.72
ma3	287	51	30	81	56.33	9.73
ma4	287	52	30	82	50.01	9.95
si1	287	55	30	85	46.14	9.65

Table 4. 2 *continued*

	N	Range	Minimum	Maximum	Mean	Std. Deviation
si2	287	46	37	83	51.74	9.87
si3	287	45	30	75	50.00	10.50
aanx	285	55	30	85	51.40	12.09
aobs	285	51	30	81	49.01	10.46
adep	285	62	32	94	52.45	11.23
ahea	285	61	31	92	53.49	11.75
aaln	285	49	33	82	50.14	11.03
abiz	285	62	35	97	51.99	13.13
aang	285	60	30	90	48.32	11.51
acyn	285	52	30	82	51.53	11.24
acon	285	58	30	88	50.67	11.61
alse	285	55	33	88	50.77	11.75
alas	285	52	30	82	50.44	11.00
asod	285	60	32	92	49.55	9.50
afam	285	62	30	92	51.67	11.96
asch	285	65	31	96	55.43	12.56
atrt	285	66	30	96	50.12	12.60
macr	284	62	32	94	60.02	10.91
ack	284	53	34	87	52.00	10.70
pro	284	57	30	87	54.56	11.21
imm	284	54	30	84	51.69	11.68
a	284	48	30	78	48.54	10.74
r	284	53	30	83	52.71	10.19
Valid N (listwise) 281						

Stage 2: Cluster Analysis

The goal of cluster analysis is to identify patterns in a data set by grouping observations or variables into clusters. Observations or objects within a cluster will be similar while clusters will be dissimilar to each other. Groupings in the data must make theoretical as well as practical sense.

In the first step, agglomerative hierarchical cluster analysis was used to group the sixty two-variables into bigger and bigger clusters until a single cluster was formed. Ward's method with Squared Euclidean distance was used to determine the clusters. Ward's method (Ward,

1963; Wishart, 1969) is a minimum distance method that calculates the sum of squared Euclidean distances from each case in a cluster to the mean of all variables. The cluster to be merged is the one which will increase the sum the least. Between group differences are maximized while within group distances are minimized. The coefficients in the Agglomeration Schedule shown in Table 4.3 reflect these distances. For instance, the distance between aobs and a is 4510.007. The large coefficient is a result of the large number of variables in the data set.

Table 4.3

Ward's Method Cluster

Agglomeration Schedule						
Stage	Cluster Combined		Coefficients	Stage Cluster First Appears		Next Stage
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	
1	43	61	4510.007	0	0	10
2	16	23	9395.507	0	0	32
3	1	45	15374.323	0	0	12
4	10	53	21534.323	0	0	13
5	11	14	27759.823	0	0	15
6	15	44	34213.448	0	0	20
7	8	34	40748.948	0	0	18
8	31	32	47946.868	0	0	22
9	7	42	55330.993	0	0	14
10	41	43	63034.315	0	1	14
11	29	46	71590.315	0	0	28
12	1	19	80359.763	3	0	37
13	10	39	89569.763	4	0	48
14	7	41	99055.492	9	10	39
15	11	18	108800.659	5	0	29
16	24	26	119000.159	0	0	30
17	56	60	129518.659	0	0	28
18	8	47	140225.159	7	0	27
19	21	54	151097.073	0	0	42
20	15	51	162190.281	6	0	29
21	4	25	174038.281	0	0	41
22	30	31	185892.121	0	8	37
23	17	28	198421.621	0	0	44

Table 4.3 *continued*

Stage	Cluster Combined			Stage Cluster First Appears		Next Stage
	Cluster 1	Cluster 2	Coefficients	Cluster 1	Cluster 2	
24	2	13	211293.121	0	0	53
25	48	50	224371.121	0	0	31
26	9	38	237840.621	0	0	35
27	8	33	251440.371	18	0	50
28	29	56	265909.621	11	17	42
29	11	15	282207.496	15	20	36
30	6	24	298766.663	0	16	41
31	48	58	315350.663	25	0	45
32	16	37	332003.830	2	0	56
33	40	62	348932.830	0	0	40
34	55	59	366454.330	0	0	43
35	9	36	384084.365	26	0	38
36	11	30	401763.065	29	22	49
37	1	3	419994.799	12	0	57
38	9	49	438877.291	35	0	47
39	7	27	458828.991	14	0	49
40	12	40	479475.991	0	33	51
41	4	6	501926.125	21	30	53
42	21	29	525129.344	19	28	52
43	52	55	548363.178	0	34	52
44	17	20	572527.011	23	0	51
45	35	48	597037.761	0	31	47
46	22	57	622465.306	0	0	54
47	9	35	648422.994	38	45	55
48	5	10	678799.275	0	13	58
49	7	11	709736.862	39	36	50
50	7	8	746146.783	49	27	57
51	12	17	783782.950	40	44	56
52	21	52	823173.316	42	43	55
53	2	4	863602.159	24	41	54
54	2	22	908885.796	53	46	60
55	9	21	961655.251	47	52	58
56	12	16	1014841.529	51	32	61
57	1	7	1078327.263	37	50	59
58	5	9	1148822.469	48	55	59
59	1	5	1231486.744	57	58	60
60	1	2	1354325.678	59	54	61
61	1	12	1667525.294	60	56	0

The variables were then clustered using average linkage. Examination of the Agglomeration Schedule show in Table 4.4 indicate that both methods yielded the same solution.

Table 4.4

Cluster Analysis Using Average Linkage Method

Agglomeration Schedule						
Stage	Cluster Combined		Coefficients	Stage Cluster First Appears		Next Stage
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	
1	43	61	9020.014	0	0	8
2	16	23	9771.000	0	0	31
3	1	45	11957.632	0	0	11
4	10	53	12320.000	0	0	13
5	11	14	12451.000	0	0	15
6	15	44	12907.250	0	0	15
7	8	34	13071.000	0	0	16
8	7	43	13351.367	0	1	10
9	31	32	14395.840	0	0	17
10	7	41	14814.325	8	0	12
11	1	19	16143.580	3	0	34
12	7	42	16312.548	10	0	19
13	10	39	16895.000	4	0	37
14	29	46	17112.000	0	0	25
15	11	15	17188.375	5	6	17
16	8	47	19327.500	7	0	24
17	11	31	20287.508	15	9	22
18	24	26	20399.000	0	0	36
19	7	51	21014.701	12	0	26
20	56	60	21037.000	0	0	25
21	21	54	21743.829	17	0	44
22	11	18	21834.215	0	0	26
23	4	25	23696.000	16	0	36
24	8	33	23880.333	14	20	33
25	29	56	24006.500	19	22	32
26	7	11	24054.675	0	0	32
27	17	28	25059.000	0	0	49
28	2	13	25743.000	0	0	47
29	48	50	26156.000	0	0	39
30	9	38	26939.000	0	0	40
31	16	37	27422.500	2	0	55
32	7	29	28238.906	26	25	35
33	6	8	29179.750	0	24	38
34	1	3	29225.067	11	0	50

Table 4.4 *continued*

Stage	Agglomeration Schedule					
	Cluster Combined		Coefficients	Stage Cluster First Appears		Next Stage
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	
35	7	30	29706.327	32	0	38
36	4	24	30026.000	23	18	48
37	10	40	31254.000	13	0	53
38	6	7	31261.174	33	35	41
39	48	58	31415.000	29	0	44
40	9	36	33179.802	30	0	43
41	6	27	33545.955	38	0	46
42	55	59	35043.000	0	0	51
43	9	49	35543.168	40	0	52
44	21	48	35556.554	21	39	46
45	20	62	35752.000	0	0	49
46	6	21	36621.062	41	44	48
47	2	12	40348.500	28	0	59
48	4	6	41296.288	36	46	50
49	17	20	42387.500	27	45	58
50	1	4	43394.508	34	48	54
51	52	55	43611.500	0	42	54
52	9	35	44190.551	43	0	56
53	5	10	47812.903	0	37	57
54	1	52	48238.444	50	51	56
55	16	22	48364.090	31	0	58
56	1	9	49033.660	54	52	57
57	1	5	53664.838	56	53	59
58	16	17	57849.260	55	49	61
59	1	2	60850.281	57	47	60
60	1	57	71786.388	59	0	61
61	1	16	87472.059	60	58	0

Hair, Black, Babin, Anderson, and Tatham (2006) and Rencher (2002) suggest that if these two methods yield the same solution, the solution is valid.

Stage 3: Analysis by Juvenile Type

Three distinct clusters emerged once the final analysis was run. The variables in each cluster are shown Table 4.5 and Table 4.6 identified the distribution of juvenile offender type by cluster. Figures 4a, 4b, and 4c show the Cluster one, which is defined as the

Normative/Oppositional cluster indicated no clinical elevations in the ten basic scales or any of the subscales. The Normative/Oppositional cluster is comprised of 117 cases with 12 of the 117 cases being deprived juvenile offenders.

Table 4.5

Clustered Variables

Cluster Membership 3	
Variable	Clusters
hs	1
hy	1
mf	1
pt	1
Sc	1
ma	1
si	1
d1	1
d4	1
d5	1
hy3	1
hy4	1
pd1	1
pa2	1
sc1	1
sc2	1
sc3	1
sc4	1
sc5	1
sc6	1
ma1	1
ma2	1
ma4	1
si1	1
si3	1
aanx	1
aobs	1
adep	1

Table 4.5 *continued*

Cluster Membership 3	
Variable	Clusters
Ahea	1
aaln	1
Abiz	1
aang	1
acyn	1
acon	1
alse	1
alas	1
asod	1
afam	1
asch	1
atrt	1
ack	1
pro	1
imm	1
a	1
d	2
pd	2
pa	2
D3	2
pd2	2
pd4	2
pd5	2
pa1	2
macr	2
d2	3
hy1	3
hy2	3
hy5	3
pd3	3
pa3	3
ma3	3
si2	3
r	3

Table 4.6

Crosstabulated Results Cluster by Juvenile Type

	Cluster				Total
	1	2	3		
Dep	1.00	105	127	30	262
	2.00	12	9	4	25
Total		117	136	34	287

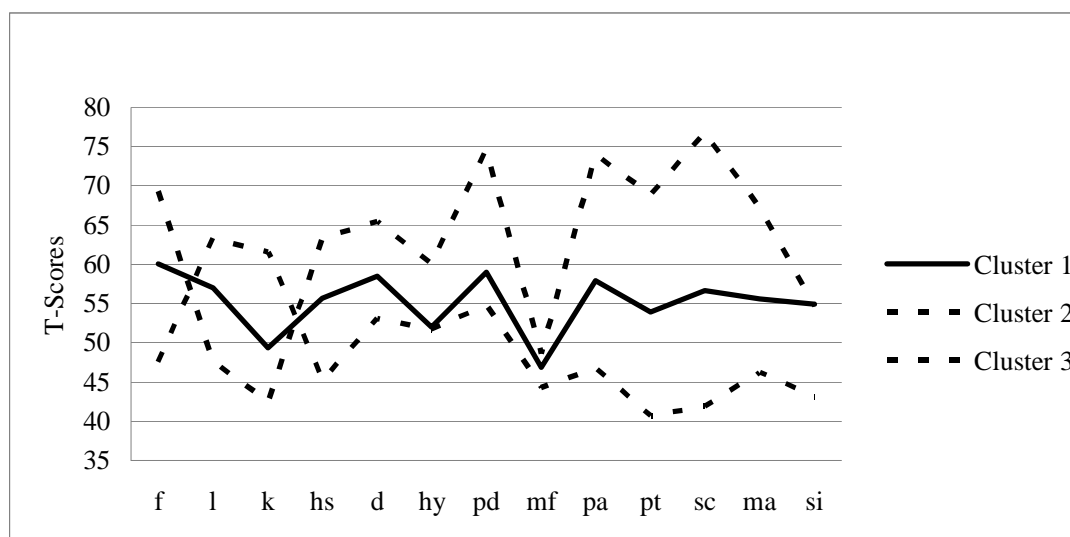


Figure 4a. MMPI-A validity and basic scales.

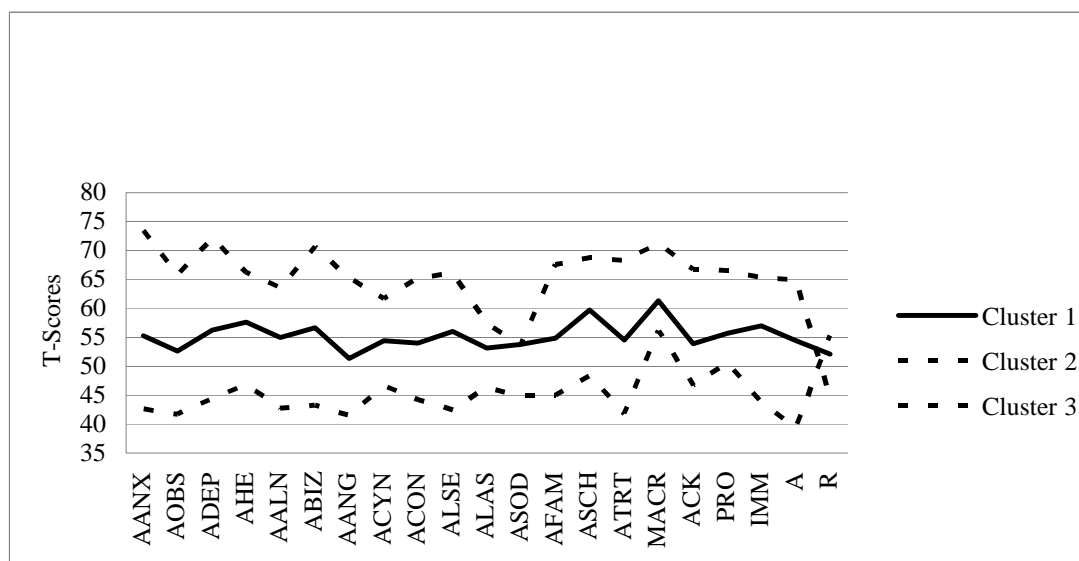


Figure 4b. MMPI-A content and supplementary scales.

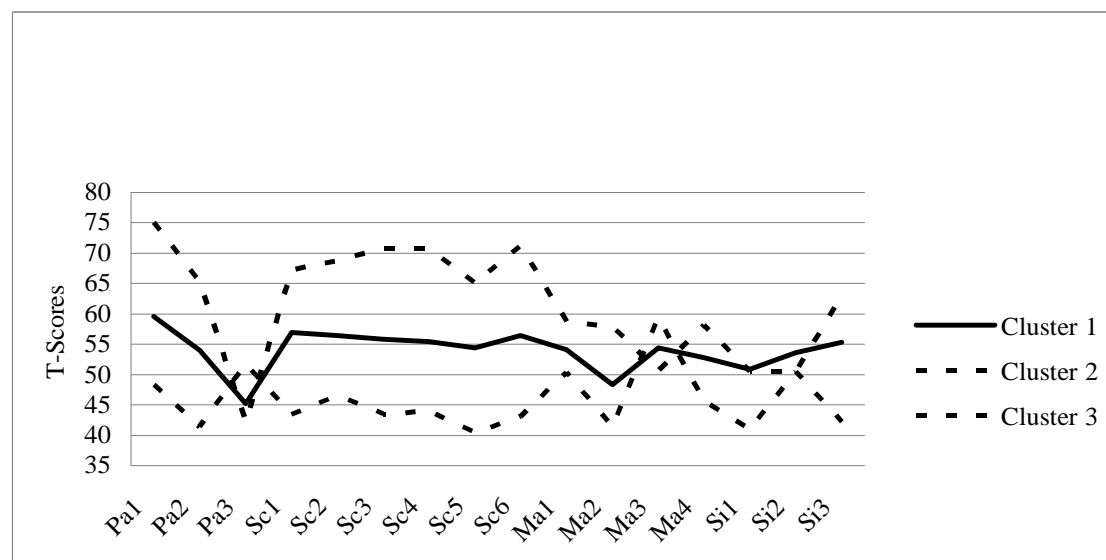
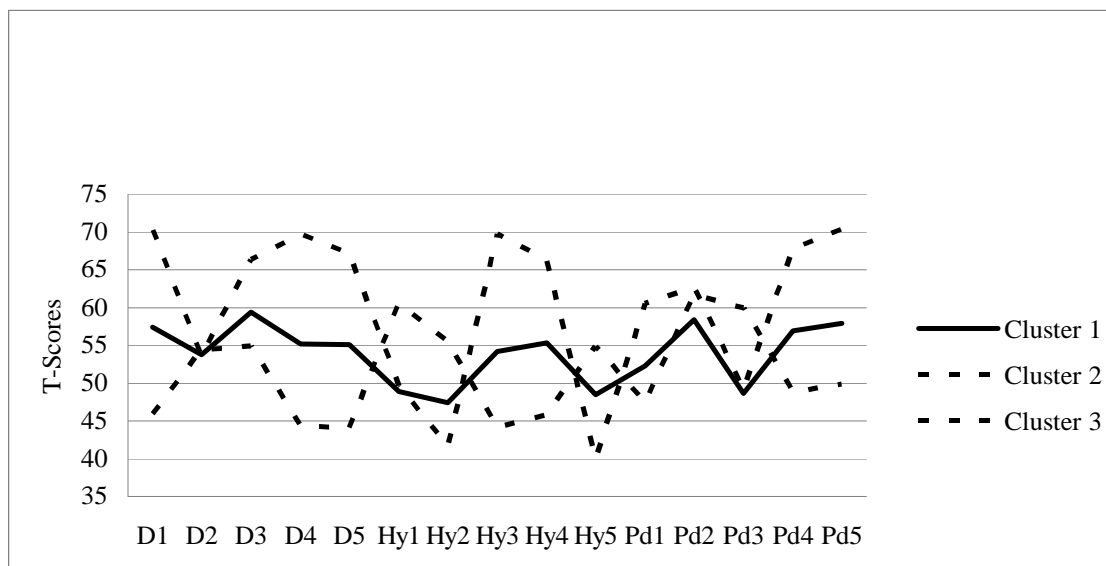


Figure 4c. MMPI-A Harris-Lingoes and Si scales.

Stage 4: One Way ANOVA

The goal of a one way analysis of variance is to determine differences between independent groups. The one way ANOVA will compare the group means of deprived and non-deprived juvenile offenders by analyzing comparisons of variance estimates. The second null hypothesis reported that no significant difference between deprived and non-deprived juvenile offenders when MMPI-A profiles were compared. However, significant differences were found

within the deprived and non-deprived juvenile offenders, thereby rejecting the second hypothesis. Tables 4.7, 4.8 and 4.9 provide the mean and standard deviations by juvenile type and figures 4d, 4e, and 4f indicate the differences by juvenile type. Significant differences were indicated in several MMPI variables, including the VRIN and frequency scales, 3 basic clinical scales; Hypochondriasis (Hs scale 1), Psychopathic Deviate (Pd scale4) and Social Introversion (scale 0), 4 subscales; Somatic Complaints (hy4), Familial Discord (pd1), Social Alienation (sc1), and Emotional Alienation (sc2) and 3 content scales; Alienation (aaln), Family Problems (afam) and Immaturity (imm).

Table 4.7

Mean Base Rate of Deprived and Non-Deprived MMPI-A Basic Scale Scores and Standard Deviations

MMPI-A Scale	Deprived Cases		Non-Deprived Cases	
	Mean	SD	Mean	SD
Hypochondriasis	56.44	9.85	51.56	11.35
Depression	59.32	9.77	56.51	10.15
Hysteria	55.08	9.15	52.59	10.49
Psychopathic Deviate	*63.32	11.15	58.43	10.68
Masculinity-Femininity	45.20	9.14	45.91	9.96
Paranoia	58.04	13.16	54.19	12.37
Psychasthenia	50.68	10.52	49.32	11.55
Schizophrenia	56.36	13.93	51.67	13.46
Hypomania	56.52	12.66	52.12	11.38
Social Introversion	53.08	6.98	48.91	9.66

*Denotes Moderate Elevation

Table 4.8

Mean Base Rate of Deprived and Non-Deprived MMPI-A Harris-Lingoes/Si Subscales and Standard Deviations

Harris-Lingoes/Si Sub Scales	Deprived Cases		Non-Deprived Cases	
	Mean	SD	Mean	SD
Subjective Depression	55.16	12.56	53.28	11.26
Psychomotor Retardation	52.68	9.73	54.19	9.59
Physical Malfunctioning	*61.32	9.89	57.77	9.97
Mental Dullness	53.84	12.27	51.52	11.89
Brooding	53.28	11.52	51.13	11.02
Denial of Social Anxiety	52.60	8.89	54.68	9.28
Need for Affection	48.80	8.95	50.72	10.55
Lassitude-Malaise	53.60	12.49	51.08	12.00
Somatic Complaints	57.28	11.05	51.60	11.67
Inhibition of Aggression	50.72	11.33	50.45	10.51
Familial Discord	55.88	8.14	50.49	9.10
Authority Problems	*60.92	8.01	*60.43	9.46
Social Imperturbability	53.24	9.85	54.15	10.09
Social Alienation	54.68	11.29	54.35	11.29
Self-Alienation	57.12	11.30	55.42	10.30
Persecutory Ideas	58.68	12.76	55.81	11.75
Poignancy	53.04	12.85	48.98	12.53
Naiveté	46.48	9.32	48.14	10.78
Social Alienation	57.72	11.86	51.17	12.00
Emotional Alienation	58.16	11.91	52.74	10.96
Lack of Ego Mastery-Cognitive	55.56	10.97	51.35	11.33
Lack of Ego Mastery-Conative	55.52	12.80	51.46	10.88
Lack of Ego Mastery-Defective Inhibition	51.32	12.40	48.84	11.62
Bizarre Sensory Experiences	54.44	10.77	51.61	12.81
Amorality	54.92	10.83	52.37	10.66
Psychomotor Acceleration	47.04	10.26	46.10	9.68
Imperturbability	57.32	10.09	56.24	9.71
Ego Inflation	52.64	9.35	49.76	9.98
Shyness/Self-Consciousness	49.60	7.92	45.81	9.75
Social Avoidance	50.52	8.53	51.86	10.00
Alienation-Self and Others	52.52	9.39	49.76	10.59

*denotes moderate elevation

Table 4.9

*Mean Base Rate of Deprived and Non-Deprived MMPI-A Content and Supplementary Scales
and Standard Deviations*

Content/Supplementary Scales	Deprived Cases		Non-Deprived Cases	
	Mean	SD	Mean	SD
Anxiety	53.40	13.10	51.20	12.00
Obsessiveness	50.90	11.09	48.82	10.40
Depression	56.08	11.66	52.11	11.15
Health Concerns	57.28	10.27	53.12	11.84
Alienation	54.72	12.84	49.70	10.76
Bizarre Mentation	53.00	11.07	51.89	13.33
Anger	51.80	13.19	47.99	11.31
Cynicism	53.52	11.08	51.34	11.26
Conduct Problems	54.92	13.14	50.26	11.40
Low Self-Esteem	53.20	10.63	50.53	11.84
Low Aspirations	52.64	11.27	50.23	10.97
Social Discomfort	49.88	7.61	49.51	9.68
Family Problems	59.56	14.00	50.92	11.49
School Problems	56.72	12.25	55.31	12.61
Negative Treatment Indicators	53.44	13.12	49.81	12.53
MacAndrew Alcoholism	*60.56	9.63	59.97	11.04
Alcohol/Drug Prob Acknowledgement	54.20	10.88	51.79	10.68
Alcohol/Drug Problem Proneness	55.44	11.70	54.47	11.18
Immaturity	56.08	11.32	51.27	11.64
Welsh's Anxiety	51.60	11.18	48.25	10.68
Welsh's Repression	52.96	8.33	52.69	10.37

*denotes moderate elevation



Figure 4d. MMPI-A basic scales by juvenile type.

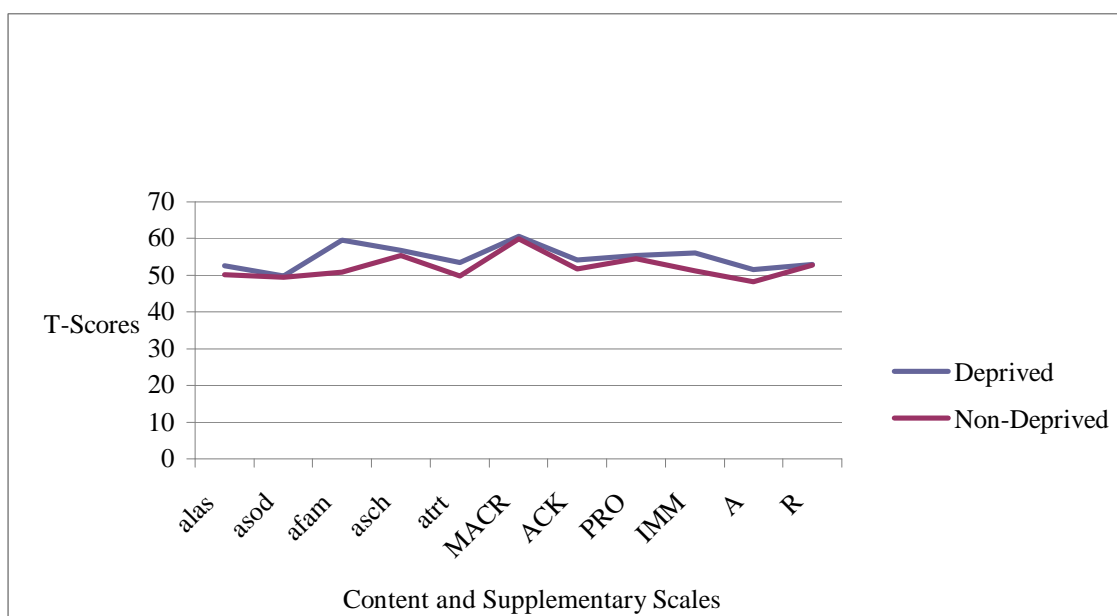
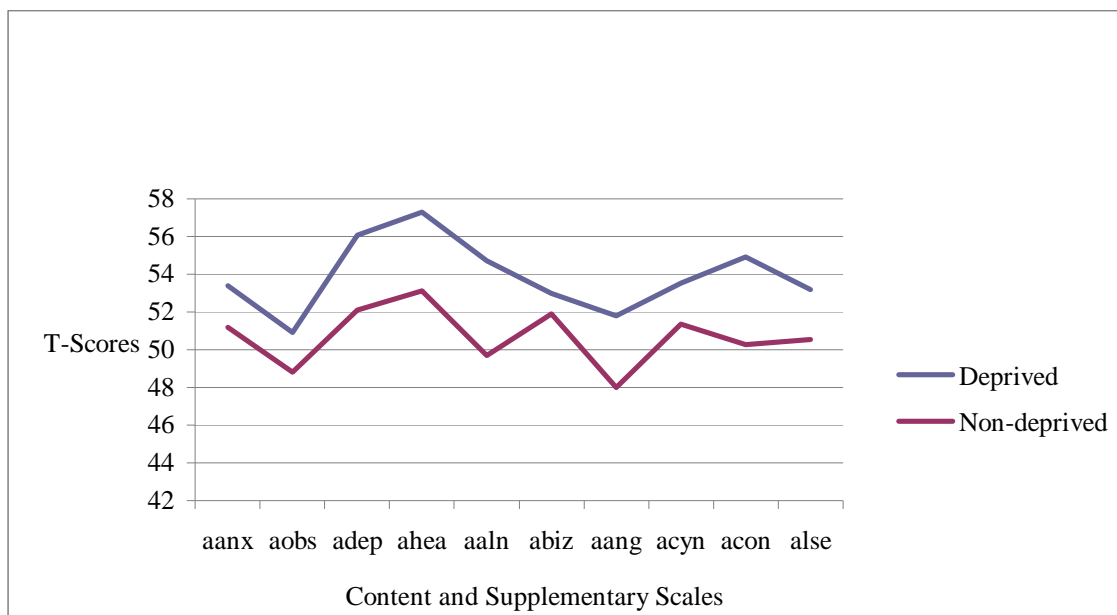


Figure 4e. MMPI-A content and supplementary scales by juvenile type.

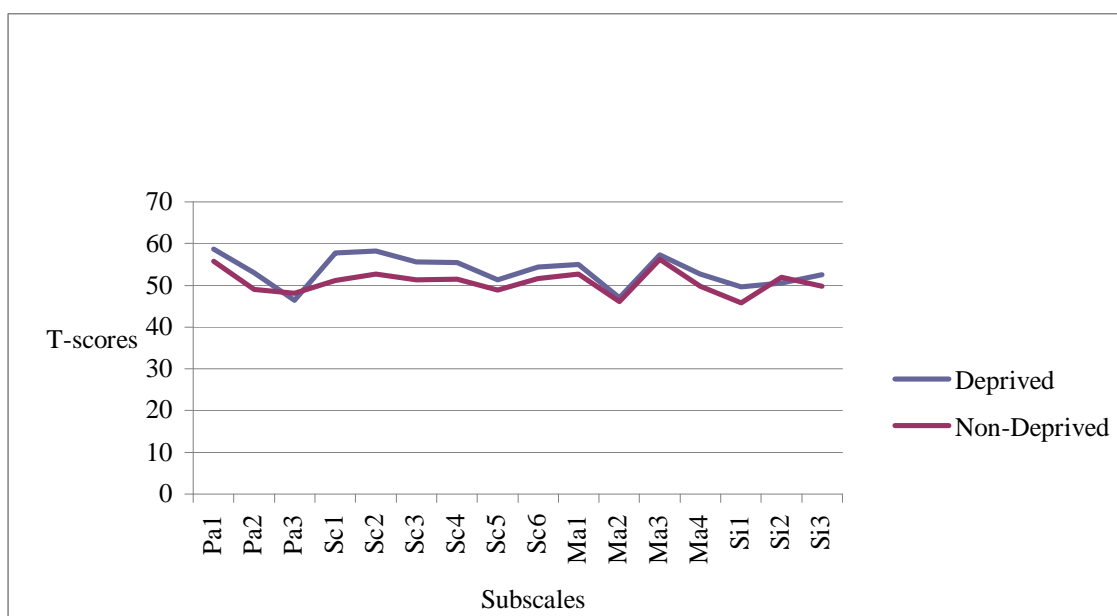
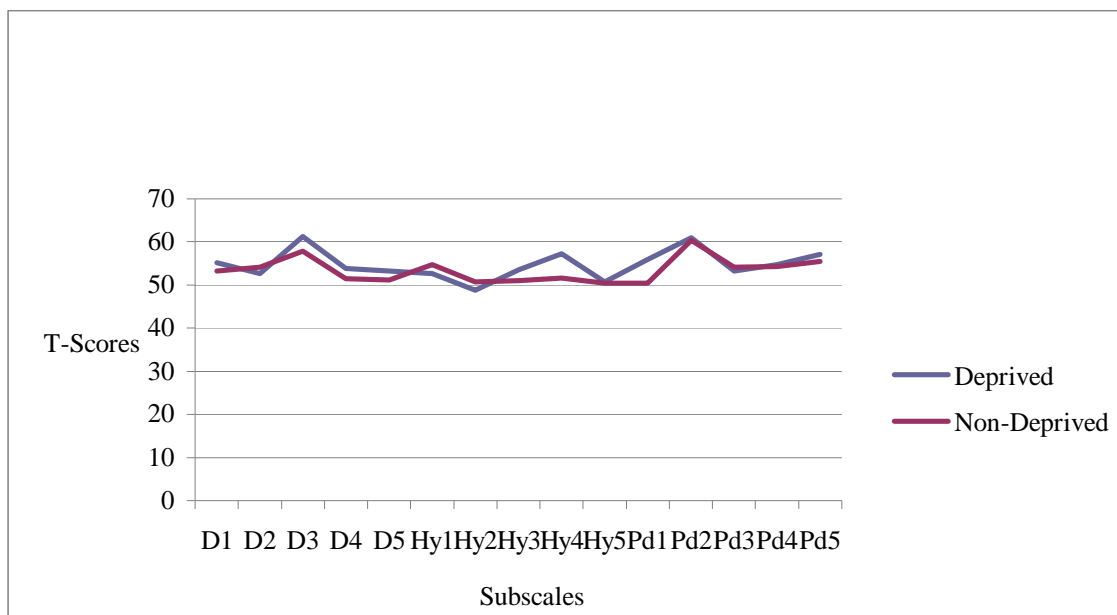


Figure 4f. MMPI-A Harris-Lingoes and Si subscales by juvenile type.

CHAPTER 5

DISCUSSION

Statement of the Problem

According to the U.S. Department of Health and Human Services, in 2007 close to 3.2 million referrals of child abuse and neglect were reported. These referrals involved an estimated 5.8 million youth and in over 25% of cases that warranted an investigation the claim of neglect and or abuse was supported (U.S. Department of Health and Human Services, 2007). The relationship between child maltreatment and juvenile offending has been well documented (Widom, Schuck, & Raskin White, 2006). Childhood victimization is indicated as a risk factor of offending behavior yet little research explores the nuances of the relationship between deprived and non-deprived juvenile offenders.

In order to reduce the rate of juvenile delinquency in the United States, more precise knowledge on the characteristics, experiences, and environment of current juvenile offenders is necessary. The current literature is comprised of general typologies of offenders; however, when considering the levels of influence or various circumstances and environments youth interact with, it is unproductive to assign these typologies to all youth offenders without statistical validation. To progress the science of juvenile offenders, researchers must begin to investigate the subsets within the juvenile offending population. While research indicates that deprived children or child victims of abuse and neglect are at a higher risk for delinquency, limited research is available on the personality traits of this population. Lack of knowledge on the characteristics of such a vulnerable subset of youth offenders leads to misdiagnosis, ineffective rehabilitation efforts and missed opportunities at prevention.

Specific assessment of juvenile offenders with intensive focus on deprived juvenile offenders provides succinct information that improves the justice system's ability to prevent, process and rehabilitate juvenile offenders with a history of abuse and neglect. This study provides useful information on classification of juvenile offenders as well as personality differences between deprived and non-deprived juvenile offenders.

Statement of the Procedures

Data collection was gathered as protocol for the Juvenile Counseling and Assessment Program (JCAP). The administration of the MMPI-A was in conjunction with a larger psychological assessment required by juvenile justice in an effort to facilitate the disposition of identified offenders. The complete psychological assessment included measures of cognitive functioning and behavioral inventories. The MMPI-A was administered to 331 juvenile offenders, 287 profiles were deemed complete and appropriate for inclusion in the current study. Following the administration of assessment tools, the Juvenile Tracking System, a state government protected, online database was accessed to obtain data regarding offense histories, including charges of deprivation.

MMPI-A results on the 287 cases were analyzed using Ward's Method Cluster Analysis. This analysis was utilized to identify personality clusters within the juvenile offending population in an effort to test hypothesis 1. A one way ANOVA followed to determine if any significant between group differences were present when comparing deprived and non-deprived juvenile offenders.

Conclusions

After completion of the analysis, both hypotheses were rejected. Three distinct personality clusters were identified, and while there were no significant clusters based on

deprivation, the ANOVA identified several significant differences between deprived and non-deprived juvenile offenders. Comprehensive review of the three clusters provides clarity on the general typologies of juvenile offenders represented in the sample population. The clusters identified are: The Normative/Oppositional Cluster, the Normative/Defended Cluster and the Withdrawn/Detached Cluster.

The Normative/Oppositional Cluster reported no clinical elevations on any of the basic scales. When interpreting the T-scores of this cluster it is important to note that within normal limits profiles are frequent occurrences. Juvenile offenders within this cluster are best described as somewhat rebellious, aggressive and immature. The Normative/Oppositional Cluster reported moderate elevations on the MACR supplementary scale. Careful review of this cluster suggests a juvenile offender that experiences difficulty with rules, standards and authority. Those within this cluster are likely to be impulsive committing typical delinquent acts with little forethought and are more inclined to use or abuse alcohol and other drugs.

While juvenile offenders within the Normative/Oppositional cluster have a tendency to engage in delinquent acts, these offenders often experience guilt and resentment. There is indication that these offenders are likely to suffer from lower self-confidence and use aggressiveness and substance use to mask the insecurities, sadness and anxiety they typically experience.

Cluster two, the Normative/Defended cluster is comprised of 136 cases with 9 identified as deprived juvenile offenders. Just as in cluster 1, the Normative/Defended cluster reported no elevations on the ten basic scales. Distinct to this cluster are the moderate elevations on the L and K scales. The participants that fall in this category are best described as well-defended and considerably self-conscious. With elevations on the lie scale and the defensiveness scale, the

Normative/Defended juvenile offender can be expected to present themselves in a positive light when challenged by authority figures. It is likely that juvenile offenders within the Normative/Defended cluster are prone to externalizing behaviors with a strong tendency to believe their behaviors is both virtuous and ethical in spite of any legal challenges. This behavior is an attempt to preserve and protect their fragile self-image.

When assessing the remaining variables of the MMPI-A in relation to the Normative/Defended cluster, moderate elevations are indicated on three subscales; Hy1; denial of social anxiety, Pd2; Authority Problems and Pd3; Social Imperturbability. Also, a low score on Welsh's Anxiety scale was revealed. These moderate elevations suggest that juvenile offenders within the classification are typically extroverted and comfortable around people yet they often resent rules, order or standards and are often vocal and opinionated about this assertion. As would be expected, the resentment of rules and the frank, outspoken tendency of this cluster, lead these offenders to consistent trouble with authorities, whether at home, in school or with the justice system. Globally, the Normative/Defended cluster can be identified as defensive with little to no insight into their motivations. They can be seen as manipulative and impulsive with little awareness of consequences.

Cluster three or the Withdrawn/Detached cluster represents 34 cases with 4 identified as deprived juvenile offenders. This cluster reported marked elevation on six of the ten basic scales with over 30 subscales, content and supplementary scales scored with marked elevation as well. After review of cluster three's Validity Scales, L and K specifically, the researcher determined the primary objective of this cluster was to express a need for help. Lower L and K scores with a slightly elevated F indicate that respondents in the Withdrawn/Detached cluster are experiencing significant mental health concerns but are unaware of appropriate ways for seeking help. Careful

analysis of the Withdrawn/Detached cluster indicates that juvenile offenders in this cluster experience significant psychological distress which manifests depression and paranoia in a variety of forms including but not limited to subjective depression, brooding, physical complaints, mental dullness. The Withdrawn/Detached Juvenile Offender reported significant experiences of alienation. These offenders reported loneliness, general dissatisfaction, unhappiness, anxiety, apathy and hopelessness. It is possible that juvenile offenders assigned to the Withdrawn/Detached cluster worry about their mental stability and often feel vulnerable to others and also misunderstood. This cluster also indicated an experience of hostile environments, specifically family discord, and a general distrust of authority.

Through this study, statistically significant differences were revealed between deprived and non-deprived juvenile offenders in various psychological constructs as measured by the MMPI-A. These differences provide insight into the individual pathology that deprived juvenile offenders experience which can direct targeted interventions with the deprived adolescent. Differences become evident immediately as deprived juvenile offenders response consistency scales reflect significant difference. Deprived juvenile offenders elevated VRIN T-score indicates inconsistency in reporting which can be linked to poor attention and carelessness which is supported by the elevation in F2 scale.

Significant differences are also evident in the basic clinical scales, Harris-Lingoes subscales, content and supplementary scales. Here a picture of the specific differences becomes apparent. Juvenile offenders that have experienced maltreatment to the extent that child protective services and the legal system have become involved report a detached, pessimistic presentation that leads to distrust of authority figures, increased risky behavior, conduct problems and a lack of psychological maturation.

Significant differences on the basic scales psychopathic deviate and social introversion support the link between child maltreatment and juvenile offending. Scale 1; Hypochondriasis measures physical complaints and illness, perceived or real and elevated scores suggest internalizing problems including fear and withdrawal. Elevated scores on scale 4 (psychopathic deviate) predict higher levels of delinquency as well as externalizing and aggressive behaviors. Paired with differences on the social introversion scale which indicates that deprived juvenile offenders experience less self-esteem than their non-deprived counterparts, deprived adolescents are at a greater risk to engage in a cycle of offending behavior. Considering the tendency towards delinquency, generalized fears and a propensity to withdraw, externalizing and aggressive behaviors and lower self-esteem, the deprived juvenile offender may assert that the only way to take care of basic needs is to exert aggression regardless of the outcome. With diminished self-esteem, the deprived juvenile offender cannot conceive of utilizing pro-social constructs to meet basic needs.

Further exploration of the Harris Lingoes subscales provide a clearer understanding of the deprived juvenile offenders specific internal mechanisms within the personality that support delinquency and a general maladaptive presentation toward life. Differences were found on four subscales, somatic complaints (hy4), familial discord (pd1), social alienation (sc1) and emotional alienation (sc2). Deprived juvenile offenders experience a greater level of detachment from experiences than non-deprived offenders. This tendency to detach or repress, identify emotions through somatic complaints. The elevations on both familial discord and social alienation assert the negative impact of maltreatment on adolescents. The deprived juvenile offender experiences greater levels of distress in the home. Heightened feelings of being misunderstood, excessively

and wrongfully punished along with feeling less attached and supported by family members increases the deprived juvenile offenders experience of loneliness and emptiness.

When reviewing the content and supplementary scales, it is apparent that the deprived juvenile offenders externalizing personality traits support the significant impact of environment on personality development. Significant differences were reported on alienation, anger, conduct problems, family problems and immaturity. Within an environment of familial discord and conflict, adolescents are more likely to develop pessimistic attitudes and an inability to resolve conflict effectively. Without an appropriate model of conflict resolution, adolescents do not have the parameters of effective communication, negotiation and acceptable compromise. Hence the adolescents are left with maladaptive behaviors such as acting out, lying, stealing, and violence to manage conflict. The lack of stability in the home, poor attachment to caregivers, and a general tendency towards carelessness and impulsivity lead deprived adolescents to the gateway of offending.

Limitations of the Study

The essential focus of the study is to determine personality clusters of juvenile offenders and to identify if there are significant differences in personality traits of deprived and non-deprived juvenile offenders. The research has been limited due to the lack of information gathered on the original deprived charge. The data used for this study was archival, thereby limiting the researcher's access to participants to acquire additional information. No information was provided on the extent and severity of the maltreatment. The data collection did not identify the age of the participant at the time of the deprived charge. The age of the participant at the time of the maltreatment is critical to its impact on the adolescents' development.

Another limitation of the current study is the possibility of unreported cases of neglect and abuse among participants in the non-deprived category. When considering risk and protective factors of juvenile offending, the possibility of dysfunctional family structures, which leads to maltreatment that does not reach the level of legal intervention, is probable. Without an effective measure to ensure that participants who have not received a deprived charge are actually living in a home or community free of neglect and abuse, the results of this study could be skewed.

The use of archival data limited the collection of pertinent information directly related to deprivation and maltreatment. The deprivation data was retrieved from official court records via an online database. Electronic retrieval of this information restricts the determination of other critical information related to deprivation such as age of child at the original deprivation charge, relevant deprivation information (e.g., form, duration, extent and severity of deprivation) and the acquisition of valuable qualitative data such as self-reports of neglect and abuse that have not been investigated by Child Protective Services. The possibility of unreported cases of deprivation is a critical limitation of the study.

Other factors that limit this study encompass the use of a lengthy personality assessment, the MMPI-A and a minimum number of deprived cases identified within the larger sample. Examining personality clusters of deprived and non-deprived juvenile offenders requires a large dataset with an extensive amount of quantitative data. The MMPI-A was selected as the preferred instrument to assess the personality traits of the juvenile offenders within this study; however the length of the instrument presents challenges. Other limitations of the MMPI-A are: the required reading level for effective administration, the outdated language used throughout the

assessment and the potential under sensitivity to identifying psychopathology (Archer & Krishnamurthy, 2002).

A concluding limitation to the current study is the small number of deprived cases included within the dataset. Of 287 cases, 25 were determined to be deprived. The limited number of deprived cases ruled out the concept of performing a cluster analysis on deprived cases, exclusively. A larger sample of deprived juvenile offenders would have allowed the researcher to devise clusters based on deprivation and analyze those clusters for between group differences.

Implications

For decades, researchers have explored the child maltreatment-juvenile offending relationship seeking to understand causality in order to develop preventative and rehabilitative measures to decrease the offending behavior in youth. Well established theories have been developed to aid in research inquiries. Theories of offending include social learning, social control, and general strain. Considering the variety of offending theories the majority of studies have been atheoretical (Rayment, 2005). Research studies, regardless of theory, support a correlation between child maltreatment and juvenile offending however the causality remains a mystery.

These findings support the well accepted assertion that child maltreatment and juvenile offending are linked. And although the connection between child maltreatment and delinquency is well accepted, few programs have been implemented to address the relationship. According to a 2002 survey of juvenile justice departments, less than 10% of states have established programming that focuses on juvenile offenders with deprivation history (JJPPA Factbook, 2008). In an era where empirical validity leads the way in developing programming and

receiving monetary support for that programming, we return to the need to affirm causality between child maltreatment and juvenile offending. But perhaps researchers are too limited in the search for causality.

Much of the research in this area uses court documented reports of maltreatment. Maltreatment and deprivation are defined by the system; constructs established by either child protective services or juvenile justice systems. These operational definitions provide consistency for research and serve as a guideline for legal proceedings, but do these definitions address an individual's perspective of one's own experience? In 1997, Weatherburn and Lind asserted that several studies include findings of the child maltreatment and offending behavior without the reliance on official documents. When researchers rely on court records for subjective experiences, the findings are inevitably skewed. Research agrees that individual pathology drives the relationship between child maltreatment and juvenile offending, but researchers have yet to determine how children and adolescents define maltreatment. Researchers seeking to expand the literature in this field would benefit from a qualitative approach to defining child maltreatment from the offender's perspective.

Focus groups with juvenile offenders which allow adolescents to make clear distinctions between neglect, abandonment, emotional, physical and sexual abuse will allow researchers greater insight into the relationship between maltreatment and offending behavior. A broader, more comprehensive conceptualization of maltreatment will yield more precise findings from quantitative research endeavors. As a researcher and mental health professional, the absence of unique clusters leaves me doubting our system's identification procedures of child neglect and abuse. It begs the question, can delinquency truly be exclusive of maltreatment or are the definitions of maltreatment too restricting?

Other constructs that must be addressed in the search for causality between child-maltreatment and juvenile offending would be resilience and individual difference in response to varying degrees of neglect and abuse. While research supports a connection between child maltreatment and juvenile offending, research also proves that the majority of youth that experience maltreatment do not offend (Stewart, Dennison & Waterson, 2002). While protective factors may explain this phenomenon, more research on the internal processing of maltreatment from juvenile offenders will lead to greater insight on the maltreatment/offending relationship.

The results of this study provide key typologies for professionals involved in the processing, treatment, and care of both deprived and non-deprived juvenile offenders. As a foundation for more intensive research on the impact of deprivation on juvenile offenders, it will be helpful for this study to be replicated with a larger population. The use of assessment tools that measure maltreatment would strengthen the conclusion that family discord is a significant contributor to juvenile delinquency.

A mixed method approach to studying the relationship between deprivation and juvenile offending will provide rich data. The inclusion of an interview process with the juvenile offender focusing on exploration of lessons learned from experiences of maltreatment would provide great insight on the adolescent minds' psychological links of maltreatment/deprivation and offending behavior. Individual interviews of small focus groups would allow the researcher to determine if severity and duration of maltreatment influence the adolescent's decision to participate in delinquent behavior.

Juvenile offending is a significant problem in the United States. The more research conducted on juvenile offenders the greater the possibility of reducing recidivism and preventing new cases of delinquency. By enhancing the knowledge of personality characteristics of juvenile

offenders and the impact of hostile environments on the development of those personality characteristics, researchers will equip professionals with the information necessary to improve the quality of life of adolescents in general and juvenile offenders specifically.

REFERENCES

- Agnew, R., Brezina, T., Wright, J. P., & Cullen, F. T. (2002). Strain, personality traits, and delinquency: Extending general strain theory. *Criminology*, 40(1), 43-71.
- Aldenderfer, M. S., & Blashfield, R. K. (1984). *Cluster analysis series: Quantitative applications in the social sciences*. Newbury Park, CA: Sage Publications.
- Archer, R. P. (2002). *Essentials of MMPI-A Assessment*. New York: John Wiley & Sons, Inc.
- Archer, R. P. (2005). *MMPI-A: Assessing adolescent psychopathology*. New Jersey: LEA Press.
- Archer, R. P., & Krishnamurthy, R. (2002). *Essentials of MMPI-A assessment*. New York: John Wiley & Sons.
- Archer, R. P., Bolinsky, K., Morton, T. L., & Farris, K. L. (2002). A factor structure for the MMPI-A: Replication with male delinquents. *Assessment*, 9(4), 319-326.
- Archer, R. P., Maruish, M., Imbof, E. A., & Piotrowski, C. (1991). Psychological test usage with adolescent clients: 1990 survey findings. *Professional Psychology: Research & Practice*, 22, 247-252.
- Arthur, R. (2007). *Family life and youth offending: Home is where the hurt is*. New York, NY: Routledge.
- Bandura, A. (1977). *Social learning theory*. New York: General Learning Press.
- Bangard, V. L. (1997). Childhood maltreatment and the mental health of low income women. *American Journal of Orthopsychiatry*, 69, 161-191.
- Barry, M. (2006). *Youth offending in transition*. New York, NY: Routledge.

- Bensley, L. S., Van Eewyk, J., & Simmons, K. W. (2000). Self-reported childhood sexual and physical abuse and adult HIV-risk behaviors and heavy drinking. *American Journal of Preventive Medicine*, 18, 151-158.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.
- Butcher, J. N., Williams, C. L., Graham, J. R., Archer, R., Tellegen, A., BenPorath, Y. S., & Kaemmer, B. (1992). *MMPI-A manual for administration, scoring, and interpretation*. Minneapolis, MN: University of Minnesota Press.
- Capwell, D. (1945). Personality patterns of adolescent girls II: Delinquents and non delinquents, *Journal of Applied Psychology*, 29, 289-297.
- Child Welfare League of America. (2008). JJDPA addresses the child welfare-juvenile justice connection fact sheet. Retrieved May 15, 2009, from http://www.act4jj.org/media/factsheets/factsheet_23.pdf
- Cox, S. M., Allen, J. M., Hansen, R. P., & Conrad, J. J. (2008). *Juvenile justice: A guide to theory, policy & practice* (6th ed.). Thousand Oaks, CA: Sage Publications.
- Curtis, S. (1990). *Children who break from the law, or everybody does it*. Winchester: Waterside Press.
- Espelage, D. L., Cauffman, E., Broidy, L., Piquero, A. R., Mazerolle, P., & Steiner, H. (2003). A cluster-analytic investigation of MMPI profiles of serious male and female juvenile offenders. *Journal of American Academy of Child Adolescent Psychiatry*, 42(7), 770-777.
- Farrington, D. P. (2004). Criminological psychology in the twenty-first century. *Criminal Behaviour and Mental Health*, 14, 152-166.

- Fleckenstein, L. (2006). *Typology of adolescents involved in the juvenile justice system: A cluster analysis of the Minnesota Multiphasic Personality Inventory*. Unpublished doctoral dissertation, The University of Georgia, Athens, GA.
- Georgia Department of Juvenile Justice. (2008). *Juvenile justice terms/definitions of terms used in the Department of Juvenile Justice*. Retrieved March 29, 2008, from <http://www.djj.state.ga.us/ReferenceLibrary/refglossary.html>
- Glaser, B. A., Calhoun, G. B., & Petrocelli, J. V. (2002). Personality characteristics of male juvenile offenders by adjudicated offenses as indicated by the MMPI-A. *Criminal Justice and Behavior*, 29(2), 183-201.
- Gottfredson M. R., & Hirschi, T. (1990). *A general theory of crime*. Stanford, CA: Stanford University Press.
- Graham, J.R. (1990). *MMPI-2: Assessing Personality and Psychopathology*. New York: Oxford University Press.
- Greene, R. L. (2000). *The MMPI-2: An interpretive manual* (2nd ed.). Boston: Allyn & Bacon.
- Hair, J. F., Jr., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis* (6th ed.). Upper Saddle River, NJ: Pearson Education, Inc.
- Hall, G. C. N., Bansal, A., & Lopez, L. R. (1999). Ethnicity and Psychopathology: A meta-analytic review of 31 years of comparative MMPI/MMPI-2 research. *Psychological Assessment*, 11(2), 186-197.
- Ireland, T., Smith, C. A., & Thornberry, T. P. (2002). Developmental issues in the impact of child maltreatment on later delinquency and drug use. *Criminology*, 40(2), 359-399.
- Juby, H., & Farrington, D. P. (20010). Disentangling the link between disrupted families and delinquency. *The British Journal of Criminology*, 41, 22-40.

- Kamphaus, R. W., DiStefano, C. A., & Lease, A. M. (2003). A self-report typology of behavioral adjustment for young children. *Psychological Assessment, 15*(1), 17-28.
- Kelley, B. T., Thornberry, T. P., & Smith, C. A. (1997). *In the wake of childhood maltreatment*. Washington, DC: National Institute of Justice. Retrieved April 27, 2006, from <http://www.ncjrs.gov/pdffiles1/165257.pdf>
- Lees-Haley, P. R. (1992). Efficacy of the MMPI-2 validity scales for detecting spurious PTSD claims: F, F-K, fake bad scale, ego strength, subtle-obvious subscales, DIS and DEB. *Journal of Clinical Psychology, 48*(5), 681-689.
- Loeber, R., & Farrington, D. P. (Eds.). (2001). *Child delinquents: Development, intervention, and service needs*. Thousand Oaks, CA: Sage Publications.
- Moffitt, T. E. (1993). Adolescent-limited and life-course-persistent antisocial behavior: A developmental taxonomy. *Psychological Review, 100*(4), 674-701.
- Morton, T. L., & Farris, K.,L. (2002). MMPI-A structural summary characteristics of male juvenile delinquents. *Assessment, 9*(4), 327-333.
- Morton, T. L., Farris, K. L., & Brenowitz, L. H. (2002). MMPI-A Scores and high points of male juvenile delinquents: Scales 4, 5, and 6 as markers of juvenile delinquency. *Psychological Assessment, 14*(3), 311-319.
- Parker, J. S., Morton, T. L., Lingefelt, M. E., & Johnson, K. S. (2005). Predictors of serious and violent offending by adjudicated male adolescents. *North American Journal of Psychology, 7*(3), 407-718.
- Pope, K. S., & Butcher, J. N. (2006). The MMPI-A in forensic assessment. In S. N. Sparta & G. P. Koocher (Eds.), *Forensic mental health assessment of children and adolescents* (pp. 401-411). New York, NY: Oxford University Press.

- Quinsey, V. L., Skilling, T. A., Lalumiere, M. L., & Craig, W. M. (2004). *Juvenile delinquency: Understanding the origins of individual difference*. Washington, DC: American Psychological Association.
- Rayment, C. (2005). *Dominant theories of the relationship between child maltreatment and juvenile offending: A critique*. Retrieved May 5, 2009, from [http://www.tasa.org.au/conferencepapers05/papers%20\(pdf\)/deviance_rayment.pdf](http://www.tasa.org.au/conferencepapers05/papers%20(pdf)/deviance_rayment.pdf)
- Rencher, A. C. (2002). *Methods of multivariate analysis* (2nd ed.). Danvers, MA: John Wiley & Sons, Inc.
- Ryan, J. P., Herz, D., Hernandez, P. M., & Marshall, J. M., (2007). Maltreatment and delinquency: Investigating child welfare bias in juvenile justice processing. *Children & Young Services Review*, 29, 1035-1050.
- Sampson, R. J., & Laub, J. H. (2005). A life course view of the development of crime. *ANNALS, AAPSS*, 602, 12-45.
- Sampson, R. J., & Laub, J. H. (1993). *Crime in the making: Pathways and turning points through life*. Cambridge, MA: Harvard University Press.
- Shader, M. (2001). *Risk factors for delinquency: An overview*. Washington, DC: U.S. Department of Justice, Office of Justice Programs and Office of Juvenile Justice and Delinquency Prevention.
- Smith, C., & Thornberry, T. P. (1995) The relationship between childhood maltreatment & adolescent involvement in delinquency. *Criminology*, 33, 451-481.
- Snyder, H. N., & Sickmund, M. (2006). Juvenile offenders and victims 2006 national report. Washington, DC: U.S. Department of Justice, Office of Justice Programs and Office of Juvenile Justice and Delinquency Prevention.

- Stefurak, T., Calhoun, G. B., & Glaser, B. A. (2004). Personality typologies of male juvenile offenders using a cluster analysis of the millon adolescent clinical inventory introduction. *International Journal of Offender Therapy and Comparative Criminology*, 48(1), 96-110.
- Stewart, A., Dennison, S., & Waterson, E. (2002) *Pathways from child maltreatment to juvenile offending*. Brisbane: Griffith University.
- Thompson, K. M., Wonderlich, S. A., Crosby, R. D., Ammerman, F. F., Mitchell, J. E., & Brownfield, D. (2001). An assessment of the recidivism rates of substantiated and unsubstantiated maltreatment cases. *Child Abuse & Neglect*, 25, 1207-1218.
- Thornberry, T. P., Lizotte, A. J., Krohn, M. D., Smith, C. A., & Porter, P. K (2003). Causes and consequences of delinquency: Findings from the Rochester Youth Development Study. In T. P. Thornberry & M. D. Krohn (Eds.), *Taking stock of delinquency: An overview of findings from contemporary longitudinal studies* (pp. 11-42). New York: Kluwer/Plenum.
- Toyer, E. A., & Weed, N. C. (1998). Concurrent validity of the MMPI-A in a counseling program for juvenile offenders. *Journal of Clinical Psychology*, 54(4), 395-399.
- U.S. Department of Health and Human Services, Administration on Children, Youth, and Families. (2007). *Child maltreatment 2007*. Washington, DC: U.S Government Printing Office.
- U.S. Department of Justice: Office of Juvenile Justice and Delinquency Prevention. (1996). *Glossary of terms*. Retrieved May 20, 2008, from <http://www.ojjdp.ncjs.org/pubs/jcs96/glos.html>
- Ward, J. H. (1963). Hierarchical grouping to optimize an objective function. *Journal of The American Statistical Association*, 58, 236-244.

- Weatherburn, D., & Lind, B. (1997). *Social and economic stress: Child neglect and juvenile delinquency*. Sydney: NSW Bureau of Crime Statistics and Research.
- Whatley, P. R., Allen, J., & Dana, R. H. (2003). Racial identity and the MMPI in African American male college students. *Cultural Diversity and Ethnic Minority Psychology*, 9(4), 345-353.
- Widom, C. (1994). Childhood victimization & risk for adolescent problem behavior. In M. E. Laub & R. Ketterlinus (Eds.), *Adolescent problem behaviors* (pp. 127-164). New York, NY: Lawrence Erlbaum Associates.
- Widom, C., & Maxfield, G. (1996). The cycle of violence: Revisited 6 years later. *Archives of Pediatrics & Adolescent Medicine*, 150, 390-395.
- Widom, C. S., Schuck, A. M., & Raskin White, H., (2006). An examination of pathways from childhood victimization to violence: The role of early aggression and problematic alcohol use. *Violence and Victims*, 21(6), 675-690.
- Wishart, D. (1969). An algorithm for hierarchical classifications, *Biometrics*, 25, 165-170.
- Wrobel, N. H., & Lacher, D. (1995). Regional and racial differences in adolescent self-report: A comparative study of norms and validity of homogeneous content measures. *Psychological Assessment: A Journal of Consulting and Clinical Psychology*, 7, 140-147.