# TYPOLOGY OF ADOLESCENTS INVOLVED IN THE JUVENILE JUSTICE SYSTEM: A CLUSTER ANALYSIS OF THE MINNESOTA MULTIPHASIC PERSONALITY INVENTORY

by

LAURIE FLECKENSTEIN

(Under the Direction of Georgia Calhoun, Ph.D.)

## ABSTRACT

The current study aimed to explore subgroups of adolescent juvenile offenders based on personality profiles. The Minnesota Multiphasic Personality Inventory was administered to 268 male and 45 female juvenile offenders as part of court-mandated assessment. A two-step cluster analysis involving Ward's Method hierarchical cluster analysis followed by a K-Means iterative partitioning cluster analysis was performed on the female dataset, male dataset, and the combined datasets. A three cluster solution was decided upon as optimal. The three clusters were labeled Psychopathological, Interpersonally Sensitive, and Normative. Cluster characteristics were analyzed to determine differences relating to age, ethnicity, and offense type; however, no clinically significant differences were found. Results were assessed in relation to theories of offending and comparisons were made with other studies of offenders. Implications for practice, as well as further research, were explored.

INDEX WORDS: Juvenile Offenders, Minnesota Multiphasic Personality Inventory, Cluster Analysis, Personality, Developmental Theory, Biopsychosocial Theory

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# DEDICATION

This dissertation is dedication to my family, life partner, and two dear colleagues that are now my lifelong friends. Janet and Naoko, you are both such amazing women. You both have such a wonderful way of being. You are honest and compassionate and I have learned so much from being around you. I am honored to call you my dear friends. Thank you for your realness, support, and long talks that stretched for hours.

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# CHAPTER 1

# INTRODUCTION

Labeling, diagnosing and creating typologies of individuals has historically been utilized by the field of psychology to further the psychological understanding and treatment of individuals (Espelage, Cauffman, Broidy, Piquero, Mazerolle, & Steiner, 2003; Kamphaus, Lease & DiStefano, 2003; & Worling, 2001). Without a system for understanding behavioral typologies, individuals may be inappropriately understood and inappropriately treated. For example, young offenders are in need of understanding and rehabilitation but may erroneously be punished or dismissed (Ivanoff & Hayes, 2001) by a system that does not understand them. Misguided rehabilitation efforts may only worsen the individual's psychological experience and increase rates of recidivism (Chesney-Lind, 2001). Juvenile offenders, in particular, are in need of being understood. Juvenile delinquents are recognized to be a heterogeneous group with a variety of mental health problems (Kazdin, 2000) and high rates of comorbidity (Espelage, Cauffman, Broidy, Piquero, Mazerolle, & Steiner, 2003). This study will utilize cluster analysis of personality profiles to create more homogeneous subgroups aimed at enhancing rehabilitative efforts. These subgroupings will be conducted with the aim of furthering the understanding of the mental health problems and psychological characteristics of juvenile offenders by examining offenders' psychological experience, which may enhance our awareness of how mental health problems appear and may be treated.

The high rate of mental health problems among the offender population further prove that this is an important group to study. Since personality is an important determinant of mental

health (Contrada, Leventhal, & O'Leary, 1990 as cited by Bolger & Zuckerman, 1995), accordingly it is an important area to focus in understanding offenders' mental health status. In this study, mental health problems refer to two distinguishable areas: diagnosable psychological disorders and subclinical psychological difficulties that negatively influence an individual's life experience. Mental health problems have been documented to occur at heightened rates among juvenile offenders when compared to non-offending adolescents in many studies (Beyer, 2006; Espelage, Cauffman, Broidy, Piquero, Mazerolle, & Steiner, 2003; Howard, Lennings, & Copeland, 2003; & Kazdin, 2000). For example, is estimated that only 20% of adolescents in the general population, compared to 50% of adolescents in the juvenile justice system, have mental health problems (Kazdin, 2000). Young offenders are also four times more likely to attempt suicide than same age peers (Howard, Lennings, & Copeland, 2003), 71 incarcerated juvenile offenders were assessed to be suicidal, and many of these individuals had a major affective disorder (Alessi, McManus, Brickman and Grapentine, 1984). Beyer (2006) suggests that there are positive correlations with anxiety, negative emotionality, anger, and substance abuse in relation to offending behaviors. Mania, Attention Deficit Hyperactivity Disorder (ADHD), Depressive Disorder, and Alcohol/Substance Abuse and Dependence were also found to be prevalent among adolescents detained in an urban juvenile detention center (Pliszka, Sherman, Barrow, & Irick, 2000). Internalizing problems, as well as the more predominantly recognized externalizing psychological problems exist in the offender population (Kazdin, 2000). Grief, Depressive Disorder, Anxiety Disorders, and Post Traumatic Stress Disorder were assessed to be a predominant psychological experience among juvenile offenders (Beyer, 2006). In Beyer's assessment of 50 juvenile offenders, all but 2 delinquents experienced severe trauma, including repeated abuse or death of an important person or abandonment since early childhood. At least a

third were physically abused (34%), and 25% were sexually abused (Beyer). More than a third of the individuals in Beyer's study had experienced the death of a family member or someone close to them. There is also an indication that many juvenile offenders suffer from shy and socially withdrawn behaviors (Aselstine, Gore, & Colten, 1998). Beyer (2006) hypothesizes that the delayed development and depression associated with abuse and loss affected delinquent individuals' relationships with peers and adults, lowered their self-esteem, made some of them irritable and reactive, and contributed to substance abuse, which were factors in their offenses. In regards to externalizing disorder, the prevalence rates for conduct disorder ranged from 10% to 91%, with a majority of studies reporting rates between 50% and 90% (Rosenblatt, Rosenblatt, & Biggs, 2000). While research has studied which disorders are associated with offending behaviors, little research has focused on the holistic, complex personality profiles of juvenile offenders (Espelage, Cauffman, Broidy, Piquero, Mazerolle, & Steiner, 2003). Learning disabilities, developmental delays, and attention deficit hyperactivity disorder were also found to be prevalent in the population of juvenile offenders and were theorized to impede individuals' capacity to respond prosocially (Beyer, 2006; Hall, 2000). Consistent with the findings of delinquency studies, 42% of the youth had learning disabilities. Furthermore, Kazdin (2000) discovered that the rate of ADHD was elevated in the delinquent population. While 19-46% of delinquents had ADHD 2-10% of the general child population was reported to have ADHD. Learning disabilities and ADHD, combine in a comorbid manner with other mental health problems to illustrate the multiple layers of risk factors associated with delinquency and to highlight the importance of mental health intervention. Overall, the relationship between mental health and violence with offending indicates a need for further exploration, as the interaction of these variables is not widely understood (Farrell & Bruce, 1997). Furthermore, range of life

experiences and mental health problems highlight the overall heterogeneity of the offending population and the need for treatment to reflect this heterogeneity.

Mental health problems are a pertinent issue for study as a greater understanding of mental health would increase the efficacy of treatment and thus, benefits both the health of the individual and society. Furthermore, the incidence of untreated mental health problems is recognized to be costly in multiple ways. Not only do mental health problems cause individual suffering but lack of treatment harms society as citizens are affected by how offenders behave in their community environments and the crimes offenders commit. While the mental health of offenders is a growing concern there is a paucity of research supporting mental health efforts for this population (Cocozza & Skowyra, 2000).

Research indicates a lack of understanding juvenile offenders' experiences and suggests that lack of understanding has led to the inappropriate treatment of juvenile offenders (Chesney-Lind, 2001; Ivanoff & Hayes, 2001). In some cases, serious mental health issues including suicide and self-harm are often purposefully ignored or even punished by detention center employees who see these problems as attention-seeking behaviors (Ivanoff & Hayes, 2001). Without appropriate insight into offenders' experiences and personality formation, such behaviors are construed as manipulative. Likewise, offenders' displays of emotion are considered artificial. Revictimization may occur when mentally ill offenders enter a justice system that does not recognize their mental health problems (Chesney-Lind). When mental health problems are not understood, punishment rather than rehabilitation is often used to alter the offender's behavior. However, this is problematic as the punishment not only revictimizes the individual but also may increase mental health problems, aggression, and rates of recidivism.

The special status of juvenile offenders, as recognized by the government of the United States, highlights the opportunity for psychology to lend rehabilitative efforts. Historically, juvenile offenders were treated and understood as adults and were punished as adults were punished. However, a special legal status has been created for juvenile offenders, which emphasizes the need for treatment and rehabilitation over punishment (Ashford, Sales, & Reid, 2001). Due to this difference more energy is spent by the criminal justice system on rehabilitational justice for youth. For this reason, psychology and psychological intervention may play a more critical role in the lives of juvenile rather than adult offenders. The field of psychology needs to respond to this aspirational goal of juvenile justice being grounded in a rehabilitational effort through a continual effort aimed at expanding awareness of offenders' experiences and psychological characteristics.

lannacchione (2006) suggests that one of the most astonishing aspects of juvenile crime is how little is known about the impact of the policies and programs put in place to fight it. Furthermore, the most commonly used strategies and programs for combating juvenile delinquency problems rely on intuition and fads such as Drug Abuse Resistance Education and "Scared Straight." Without the furthering of research, fashionable treatments will be utilized in lieu of empirically grounded interventions, which make rehabilitation less likely.

Personality theory and research may be linked with the furthering of juvenile offender rehabilitation and intervention. Personality theory is grounded in research and provides a link with personality assessment, which has been utilized on an individual basis with offenders to enhance understanding of psychological presentation and symptoms. Due to the prevalent usage of objective personality assessments in the forensic setting it is increasingly necessary that research respond to practice (Rotter, Way, Steinbacher, Sawyer, & Smith, 2002) and the current

study aims to respond to this concern. Researchers need to provide more information focused on how to utilize the data gleaned in assessments in a beneficial manner that promotes increased psychological functioning (Rotter et al., 2002). By creating a typology of offenders, practitioners will be better informed about how to conceptualize the presentation of juvenile offenders and will avoid common pitfalls such as the over diagnosing of conduct disorder and under diagnosing of internalizing disorders (Cauffman & Grisso, 2005). Furthermore, this line of research may provide a foundation for further hypothesizing and researching more efficacious treatment approaches including an informed understanding of the personality and presentation of the juvenile offender. In general, this research will promote rehabilitation and limit revictimization of juvenile offenders.

The current study of personality is not only serving as a contribution to the understanding of offenders but is furthering the scientific understanding of personality as a construct. In order to understand the relevance of the current study, the status of personality research must be understood. The first documented empirical research occurred in the 1890s when it was first written about by Gordon Allport. Since the 1890s, personality has continued to be researched with increasing zeal. Multitudes of articles have been appearing in journals, with a high concentration in journals focused on psychotherapy and social psychology (Monte, 2000). The prevalence of articles reflects the high level of interest that has been maintained across time, with different theoretical orientations guiding the research depending on the psychological zeitgeist of the era. Despite high levels of research, personality assessment continues to be discussed and debated as a construct as well as an applied tool. The range of areas left to be explored in understanding personality highlight the necessity for studies such as the current one. The present study responds to Craig's (2005) suggestion that the field of psychology needs to promote a

better understanding of how to systematically conceptualize personality and enhance therapeutic endeavors, specifically relating to the offender population. Furthermore, this study aims to promote the understanding of male and female juvenile offenders, the subsets of offenders with the least amount of research supporting practice. Since 1908 when Hugo Munsterberg introduced the idea of forensic psychology, the use of personality assessment in practice has been substantial. Craig (2005) suggests that forensic psychology should not have this emphasis without a deeper understanding of personality functioning that can serve as a guide to forensic treatment and assessment.

This study offers to expand on recent research, thereby adding to the understanding of personality assessment generally and juvenile forensic psychological assessment, specifically. Salekin, Leistico, Neumann, DiCiccio, and Duros (2004) highlight the dearth of research on antisocial and offending behaviors among adolescents and children. It is noted by these authors that much of the research on offending behaviors has been limited to adult populations. Developmental differences are recognized as an important factor in personality formation and the use of adult-focused research literature with adolescents would erroneously blur this difference. Furthermore, there is some variation in the forms and assessments utilized with adults versus adolescents. These differences include different constructs, items and scales. In general, different behaviors would be highlighted among youth versus adults. All of these points combine to emphasize the need for this study to further the knowledge base for assessment with juvenile offenders, a special subgroup of adolescents.

*Purpose and Significance of Study*

The current study aims to investigate the psychological characteristics of juvenile offenders and create a typology, which may increase understanding in relation to the prevention

and treatment of delinquent behavior. This study will focus on examining clusters when all offenders are grouped together as well as when they are subdivided by gender. This will be done to further expand on the conflicting research debating whether female and male offenders have different treatment needs. The personality characteristics under study will allow for understanding of the possible different types of offenders and the manner in which gender relates to the subgrouping of offenders. It is noted that female and male offenders are not represented equally in the juvenile justice system. Males and females often commit different types of offenses, and are treated differently by the judicial system upon entry into the system. Based on these differences it is hypothesized that individuals might develop different coping styles and may have different personality profiles.

Specifically, the purpose of this study involves two components: a) to determine what clusters are present in a population of juvenile offenders utilizing the Minnesota Multiphasic Personality Inventory – Adolescent Form (MMPI-A) and b) determine if there are differences in clusters between genders. This study will also strive to clarify the presentation of the individual holistically. This study focuses holistically by using profiles in lieu of merely measuring rates of specific behavioral disorders. While it is important to understand the rates of conduct disorder, substance abuse and depression among this population there is also a need for an understanding of the psychological characteristics that may be influencing juvenile offenders' developmental track. This study aims to more closely examine the variety of characteristics influencing offenders.

*Hypotheses*

This research will be conducted with adolescents who have been referred for assessment through the Juvenile Counseling and Assessment Project (JCAP). The profile of offenders will

be researched using archival data that provides information regarding offense type. The research will identify the psychological symptoms of the offenders and will cluster them into groups for further analysis. Primarily, this research will aim to determine the psychological profile of juvenile offenders using personality profile data and arranging them into clusters.

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

*Null Hypothesis 2:* No cluster subtypes of male offenders will be found using the scores from the MMPI-A.

*Null Hypothesis 3:* There will be no significant difference between the cluster subtypes of female offenders.

*Null Hypothesis 4:* There will be no significant difference between the cluster subtypes of male offenders.

*Delimitations*

This study will examine subtypes of juvenile offenders via a cluster analysis utilizing the clinical subscales on the Minnesota Multiphasic Personality Inventory- Adolescent (MMPI-A) Form. This study is cross-sectional in design and is intended to examine the psychological experiences of adolescents in the juvenile justice system. Previous studies have examined psychological disorders in offenders but there continues to be a growing need to further this area of research and to make more explicit the ties between assessment and intervention. Furthermore, much of the research has been based on adult populations or on male juvenile populations and there continues to be a need for research that mirrors the common juvenile offender demographics. Many juvenile offenders do not have severe charges and some offenders only have status offenses. Thus, it is important to continue studying this area due to the dearth of

information that has been collected with regards to juveniles and specifically female juvenile offenders. Furthermore, the paucity of research is combining with a growing need for social service providers to meet the needs of a growing percentage of girls entering the juvenile justice system (Office Of Juvenile Justice And Delinquency Prevention, 2000). The need for further research has been highlighted and this study aims to respond by furthering awareness and thus enabling treatment to be more closely matched to the individual based on their typological grouping.

The MMPI-A was chosen for this study because it is a personality instrument with widespread use in practice and relevance to furthering the literature on personality assessment. Thus, the research findings will not be divorced from practical concerns but will aim to bridge the gap with psychological practice. Among the host of personality assessment instruments that could be used to study this population, the MMPI-2 has been noted to be a frequently used assessment (Craig, 2005). Beyond widespread usage in general, the MMPI is specifically relevant as it has historically been used with populations of offenders. This assessment has been noted to distinguish between non-offenders and offenders (Glaser, Calhoun, & Petrocelli, 2002). The MMPI-A has been useful in part due to the validity scales that have particular relevance in forensic settings. Malingering ("faking bad"), exaggerating symptoms, and underreporting ("faking better") are all detected by scales on the MMPI-A and are considered important constructs in assessing offenders. Furthermore, it has a wide range of focus including clinical, content, and supplementary scales. These scales are well validated and provide practitioners with a wide breadth of information to utilize in conceptualizing an individual's presentation.

*Definition of Terms*

Adolescent – Youth between ages 13-17 years of age

Gender - A social construction regarding culture-bound conventions, behaviors, roles and relationships as they are prescribed for men and women

Juvenile Non-Offender – An adolescent who has not been apprehended and processed through the judicial system

Juvenile Offender – An adolescent that who has been charged with an offense by the juvenile justice system

Personality– Behavioral and emotional aspects of an individual's psychological functioning that develop into patterns of perceiving, relating to, and thinking about the environment and oneself

Personality Assessment - A test that aims to describe aspects of a person's character that remain stable across many situations and distinguish one person's way of responding from another person's way or reacting.

Public Order Offense – Illegal acts for which a person, whether an adolescent or an adult, is charged. This includes such crimes as theft, battery, and sexual assault.

Race – A social construct dividing humans into subcategories often based upon visible traits, genes, or self-identification

Status Offense – Illegal acts for which adolescents, but not adults, may be judged delinquent. This includes truancy, curfew violations, running away from home, incorrigibility, unruly child offense, and possession of alcohol.

Sex – Biological classification of a person as male or female based on reproductive characteristics

Typology – A system of classifying homogeneous subgroups from a larger, heterogeneous group

# CHAPTER 2

## REVIEW OF LITERATURE

A typological clustering study of juvenile offenders is necessary and useful due to the high rate of psychopathology and the heterogeneity of offenders' psychological problems. A study of adolescent offenders found high rates of psychopathology with 61% meeting diagnostic criteria for alcohol dependence, 72% drug dependence, 71% ADHD, 22% Dysthymia, 52% Depression, and 19% Post-Traumatic Stress Disorder (Bauer & Kosson, 2000 as cited by Salekin, Leistico, Neumann, DiCiccio, & Duros, 2004). Approximately 20% of the adolescent population suffers from mental health problems, whereas over 50% of juvenile offenders exhibit some form of mental illness (Kazdin, 2000). Stewart and Trupin (2003) suggest that the majority of juvenile offenders have a comorbid substance abuse disorder. The rate of mental health problems among juveniles in the criminal justice system has been documented and suggests the need for further awareness of mental health factors in rehabilitative efforts (Poe-Yamagata & Butts, 1996). There appears to be a consistent 1-in-5 ratio of involvement in juvenile justice for adolescent recipients of mental health services (Cauffman & Grisso, 2005).

The rates of mental illness among incarcerated youth are substantially higher than the rates in the general adolescent population (Espelage, Cauffman, Broidy, Piquero, Mazerolle, & Steiner, 2003). With the exclusion of conduct disorder, nearly 60% of males and more than two thirds of females met diagnostic criteria and had diagnosis-specific impairment for one or more psychiatric disorders (Teplin, Abram, McClelland, Dulcan, Mina & Mericle, 2002). Half of males and almost half of females had a substance abuse disorder, and more than 40% of males

and females met the criteria for disruptive behavior disorders (Teplin et al., 2002). In the Teplin et al. study affective disorders were also prevalent, especially among females. In fact, more than 20% of females met criteria for a major depressive episode. Rates of many disorders were higher among females, non-Hispanic whites, and older adolescents (Teplin et al.).

Detention centers may be the first line of treatment for many juveniles. In many communities the availability of mental health services is so limited that judges may choose to sentence individuals to detention centers so that they may receive mental health services (Trupin, Stewart, Beach, & Boesky, 2002). Since mental health services may, at times, be a primary reason for sentencing it is important that the services rendered be applicable to the individual. In considering the restorative justice efforts and the needs for mental health services to meet the needs of offenders, it is important to note that treatment of female juvenile offenders has been based on male juvenile offenders. Higher standards of treatment are necessary in general, and specifically with female juvenile offenders (Shearer, 2003).

If energy and time is not spent in understanding the pathways to and correlates of offending, then society is at risk of criminalizing the mentally ill and of providing juvenile delinquents with detention centers in place of counseling centers. Researchers disagree on the link between mental health and violence; however, there is agreement on the link between higher rates of mental health problems and adjudication in the juvenile justice system (Kazdin, 2000; Monahan, 1992). Arguing that violence is linked with mental health problems, Monahan (1992) suggests that psychology's denial that mental disorder and violence may be in any way associated has been disingenuous and ultimately counterproductive. It may be suggested that deemphasizing violence associated with mental health has created a bifurcated view. Individuals may erroneously be classified as having psychological problems or as being malicious. A

complex view involving the combined states of aggressiveness and mental illness may be obscured or ignored. If this is not challenged, it is less likely that offenders will be considered for mental health treatments and more likely that punishing consequences will be dealt out to the offenders. Evidence now indicates that mental disorder may be a consistent, albeit modest, risk factor for the occurrence of violence and other offending behaviors (Monahan, 1992). During the periods of childhood and adolescence, many mental health problems are more likely to be presented differently than they would be in adults and disorders such as depression are often associated with irritable or angry behavior (Mash & Barkley, 1996). It is likely that with further study we may understand the specific psychological symptoms that juvenile offenders experience. Furthermore, the overlap of violence and mental health problems may be greater in adolescence. This understanding might also be linked to specific personality profiles and relationship styles.

While mental health problems have been found to be more prevalent in the delinquent population when compared with community samples, rates of severity have not been correlated with delinquency (Cauffman, Scholle, Mulvey, & Kelleher, 2005) Cauffman et al. (2005) found the intensity of mental health services was not related to juvenile justice system involvement. Thus, while offending is correlated with mental health problems it is not indicative of more severe mental health issues. Involvement in the juvenile justice system may predict the need for mental health intervention; however, it does not indicate chronicity or highly problematic symptomology.

*Pathways to Offending*

Throughout the literature exploring pathways to antisocial behavior, researchers have focused on the dichotomous role that risk and protective factors play in individuals'

development. One of the risk factors explored by Caprara, Pastorelli and Weiner (1994) suggests that there are microdeviations that influence children's pathways toward aggressive behavior. The idea is that children present with a slightly different "social grammar" or way of interpreting their social world. This different social grammar can influence how they come to view themselves, how they interact with others and ultimately how others interact with them. Caprara et al. (1994) suggest that aggressive behaviors develop via construction of social relations. Hence, it is with an emphasis toward the social foundations that we approach the study of adolescent offenders' characteristics in relating to each other. Echoing the thoughts of Caprara et al., it may be the case that juvenile offenders appear much like other "normal" individuals except that they have microdeviations involving negative peer and adult interactions that lead to a deviant career.

*Family Relationships*

Researchers have examined family relationship correlates with offending in a variety of different manners while reaching similar conclusions. Most research supports the idea that family plays an important role in socialization and a critical role in the development of antisocial behavior (Eddy & Chamberlain, 2000). Furthermore, ineffective parenting has been noted to foster problematic behavior at any early age, which is then theorized to increase as it generalizes to other environments. In this model, described by Quinsey et al. (2004a) common behaviors such as temper tantrums, when met with ineffective parenting, are thought to lead to antisocial outcomes. In an overlap with social learning theory, it is thought that inconsistent responses to negative behaviors reinforces the child to repeat the behaviors as well as to develop new, similar dysfunctional behaviors that may lead to offending behaviors in early or middle adolescence.

Patterson and Kupersmidt (1991) explore family characteristics in a taxonomic manner and combine the ideas of many earlier studies in an organized format. Patterson classifies family variables in four domains: 1) family characteristics (such as socioeconomic status); 2) parental personality characteristics; 3) parenting techniques (degree of consistency and structure in discipline tactics); and 4) quality of parent-child relationship. Patterson suggests that difficulties in these areas indicate increased potential for offending. While the presence of specific family practices may predict offending, these factors may not predict degree of violence. Family characteristics, including family management practices and childhood behavior, were compared for violent and nonviolent adolescent multiple arrestees who were matched for arrest frequency (Capaldi & Patterson, 1996). No significant difference was found in the violent and nonviolent group, which may indicate that similar factors influence both types of offending.

While mothers' lack of psychological health has been historically linked to problematic childhood behaviors, fathers' mental health problems have more recently been tied to their children's problematic development. While having a depressed mother is considered a risk factor, having a father with antisocial or substance abuse problems is also a risk factor for delinquency (Quinsey, Skilling, Lalumière, & Craig, 2004c). The breakdown of parenting practices in parental figures is thought to occur differently for men and women.

Regardless of the paths such parenting practices take, the breakdown of parenting and the decrease in general supervision serves as a positive reinforcer for problematic behaviors. Parents of offenders were found to exhibit two problematic patterns of behavior: 1) to be low in the provision of supervision and 2) to give inconsistently severe responses to problematic behaviors when they did follow through on their parenting practices (Quinsey, Skilling, Lalumière, & Craig, 2004c). Aggressive children's parents were noted to involve high levels of hostility,

scolding, nagging, and empty threats of punishment. Parents of aggressive children were also noted to be less aware of what their child was doing and to be less involved in supervision (Quinsey et al., 2004c). Individuals who were aggressive in both home and school environments had parents with poorer monitoring, poorer disciplining practices, higher marital conflict, poorer problem-solving skills, and higher parental rejection (Loeber & Dishion, 1984). Quinsey et al. also suggest that neglect was suggested to be a better predictor of violent behavior than abuse, although there is a positive relationship between the number of times an individual was abused and the number of aggressive acts recorded.

As in most areas of offender research there are buffering factors, as well as risk factors, that are to be considered when evaluating the influence of parenting. Parental positive attention, emotional investment, consistency in responding to negative and positive behaviors, and organized behavioral management systems combine in ways that forecast children's developmental trajectories (Dodge & Petit, 2003). Higher stability of caregiver intimate relationships in a prosocial manner (Dodge & Petit, 2003) is related to a more positive developmental trajectory. Instability in parental romantic relationships was associated with more aggressive behavior.

In looking at family culture characteristics, acculturation differences between adults and children has only been recently researched and was found to be a significant risk factor (Eamon & Mulder, 2005). Adolescents with a higher level of acculturation than parents had a higher rate of offending behaviors than adolescents that matched their parents on acculturation. Eamon and Mulder (2005) suggested that acculturation acts as a divisive force on parenting behaviors such as supervision and discipline as the adolescent may speak or act in a manner that is

unfamiliar to the less acculturated parents. In this way, less acculturated parents may appear much like neglectful parents from a behavioral perspective.

*Peer Relationships*

Due to their rejection by more prosocial peers, aggressive individuals are more likely to form aggressive cliques and have increased levels of aggressive behavior due to reinforcement. Quinsey et al. (2004c) suggest that differential association of aggressive children with other aggressive children occurs early in children's development and promotes social learning of violence. The proportion of peers who are aggressive has an influence over a child's growing tendency to become aggressive and to value aggression (Dodge & Petit, 2003). Those children who were rejected for at least 2 or 3 years by second grade had a 50% chance of displaying clinically significant conduct problems later in adolescence, in contrast with just a 9% chance for those children who managed to avoid early peer rejection (Dodge & Petit, 2003). In accordance with social learning theory, it is hypothesized that once children make friends with aggressive children their behavior becomes highly resistant to intervention and change. Beyond the role of developing friendships with other antisocial peers, the use of antisocial talk with these peers is seen as highly significant in the development of antisocial behavior. Antisocial talk is defined as statements refer to lying, using drugs, or hurting another person. There may be a pathway to offending that begins with a problematic home environment, involvement with peers who are behaving in an antisocial manner, discussion of antisocial acts with peers, and finally engagement in antisocial acts or offending behaviors (Shortt, Capaldi, Dishion, Bank & Owen, 2003). Furthermore, Short et al. (2003) found that the relative rate at which deviant peers reinforced each other (through positive affective responses) for talk about deviant topics (e.g., talk about stealing, lying, taking drugs) was related to the frequency and duration of these

deviant talk bouts. Thus, not only does having deviant peers appear to be associated with offending behavior but the amount of time an individual spends socializing with deviant peers is related to the likelihood that the individual will commit an offense. Based on this finding, individuals that decrease the number of deviant peers or the number of deviant interactions may be less likely to follow a trajectory that leads to offending.

*Socioeconomic Status*

While social interactions are important, economic status might also influence offending. Researchers are divided on how much importance economic status has on offending; however, recent research indicates that economic status may be as important as peers. Poor housing and poor parental job record increases juveniles risk for antisocial behavior (Quinsey et. al., 2004a). Neighborhood structural disadvantage is related to youths' perceptions of social disorganization in the community. Specifically, concentrated poverty is associated with more neighborhood disorder (Chung & Steinberg, 2006). In a study of Latino youths, it was found that the longer the length of time the individuals had lived in poverty, the more likely they were to exhibit higher levels of antisocial behavior (Eamon & Mulder, 2005). Furthermore, youths attending better quality schools exhibited lower levels of antisocial behavior. (Eamon & Mulder).

Twin studies further enhance our understanding of the large role that socioeconomic status may play in the development of offending and aggressive behavior. In a sample of 1,081 pairs of monozygotic twins and 1,061 pairs of same-sex dizygotic twins, the role of environmental factors influencing behavioral problems was tested (Caspi, Taylor, Moffitt, & Plomin, 2000). Furthermore, the research aimed to discern the extent to which low socioeconomic status had an environmentally mediated effect on children's behavior problems that is separate from any genetic effects. Results indicate that children in deprived neighborhoods were at increased risk

for emotional and behavioral problems that went beyond any genetic liability. Environmental factors shared by members of a family accounted for 20% of the population variation in children's behavior problems. The results suggest that the link between poor neighborhoods and children's mental health may be a true environmental effect and can be used to identify modifiable risk factors for promoting mental health (Caspi et al., 2000).

*Racial and Cultural Components*

The pathways to the juvenile justice system vary by race and culture. Offending begins earlier for non-White, mentally ill youth (Cauffman, Schoelle, Mulvey, and Kelleher, 2005). In Cauffmanet al. (2005) study it was found that there was an influence of race– ethnicity on the developmental timing for both initial and subsequent risk for involvement in the juvenile justice system. This could be due to systematic bias against minority youth by the correctional and mental health systems or there may be a real difference in behavior between different racial groups that relates to socialization factors.

Besides the increased risk associated with minority status, participation in the "culture of honor" has been tied to consistently higher rates of violence and incarceration in the American South and West (Dodge & Petit, 2003). Defending one's honor, and self-respect, but lack of respect for others is part of this cultural view. These "cultures of honor" are recognizable by their higher percentages of poverty, ethnic homogeneity, and high residential mobility (Dodge & Petit, 2003). Traditional social theorizing holds that strong and cohesive family, community, and religious institutions decrease violence. However, in "cultures of honor," where certain types of violence are condoned, this is not true. Specifically, in the U.S. South and West, where culture-of-honor traditions persist, cohesion is associated with more violence. This pattern was confirmed in examinations of higher levels of argument-related homicide rates and greater mass

consumption patterns for violence in entertainment, recreation, and vocational pursuits in "cultures of honor" (Cohen, 2001). Thus, living in environments that have a culture of honor increases the likelihood that one sees violence as a viable option of getting one's needs met. Hence, offending behavior may be higher in these cultures that support aggressive tactics to attain goals and devalue empathic perspective taking that may limit goal attainment methods.

*Violence*

Violence is a problem for individuals, subcultures, and the nation at large. Violence in the United States has reached such great proportions that it constitutes a health problem (Willis & Silovsky, 1998) and the experience of violence has been linked to the perpetuation of violence. Advocates and scholars from the Treatment Advocacy Center (TAG) and the Health Policies section of the American Enterprise Institute (AEI) have cited evidence that suggests an overlap between mental health problems and violent behavior (as cited by Corrigan & Watson, 2005).

Violence impacts larger groups in the context of its self-perpetuating nature. Pace (2000) found that direct as well as indirect victims of crime were more likely to use drugs and violence. Drug use alone is noted in the offending literature to be troubling as it promotes an environment for violent, uninhibited behavior. Furthermore, adolescents who experienced aggression indirectly have a tendency to develop violent behavioral styles (Miller & Wasserman, 1999; Farrell & Bruce, 1997). This suggests that exposure to violence creates violent behavior and thus one violent event is costly in the manner that it can exponentially increase violence in communities.

The recent decrease in overall juvenile offending is important to note, as is the increase in the percentage of females offending (Acoca, 1999; Federal Bureau of Investigation, 1998, 1993,

1983; Poe-Yamagata & Butts, 1996; Snyder, 2002). During the 1990s, Poe-Yamagataet al. found that the rate of juvenile offending by females increased four times faster than that of males. Chesney-Lind (2001) cites that one out of every four arrests of young people in the United States involves a female. Furthermore, female violent offending has increased 129% between the years of 1981 and 1995 (Poe-Yamagata & Butts, 1996).

The increase in juvenile offending among females occurred even as the crime rate decreased from 1995 to 2002 (Office of Juvenile Justice and Delinquency Prevention, 2002; Office of Juvenile Justice and Delinquency Prevention, 2004). Despite the decrease in crime, the number of arrests and offenses is still problematic as an estimated 2,261,000 arrests of juveniles took place in 2002, including 92,160 for Violent Crimes (Office of Juvenile Justice and Delinquency Prevention, 2004). Between 1981 and 1995 it was found that both person offense cases and property offense cases increased more for females than males between 1986 and 1995. Person offense cases were up 146% for females compared to 87% for males. Similarly, property offenses were up 50% for females and 17% for males (Sickmund, 1997). Between 1980 and 2002, the increase in the female juvenile arrest rate grew more with the percentage of aggravated assault (99% vs. 14%), simple assault (258% vs. 99%), and weapons law violations increasing for females (125% vs. 7%). In 2000, 28% of juvenile arrests involved females and girls were involved in one-third of all arrests of youth ages 13 to 15 (Snyder, 2002). The arrests made for female juvenile offenders varied by type of offense. The type of Violent Crime offense committed by females has varied greatly: 2% for forcible entry, 6% for murder, 9% for robbery, and 18% for aggravated assault (Sickmund, 2003).

Besides a gender difference, there is a notable difference between the offense rate of individuals who are part of the majority culture and individuals who have minority status.

Disproportionate involvement of minorities in juvenile arrests persisted; however, the black-to-white disparity in violent crime arrest rates declined substantially between 1980 and 2002.

## *Theories of Offending*

### *Strain Theory*

Strain theory is unique and distinct from other theories of offending in that it suggests personality and behavioral choices are framed within the stress created by a larger system. This theory suggests that delinquency results from the discrepancy between an acceptance of the goals of a materialistic society and an inability to achieve these goals through legitimate means (Quinsey, Skilling, Lalumière, & Craig, 2004b). Strain theory suggests that the onset of offending may begin with individuals developing high aspirations relating to social power or economic success. When goals are high and resources are low a strain is created. This strain is hypothesized to promote sadness, frustration, and finally, anger. The individual then seeks to eliminate discomforting feelings through a range of behaviors. The selection of behaviors is based on the choices the individual perceives to be viable. Individuals who are experiencing strain may find prosocial choices that are viable. However, if prosocial choices are met with resistance or failure the individual is left with a discomforting strain, which may lead the individual to employ antisocial methods. These methods may directly or indirectly lead to a host of antisocial behaviors. Although antisocial acts may lead to negative outcomes such as incarceration, these acts serve to preserve hope for aspirational achievements and thus may be attempted with high rates of frequency. A culture that encourages the Puritanical work ethic and suggests that anyone that tries hard enough will succeed, despite low resources, may increase strain and thus increase violence.

*Social learning theory and Schema theory*

Differences in individuals' behaviors and personality formation have been conceptualized historically in psychology using social learning theory and schema theory. These theories present distinct yet overlapping lenses for organizing our understanding of how individuals arrive at certain behaviors such as offending. Both theories suggest that one's internal representation of their social world dictates the availability or limitation of certain behavioral choices. Mischel (1966), a social learning theorist, suggests that children imitate models. Social learning depicts the child as a somewhat passive recipient of culturally transmitted information. Mischel would suggest that children who see adult figures, family members or peers engaging in antisocial behaviors would be more likely to demonstrate the same behaviors themselves, even if they did not consciously go through a choice making process regarding behaviors.

Schema theory as developed by Bem (1981, 1983, 1985) suggests that the individual is utilizing schemas or grouping of ideas used to organize information. Schemas are hypothesized to exist in an ever-evolving manner and are shaped by social experiences and specific attributions. Bem suggests that emotions and behaviors are dictated by the individual's reliance upon her or his schemas, thus Bem's theory may be utilized to go beyond explaining specific behaviors to explaining personality. Bem suggests individuals carry an elaborate script that helps them decide on how to interact with people and how to respond in different situations. While the individual actively constructs schemas, she or he may not be aware of the employment of such schemas, as they become a ubiquitous component of daily life. Thus, an offender is hypothesized to have past experiences and made attributions that promoted an internalized script prescribing the employment of offending behaviors to meet one's goals.

These learning theories may be applied to understanding individual difference as well as between group differences as we explore male and female offenders, personality differences by gender, and hypothesize about different pathways to offending based on gender. Chodorow's (1974) seminal writings suggest that because early social experiences differ for male and female children they conceptualize themselves differently. In applying Chodorow's work to research on female and male juvenile delinquents, one would suppose their pathways and rehabilitation might appear differently for males and females. Timmons-Mitchell, Brown, Schulz, Webster, Underwood, and Semple (1997) studied the variation between males and females on the Millon Adolescent Clinical Inventory (MACI). Their research resonates with theories like that of Chodorow as differences were found on subscales measuring relational functioning. Females were found to have heightened scores in the following scales: family discord, oppositional, social insensitivity, submissive, suicidal tendency, and unruly. The relational nature of girls' development and their developmental difficulties can be tied to relational components.

Chodorow (1974) and Gilligan (1982) theorize that girls are taught to develop different boundaries and different levels of empathy in interacting, which may then be tied to a more relational identity formation. Due to this difference in early development, it is thought that girls will experience relationships and dependency to differing degrees than boys. Furthermore, it is thought that unsupportive and damaging relationships may have a more profoundly negative impact on female identity development and personality formation. Thus, problematic familial and peer relationships are more important in the pathway to offending for females, in comparison to males. It is suggested that, due to differences in social messages from interactions with caregivers and peers, girls and boys arrive at adolescence with different messages about how to establish their identity as well as how to define their values and direct their actions.

Due to differences in socialization, the constellation of personality characteristics of female offenders may differ greatly from male offenders. Furthermore, their experience of relational conflict may differ. Girls with dysfunctional behavior patterns may have developed problematic behavior in connection with their relationship to others. Harway and Liss (1999) suggest that the overlap between being a victim and being an offender is greater for females. This relational dynamic of victimization is important in conceptualizing the relational dynamics influencing female offenders' personality formation.

*Theories of Gender and Offending*

*Gender Similarity Hypothesis*

While the majority of articles and theories suggest that gender is an important contributing factor understanding developmental trajectories relating to offending, there are theories that defy that notion. In contrast to research suggesting gender difference, research conducted by Quinsey, Skilling, Lalumière, & Craig (2004) suggests that there is more similarity rather than difference between the two genders. Furthermore, Hyde (2005) has written the gender similarity hypothesis. This hypothesis suggests that gender differences have been exaggerated and that gender differences are greater between individuals within the same gender than between groups. This hypothesis stands in contrast to the difference model, which holds that men and women, and boys and girls, are vastly different psychologically and that gender is a pivotal factor in psychological development.

There are a few areas that the difference theorists and the gender similarity hypothesis have in common. Strikingly, Hyde (2005) suggests through meta-analysis that the gender difference in physical aggression is particularly reliable and is larger than the gender difference in verbal aggression. Thus, even in the gender similarities hypothesis there is support to suggest

that male and female offenders may differ in their behavior, specifically their aggressiveness. While there are contradictory theories there is an agreement that aggression differs by gender.

*Gender Difference Hypothesis*

One of the most well documented individual differences in the study of antisocial behavior is that men are more physically aggressive than women. This finding occurs across cultures and holds true whether sex differences are measured categorically or on a continuum (Moffitt, Caspi, Rutter, & Silva, 2001). Historically, women have been considered to be different from men in the domain of aggressiveness. The stereotype of women as nurturing overlaps with the stereotype that any women with aggressive behavior are fundamentally degenerate. Lombroso and Ferrero (1895) published *The Female Offender*. This work set the tone of conceptualizing offending females as being inherently biologically inferior as "born criminals." In comparison to men, it was more strongly believed that offending women were innately worse. While it was acceptable for men to exhibit anger through aggression, this was not acceptable for women. This was coupled with the idea that women were usually nurturing caretakers of children so, when women behaved aggressively it was seen as inherently more deviant as it more strongly struck against societal norms. When women deviate from the positive stereotype of a caregiver they were seen as more problematic than their male counterparts. Similarly, consider the diagnosis of conduct disorder, the second most common psychiatric diagnosis among girls (Zoccolillo, 1993). In the same way that girls are diagnosed more frequently with a psychological problem relating to aggression, they may be treated more harshly at a societal level for aggression. The differential diagnosis of girls with conduct disorder and the view that girls who are aggressive are more deviant illustrate the social viewpoint that aggression or defiance in girls is more pathological than when it occurs in boys.

Recent studies indicate that girls are just as likely as boys to engage in verbal aggression and are more likely than boys to engage in indirect aggression (Quinsey, Skilling, Lalumière, & Craig, 2004). This research suggests that females and males may not differ in quantity of aggression but rather in the type or display of aggression. Sex differences in aggressive displays lead us to expect sex differences in juvenile delinquency (Quinsey et al., 2004b). Data indicates that, while boys commit more violent crime than girls overall, the proportion of girls charged with violent crimes is increasing faster than that of boys over the last four years (Quinsey et al., 2004b). Running away, skipping school, exhibiting incorrigibility, and so on account for one third of all official female delinquency, compared to one fifth for boys. Girls are also 170% more likely than boys to be referred to juvenile court for status offenses (Quinsey et al., 2004b).

*Gender Differences in Psychological Experience of Offenders*

The gender difference hypothesis suggests that using the same treatment for male and female offenders is unwarranted, misguided and possibly iatrogenic. Despite the increase in female juvenile offenders, the juvenile delinquent is still treated as a male by the general public, detention center staff, mental health practitioners, and policymakers Chesney-Lind, 2001). Female offenders are not well understood and the specific challenges faced by female offenders have been ignored by the juvenile justice field (Calhoun, 2001). The rehabilitation of offenders has been based upon a knowledge base of studies conducted with adolescent male offenders (Calhoun, 2001; Miller, Trapani, Fejes-Mendoza, Eggleston, & Dwiggins, 1995).

By understanding the psychological and personality characteristics of offenders to a greater degree, psychologists would be better able to conceptualize the female offender, as well as the male offender, and thus be better able to make a treatment plan that meets the individual's needs. As noted by Stewart and Trupin (2003), a large number of adjudicated adolescents have

gender-specific emotional experiences. Miller, Trapani, Fejes-Mendoza, Eggleston, and Dwiggins (1995) suggest that due to the specific increase in female offenders, more research and treatment options are needed for the population of female offenders. Obeidallah and Earls (1999) indicate that depressive symptomology may be especially important in understanding female adolescents' pathways to a criminal career. While depressive symptoms may be influence males, research has not borne that out in the same way it has for females. Depressive feelings in general are thought to increase antisocial acts by feeding feelings of indifference, leading to withdrawal from activities of prosocial peers, and weakening attachments to prosocial institutions. Furthermore, Trupin et al. (2002) point to the need for treatment to take into account gender differences when treating offenders. In order to meet the goal of rehabilitation more research must be done to make links between specific characteristics and psychological experiences of individuals (Morton, Farris, & Brenowitz, 2002). Loeber and Stoutham-Loeber (1998) suggest that clinicians need to understand the presence of risk and protective factors that apply to certain individuals but not to others and makes a link between this understanding and appropriate intervention. Furthermore, Loeber suggests that antisocial outcomes can best be understood when factors such as gender socialization and developmental issues are considered. While much of the research to date has focused on male offenders, Loeber suggests that the developmental changes influencing antisocial behavior can be different for women than men.

Not only is the psychological experience of female offenders unique but the severity of the symptoms may also be greater and require more intense therapy. Timmons-Mitchell, Brown, Schulz, Webster, Underwood and Semple (1997) suggest that female adolescent delinquents experience higher rates of mental health problems than their male counterparts. It is estimated by Timmons-Mitchell et al. that the prevalence of mental disorders for adolescent male offenders

was 27% and 84% for female adolescent offenders. Although conduct disorders appear to be the most prevalent diagnosis across juvenile offenders, the prevalence of affective disorders appears to be more substantial in the female offender population and may be seen as a precursor to a delinquent trajectory (Obeidallah and Earls, 1999). Rutter (1986) found that females experience more episodes of depression throughout adolescence. Rosenthal (1981) discovered that female adolescents attempt suicide more often than males and emphasized the need for assessment and services to assess this problematic difference. Wierson, Forehand, & Frame (1992) note that the rate of affective disorders in the inmate population needs to be tied to assessment and treatment modalities. McManus, Brickman, and Alessi (1984) report a rate of substance abuse or dependence to be approximately 70% in their juvenile sample. The increasing use of substances may be tied to the experience of affective disorders, as individuals may be self-medicating with substances in order to self-regulate their mood or psychological state. Acoca and Dedel (1998) carried out 200 interviews with girls in juvenile halls. Ninety-two percent of the girls in this interview study reported sexual, physical, and/or emotional abuse. Twenty-five percent reported being stabbed or shot (Acoca & Dedel, 1998). Acoca (1999) suggests that early victimization is much more common among female juvenile delinquents. Furthermore, Acoca suggests that early abuse is a primary factor and the first step along females' pathways into the justice system. Abuse is thought to be more pervasive among females in the juvenile justice system and is noted to both precede incarceration and continue through females' experiences in the justice system. This continued revictimization occurs in the form of demeaning language, inappropriate touching, pushing and hitting, isolation, deprivation of clean clothing, and strip searches conducted in the presence of male officers (Acoca, 1999).

Not only are the psychological experiences reported by female adolescent offenders different from males, but also their pathway to offending is distinct. Batchelor and Burman (2004) suggest that girls who offend often have experiences of physical, sexual, and emotional victimization, which may influence psychological functioning and incarceration. In some cases, the functional choice to leave an abusive home leads to incarceration and thus the pathway to offending is set in motion with mental health problems.

Due to the differing experiences of female juvenile offenders, it is hypothesized that female offenders are more at risk than male offenders for serious drug abuse, suicide, and self-harming behaviors (Batchelor and Burman, 2004). Obeidallah and Earls (1999) suggest that the higher rate of depression amongst the general population of females is a salient factor predisposing females toward delinquency. The research carried out by Obeidallah and Earl documents the link between depression, emotional dysregulation, and adolescent criminal behavior. Researchers compared the levels of depression among female offenders and found that depression was reported among many female offenders. Controlling for socioeconomic status, mildly to moderately depressed girls were more likely to commit property crimes and crimes against other people than their nondepressed counterparts. The research pointing to the link between female offenders and depression highlights a point of differences in mental health problems between female and male adolescents (Obeidallah & Earl, 1999). Not only is it important to study the mental health problems experienced by females who have offended, but it is also important to attain a greater understanding of the constellation of problems and experiences of all adolescents in the juvenile justice system.

There is a strong need for exploration into the characteristics that set male and female offenders apart as research has suggested differences but not clarified these distinctions. While

there is some indication that antisocial behavior may be predicted based on mental health presentation of males, there is less of a direct linkage with female adolescents (Brody et al., 2003). In their study exploring links between various factors in predicting nonviolent and violent criminal pathways, Brody et al. (2003) found that conduct disorder but not hyperactivity or oppositional behavior was predictive of violent pathways for male offenders. However, there were no clear linkages between these factors or any other factors that might predict aggression in females.

*Theories of Personality Formation*

In assessing the state of personality theory and research, one finds that the very construct of personality is disagreed upon and thus the formation of personality is also highly debated. Some theorists suggest that personality is the component parts of a person that are not dictated by the environment and thus, are stable across different environments. For instance, Asendorpf (2000) suggests that personality refers to the characteristic tendencies of an individual to behave, think, and feel in certain ways that are not shared by all members of the culture. In contrast, other theorists suggest that personality cannot be split from one's culture and subculture as the construct of personality is determined by culture and fluctuates as one moves to a different culture. Murphy (as cited by Hall & Lindzey, 1957) proposes that personality is the synthesis of the organism, the environment, and the social milieu.

Just as there is little agreement on the general construct of personality, there is no agreement on one theory that accounts for all personality development. Psychodynamic theorists emphasized the role of early experiences, Behaviorists emphasized the role of feedback in regards to behavior, and Cognitive therapists have focused on the role of one's attributional style. No matter which theoretical camp one refers to there is no comprehensive theory and thus no

comprehensive understanding of personality formation and change. As this is an area of uncertainty it is also an area for further exploration and understanding. While there are a plethora of theories, this study will focus on using Biopsychosocial Theory to conceptualize personality formation.

*Biopsychosocial Theory*

Gardner Murphy's biosocial theory of personality development and change is considered an influential and eclectic theory and was chosen as a focus in this study due to these characteristics. Along with its eclectic integration of various schools of thought, some have postulated Murphy's theory to be as comprehensive as Freud's theory of personality while also being broader (Hall & Lindzey, 1957). Hall and Lindzey suggest that Murphy's conception of personality development is based on equal emphasis on the individual as an organism and the individual as a component of her social environment. The biopsychosocial theory involves three primary stages of development.

First, the individual is recognized by Murphy to be one primarily driven by biological needs as the infant reacts to her needs to survive (Hall & Lindzey, 1957). The next stage involves more social input and leads to differentiation among behaviors, which may not seem unified at the earlier stage. The last stage involves unification of these differentiated behaviors into a whole. Murphy highlights the difference of personality development among individuals, suggesting that some individuals may never reach the final integrated stage and may appear to behave in a manner that is not unified.

The nature versus nurture debate is widely spoken of in the context of current psychological study and has historically been a point of debate. While many theorists saw the two forces to be competing and opposing, Murphy suggested the two forces are not opposing but

overlapping and inextricably tied together (Hall & Lindzey, 1957). In this way, the individual's biological self is thought to influence the creation of his environmental choices and possibly, to some extent, his experiences which, in turn, influence his biological self.

Murphy suggests that individuals reach the final stage of personality integration through behavioral and cognitive conditioning, which is thought to bring individuals to develop a wide breadth of behaviors and emotional responses (Hall & Lindzey, 1957). In this way, Murphy's theory can be seen as eclectic in pulling on behavioral theory as he suggests that one's habits of perception or attributions are created through conditioning (Hall & Lindzey). Conditioning framed within the confines of each culture and subculture (Hall & Lindzey, 1957). Murphy suggests that society frames individuals' behavioral choices and their personality formation. He suggests that personality cannot be separated from society, conditioning, or biology.

*Personality Assessment and Forensic Practice*

Personality assessment can be linked with a broad range of psychotherapeutic treatment goals and may be utilized to help understand the individual's response to the environment. The Minnesota Multiphasic Personality Inventory-Adolescent (MMPI-A) (Butcher, Williams, Graham, Archer, R., Tellegen, Ben-Porath, & Kaemmer, 1992) has been utilized to study characteristics of adolescents' experiences that relate to treatment. Archer (1997) indicates that the MMPI-A can be a guide to clinical work with adolescents because it involves assessment of psychopathology of particular relevance to adolescents by including scales that measure conduct disorder, school problems, depression, anxiety, and immaturity. The development of conduct disordered behavior, which is associated with delinquency, has been evaluated from the perspective of personality development. It is suggested that personality dimensions may be used to tailor specific treatments (Center and Kemp, 2003).

A greater understanding of personality characteristics is needed to guide treatment options for female juvenile offenders (Calhoun, 2001). Goldstein, Prescott, and Kendler (2001) indicate that abuse, substance use, difficulty in school, and gang-related activities may be more predominant risk factors for girls. Furthermore, these factors may influence personality development differentially thereby making treatment different and, perhaps, more complex. While males' self-concept and self-esteem increase in adolescence, young women's self-esteem decreases making females more vulnerable to episodes of depression throughout adolescence (Rutter, 1986; Sugar, 1993; Johnson, Roberts, & Worrell 1999). Furthermore, adolescent females have been shown to create their identity and values through interconnectedness versus individuation (Gilligan, 1982). Gender differences have also been noted in how adolescents conceptualize morality (Gilligan, 1982) and thus may direct personality development and behavior differently. Early research by McCreary (1976) explored both trait and type differences between male and female offenders and this line of research is still being investigated. More recently, Espelage et al. (2003) found different personality clusters for male and female offenders, which indicates different pathways in treatment and rehabilitation by gender as well as by personality characteristics.

*Cluster Analysis*

Cluster analysis is a classification technique for forming homogeneous groups within a large, heterogeneous data set. There are a multitude of recognized ways to apply clustering methodology and the field of numerical taxonomy or cluster analysis is mushrooming especially in the field of psychology (Borgen & Barnett, 1987). Ward's (1963) method searches the proximity matrix and groups the two persons with the smallest distance value with the aim being

to minimize within group variance. Ward's method provides an index of within-group error. This index can be plotted to aid in selection of the best grouping level.

Cluster analysis requires considerable judgment on the part of the researcher, because the final product is dependent on how the analysis is done, which methodology is implemented, and which computer program is utilized in data analysis (Borgen & Barnett). There is controversy about the most effective way to perform cluster analysis and different researchers have different approaches. In this study, we do not know a priori which subgroups will be found and thus the clustering is conducted in an exploratory fashion.

The research area of juvenile offender's personality subtypes is relatively new and clustering serves as a productive step in understanding personality. Clustering is used by researchers to explore a data set to produce a summary of its structure. Since there is no one generally accepted statistical test for seeking organization in cluster analysis, it is up to the researcher to make that decision with the aim being to find some structure. This research sets the frame for further research to confirm, test and validate the subgroups.

Cluster analysis focusing on behavioral factors and personality factors is in its infancy but is an area for extensive growth (Borgen & Barnett, 1987). The study of multiple variables rather than the one-dimensional view of diagnostic categories has lent a new lens for viewing behavior and provided a new paradigm for assessing individuals. Recently, researchers in this area have focused on utilizing personality typologies to assist in organizing the understanding and treatment planning of psychological problems (Kamphaus, Lease & DiStefano, 2003), MCMI clusters among female offenders (Stefurak, 2004), and MMPI clusters with a wide age range of severe offenders (Espelage, Cauffman, Broidy, Piquero, Mazerolle, & Steiner, 2003). Kamphaus et al. (2003) suggest that typologies offer a more accurate description of behavior

than do univariate diagnostic categories. Kamphaus suggests that it is more effective and beneficial to describe an individual in a multivariate way, which can only be done through cluster analysis and not through univariate assessment, which is aimed at defining an individual based on a singular diagnostic category. By this it is meant that, referring to an individual as anxious is not as helpful as utilizing multiple variables in an assessment. In this way, Kamphaus suggests that a multivariate description, such as noting that the adolescent is anxious and depressed, is more helpful as it gives a more complex, distinctive and discriminate picture of the individual's psychological characteristics. Furthermore, this distinctive view is particularly helpful I organizing and shaping distinctive treatments.

*Minnesota Multiphasic Personality Inventory*

The choice to use the MMPI in this study is based on the applicability of this measure in forensic psychological practice. The MMPI has highly regarded for use with offenders for many reasons. It provides the practitioner with a wide array of behavioral and symptomatic hypotheses due to the many scales and subscales. It also allows for evaluation of the individual's credibility, which can be an important question in cases involving litigation. (Pope, Butcher, & Seelen, 2000). MMPI instruments have become the most widely used instruments in the objective assessment of personality in forensic evaluations (Lees-Haley, 1992 as cited by Pope et al., 2000). Unlike other projective measures of personality, the MMPI instruments are considered empirically validated and are more objective sources for personality assessment. A recent test-retest study of 1,050 "normal" men who were administered the MMPI-2 on two occasions 5 years apart revealed that the clinical scale was fairly stable with stability coefficients ranging from .56 to .86, with a median stability index of .68 (Spiro, Butcher, Levenson, Aldwin,

& Bosse, in press as cited by Pope et al., 2000). Overall, the MMPI instruments are frequently used due to their usability and reliability.

A great deal of research has been carried out regarding adult offenders' personality scores on the MMPI whereas relatively little research has been conducted with juvenile offenders using the MMPI-A. Hathaway & Monachesi's (1963) study evaluated codetypes and indicated that offenders tended to have a code type of 4-9 or 4-9-8. It is important to note some researchers have suggested that this finding has not been widely supported and may actually be a misrepresentation of offenders (William & Butcher, 1989). William and Butcher conducted a study of 844 adolescents and discovered that male and female offenders did both have elevations on scales 4, 8, and 9. They also noted that males had heightened scores on scale 6, the Paranoia scale, while females did not have this heightened score. Boone and Greene (1991) also researched the profiles of male and female adolescent delinquents and discovered that there was a great deal of fluctuation among the different genders although both exhibited heightened scores on scale scores 4, 8, and 9.

There is some support for a codetype involving scales 4,8, and 9 but there seems to be a discrepancy between male and female codetypes on the MMPI, which highlights the need for further research. Psychological functioning has been associated with gender socialization and it might be the case that codetypes are also impacted by gender socialization. Acting without awareness of gender socialization and gender difference hinders the capacity for psychologists to help individuals who might be on a pathway towards delinquency.

Espelage, Cauffman, Boidy, Piquero, Merolle & Steiner (2003) utilized cluster analysis of the MMPI to analyze psychological profiles and found distinctly different clusters based on gender. Four distinct profiles were suggested to exist among juvenile offenders. Among males,

one Normative cluster with no clinically elevated scores was found as well as a Disorganized cluster. The Disorganized cluster exhibited clinical elevations on scales 8 (Schizophrenia), 6 (Paranoia), 4 (Psychopathic Deviate), and 7 (Psychasthenia). Among females two clinically elevated profiles emerged: the Impulsive-Antisocial cluster and the Irritable-Isolated cluster. The Impulsive-Antisocial cluster consisted of clinical elevations on scale 4 (Psychopathic Deviate). In contrast, the Irritable-Isolated cluster produced elevations on 4 (Psychopathic Deviate), 8 (Schizophrenia), 6 (Paranoia), and 7 (Psychasthenia). Espelage et al. (2003) suggest that males and female offenders exhibit distinctly different psychological profiles. Espelage et al. suggests that all of the female offenders in the sample exhibit some type of mental health symptoms whereas 56% of the male offenders fell into the cluster with no clinical elevations.

Despite the initial differences noted between gender rates of mental health symptoms, Espelage et al. (2003) notes that each gender grouping has one cluster with more severe pathology. The Disorganized Cluster among males and the Irritable-Isolated cluster among females are both associated with more mental health difficulties. Espelage notes that there is a high rate of internalizing problems related to alienation and paranoia among both males and females in the more psychopathological clusters. This is striking as it is at odds with the institutionalized view that externalizing symptoms are predominant. Furthermore, focusing narrowly on externalizing problems may leave internalizing problems undetected and untreated. It is important to determine whether the disparity in symptoms presented by males and females will be replicated in the current study, which utilizes younger and less violent juvenile offenders.

In a similar vein to research on the MMPI, there has been some cluster analysis of the Millon Adolescent Clinical Inventory (MACI). Stefurak (2004) conducted a cluster analysis of MACI data involving 87 female juvenile offenders. Stefurak found three clusters in his study:

the externalizing problems cluster, depressed/personally ambivalent cluster, and anxious prosocial cluster. The largest cluster, making up 39% of the total sample, was the anxious prosocial cluster and was characterized by a tendency to be rule-bound and dependent upon others. The other two clusters were composed of about the same number of participants. The externalizing problems cluster consisted of individuals that had high scores on scales measuring unruliness and tendencies to "act out" or behave aggressively in interpersonal relationships. Finally, Stefurak (2004) found the depressed/interpersonally ambivalent cluster had high scores on introversion and inhibition while also exhibiting higher scores on the Borderline Propensities scale. A major conclusion of Stefurak (2004) was that the clusters of female offenders' personality styles appear differently than do male personality clusters. Furthermore, the heterogeneity of female offenders' personalities is highlighted as Stefurak notes the different personality types.

*Conclusion*

The research preceding this study speaks to the correlates of offending, pathways to offending, personality characteristics of offenders, theories of personality development and the preeminence of MMPI instruments for use in personality assessment. Based on this review of the literature there is a need for further exploration to refine the field's understanding of male and female juvenile offenders' personality profiles. In particular, there is a need for exploration of less violent offenders in personality formation and presentation. While the field of study juvenile offending is broad it lacks depth of understanding and often overlooks the complex qualities of the individual as studies often focus on one or two primary behavioral domains. Instead of narrowly focusing on one or two factors, this study aims to develop a more complex understanding of offenders' personality types by taking a multifactorial view of personal

characteristics. This study aims to fill that void by increasing the psychological understanding of the juvenile offender's experiences by highlighting profiles that might be predominant among offenders.

# CHAPTER 3

# METHOD

The research question of the present study seeks to ascertain whether subtypes exist within a sample of juvenile offenders, and whether there are significantly different subtypes by gender. This study will apply cluster analysis to the MMPI-A clinical scales (Hathaway & McKinley, 1943). The sample involves male and female juvenile offenders being served by the Juvenile Counseling and Assessment Program. The design of the analysis used in this study is based upon recommendations from scholars specializing in cluster analysis and typologies (Borgen & Barnett, 1987). This study will involve Ward's Hierarchical Cluster Analysis followed by an iterative cluster partitioning via K-means cluster analysis.

## *Participants*

The data used in the study was gathered as part of the assessment procedures for the Juvenile Counseling and Assessment Program. The adolescents participating in this study were either on probation or in a detention center in a southeastern county in the United States. Since only males were being referred for assessment at the outset of this project, the number of males compared to females is highly skewed. There were 46 females and 283 males participating as a result of referrals from probation officers or judges. The female offenders ranged in age from 13 to 18, with a mean age of 15 (SD= 1.09) while the boys ranged in age from 13 to 19 with a mean age of 15 (SD= .91). Fifty-seven percent of the offenders were African American, 37% were White, 4 percent were Hispanic and 2 percent did not identify with one of the above racial groups. Charges ranged from status offenses (e.g., truancy, unruliness, etc.) to crimes against

property and/or persons (e.g. assault, burglary). Twenty-eight percent of the participants committed crimes against persons, 27% committed crimes against property, 21% committed a crime involving drugs, and 24% committed a status offense.

*Procedure*

The current study's data collection was part of a larger data set gathered through the Juvenile Counseling and Assessment Program. This project was designed to deliver psychological services to individuals in the juvenile justice system. The project aimed to intervene in the lives of offenders by assessing them psychologically. During the collection of the data, every effort was made to ensure confidentiality, with only three graduate students and two faculty members having access to the database and files, which were double locked in a secure research room.

For administration, the standard booklet of the MMPI-A was given and scored according to adolescent norms. The MMPI-A Adolescent norm conversion was done with tables from the MMPI-A scoring manual (Butcher, Williams, Graham, Archer, Tellegen, Ben-Porath, & Kaemmer, 1992). The participants answered the MMPI-A in an environment that facilitated confidentiality in responding to the items. Participants who had difficulty reading either listened to a corresponding audiotape of the MMPI-A or a mental health counselor read the items to them.

*Research Instruments*

The MMPI-A was developed out of the MMPI and is a well-normed standardized questionnaire that examines a wide range of personality characteristics. Hathaway and McKinley (1943), developed the MMPI using empirical scale construction methods. The scales were constructed by contrasting the response pattern of various patient groups with those of a sample of nonpsychiatric individuals. The MMPI-A is much like the MMPI but is geared to take

into account developmental fluctuations associated with normal adolescent development. The MMPI Restandardization Committee recognized that adolescents cannot adequately be assessed by the same criteria as adults. Thus, a separate form of the MMPI was constructed for people between the ages of 14 and 18. This adolescent version (MMPI-A) differs from the adult version in many ways (Pope, Butcher, & Seelen, 2000). First, many were changed to fit with the cognitive developmental level of the adolescent. Furthermore, more items were added to evaluate different domains theorized to be more important for adolescents. Archer (1997) cites the vital need for interpreters to use clinical awareness of developmental issues and developmental change when utilizing the MMPI-A. The MMPI-A is composed of 478 items but the first 350 items are sufficient for scoring the validity scales and the clinical scales. The MMPI-A includes 4 validity scales, 10 clinical scales, 15 content scales, 6 supplementary scales and 28 Harris-Lingoes subscales. The test is scored to give a quantitative measurement of an individual's emotional adjustment, thereby assisting in forming diagnostic impressions of adolescents (Archer). The test was normed on a sample obtained from public and private schools in California, Minnesota, North Carolina, Ohio, Virginia, Pennsylvania, New York, and Washington State. The sample was diverse in age, gender, and ethnicity (Pope et al., 2000).

*Statistical Analysis*

Cluster analysis will be used to identify the profiles in the sample. Cluster analysis refers to a set of classification procedures used to discern homogenous subgroups within the larger heterogeneous group (Aldenderfer, 1984). Many different algorithms exist for use in creating clusters (Aldenderfer). A proximity matrix will be calculated in which T scores are put through a measure of similarity using the squared Euclidean distance (Hair and Black, 2000). Then, we will use Ward's clustering method (Ward, 1963) to identify MMPI profile clusters among males

and females. Then we will use the proximity matrix to identify possible cluster solutions that minimized the within-groups sum of squares. Individuals will be assigned to one of the previously identified clusters. Assignment will be based nonhierarchical k-means partitioning cluster analysis. Throughout this process, cases joined the cluster in which the squared Euclidean distance between the case and the cluster centroid was minimized.

*Research Questions*

This study focused on whether subtypes of female and male juvenile offenders might be identified by means of cluster analysis using scores on the well-normed MMPI-A. Secondly, the study examined gender differences in the cluster analysis of males, females and the combined dataset.

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

*Null Hypothesis 2:* No cluster subtypes of male offenders will be found using the scores from the MMPI-A.

*Null Hypothesis 3:* There will be no significant difference between the cluster subtypes of female offenders.

*Null Hypothesis 4:* There will be no significant difference between the cluster subtypes of male offenders.

*Limitations of the Study*

This study will sample a population of male and female juvenile offenders in the juvenile justice system in the state of Georgia and may not be representative of juvenile offenders in other areas of the country. There will be no controls implemented for medical history, psychological history, offense history or chronicity of offending.

Table 1. MMPI-A Scale Description

| *MMPI-A Scales* | Scale Description |
|---|---|
| | |
| 1 Hypochondriasis | Identifies individuals with a preoccupation about their bodily functioning that are prone to somatic manifestations of stress |
| 2 Depression | Indicates feelings of hopelessness, dissatisfaction, and unhappiness |
| 3 Hysteria | Includes a combination of high levels of somatic concerns, an emphasis on presentation of self, and high levels of social adjustment |
| 4 Psychopathic Deviate | Identifies individuals that overtly or covertly harbor antisocial tendencies |
| 5 Masculinity-Femininity | Indicates intelligence and aesthetic interests among males and vigorousness and assertiveness among females |
| 6 Paranoia | Distinguishes interpersonal sensitivity which may be present as paranoia or guardedness |
| 7 Psychasthenia | Denotes tendency to be anxious |
| 8 Schizophrenia | Indicates withdrawal and at marked elevations is associated with delusions and hallucinations |
| 9 Hypomania | Includes grandiosity, egocentricity, and cognitive or behavioral overactivity |
| 0 Social Introversion | Indicates tendency to be reserved, compliant and socially uncomfortable |

# CHAPTER 4

# RESULTS

*Two-Step Cluster Analysis Method*

The current study explored subtypes of 268 male and 45 female offenders through the use of cluster analysis with the computer program (1996). Clustering methods were based on the usage of algorithms that seeks to locate inherent, homogenous groupings within a given data set (Aldenderfer & Blashfield, 1984). Two steps were involved in this cluster analysis process: Ward's Clustering analysis and k-means iterative partitioning analysis. In conducting an agglomerative hierarchical cluster analysis, a hierarchical structure examining all possible clusters and observed differences was generated. SAS was used in this study for all analyses, and when asked to generate a cluster solution for all possible cluster groupings, a table recording the amount of variance at each successive level of clustering is provided. With all cases in one cluster, the within group variance was at its highest level. As this cluster was further divided, the within group variance decreased because individuals in each cluster varied less on MMPI-A scores. Examination of the schedule resulting from this initial step was then plotted and the difference in within group variance was used to indicate where the optimal number of groups existed among the different clustering options (Aldenderfer & Blashfield, 1984). The present study involved computing a proximity matrix in which the MMPI T scores were subjected to a measure of similarity using the squared Euclidean distance (Aldenderfer & Blashfield). Ward's clustering method relies upon calculating the squared Euclidean Distance between cases while holding the distance measure between cluster members as low as possible. In the current study,

Ward's method was utilized to identify MMPI profile clusters within the combined group of males and females and then within the subgroups of males and females separately. Cluster solutions that minimized the within-group sum of squares were sought.

While Ward's method is frequently used in social sciences research and has many positive capabilities, such as producing clusters of relatively equal sizes, this method is not without drawbacks (Aldenfelder & Blashfield, 1984). There are some negative aspects to this methodology. For instance, Ward's method has been shown to produce results that are overly influenced by profile elevation. To compensate for this shortcoming, K-means iterative partitioning cluster analysis was carried out. The addition of this method allows researchers to supply initial cluster centroids, Therefore, the K-means method is utilized in the present study as a second step in the clustering process and serves to complement Ward's method of hierarchical cluster analysis. The cluster grouping was attained with males and females separated into different groups and then with all individuals together. The K-means pass involved the reassignment of cases to the cluster with the nearest centroid as guided by Ward's method.

In order to determine the number of clusters in this analysis, two stopping rules were considered: 1) the cubic clustering criterion (CCC) and 2) the pseudo-F statistic. For the male-only clustering, the CCC demonstrated that 2, 3, or 5 cluster solutions were candidate solutions (see Figures 1). In contrast, the pseudo-F statistic showed that only the 2 & 3 cluster solutions were reasonable solutions (see Figure 2). Taking this information into consideration along with an informed inspection and interpretation of the cluster centroids for both the 2 & 3 cluster solutions, the three-cluster solution was selected as the most appropriate clustering schema for the males. Furthermore, the following four null hypotheses were rejected.

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

*Null Hypothesis 2:* No cluster subtypes of male offenders will be found using the scores from the MMPI-A.

*Null Hypothesis 3:* There will be no significant difference between the cluster subtypes of female offenders.

*Null Hypothesis 4:* There will be no significant difference between the cluster subtypes of male offenders.

The four null hypotheses suggested that no cluster subtypes would be found among the males, females or combined datasets but clusters were found in male and female datasets. In cluster analysis no statistical significance testing actually occurs. Rejecting the null hypotheses only indicate that the cluster algorithms that were used did identify subgroups.

The number of clusters for the females was determined in like manner. However, the CCC and pseudo-F statistics provided less guidance in this situation due to these statistics obtaining highly similar values across differing cluster solutions. This is mostly likely due to the small sample size of the female group. As a result, the main criterion for determining the number of clusters for the females was the inspection and interpretation for the cluster centroids by the primary investigator. Taking into account the relative cluster size (number of individuals in each cluster), the interpretation of the cluster centroids in relation to current theory, and the size of the male cluster solution; the primary investigator chose the three cluster solution to best characterize the female data. The choice to utilize three rather than two clusters was based on subjective analysis of the data taking into account the findings from an applied clinical perspective as well as a review of the literature. It was decided that utilizing the two-cluster

solution obscured the presence of rather severe pathology that exists in the juvenile delinquent population.

Differences in offense type, ethnicity and age were examined separately for males, females, and then the combined datasets of males and females through chi square analyses. There was no statistically significant difference in race by gender for males ($\chi^2 = 0.54$; $p > .05$) and ($\chi^2 = 0.54$; $p > .05$). There was also no statistically significant difference of offense by race ($\chi^2 = 5.89$; $p > .05$). For males, there was no statistically significant difference in the distribution of offense across cluster ($\chi^2 = 3.14$; $p > .05$). There was also no statistically significant difference in the distribution of offense across cluster. Furthermore, there was no statistically significant difference in the distribution of ethnicity across cluster. Lastly, there was no difference in age by cluster. In examining the female cluster, there was no difference in clusters by ethnicity ($p > .05$). Due to an inadequate number of cases, we were unable to test for differences in offense type. A t-test was conducted and there was no difference in age by female clusters.

*Clusters in Male Dataset*

*Cluster 1: Psychopathological/Physical Complaints*

Cluster one consisted of 31 males and represented 11% of the male sample. Cluster 1 could be examined through their heightened scores on many of the scales (see Figure 9). The Cluster was highest on scale 6 (Paranoia) followed by scale 8 (Schizophrenia), scale 4 (Psychopathic Deviate), and scale 1 (Hypochondriasis). This cluster profile suggested severe psychopathology. Table 3 provides an overview of the three cluster profiles. The codetype for this cluster was 6-8/8-6 and the characteristics of this codetype were understood through Archer's (1997) data on MMPI-A profiles. Individuals with high scores on these scales may report high levels of anger, use of projection as a primary defense, and disturbances in reality

testing (Archer). Furthermore, they often exhibit difficulty in forming positive relationships with peers, parents and therapists (Archer). Many individuals with this codetype reported receiving excessively aggressive punishment or "beatings" for misbehaving. A majority of adolescents with this codetype had fathers with a legal offense history. Individuals in this group often exhibit violent tendencies and are preoccupied with being teased and often believe others are attacking them when they may not be intending anything negative (Archer).

*Cluster 2: Depressed/Interpersonally Sensitive*

Cluster 2 was composed of 99 males and makes up 35% of the male participant pool. The scores on this scale are less elevated across all ten scales in comparison with scores in the Psychopathological cluster (see Figure 9). The cluster has a modest elevation on scale 2 (Depression) and scale 6 (Paranoia). This group has higher scores on all scales than does Cluster 3. Individuals with a profile of 6-2/2-6 on the MMPI-A are likely to have feelings of hopelessness, apathy, a sense of inadequacy, and high levels of interpersonal sensitivity (Archer, 1997).

*Cluster 3: Normative*

Cluster 3 consisted of 138 males and is 49% of the sample. These individuals appeared to have no significant elevations. The profile was flat and there was a significantly low score on the masculinity-femininity scale. Scores in the low range on this scale indicated endorsement of a traditionally masculine role, higher frequency of conduct problems, and lower intellectual abilities. Overall, the individuals in this scale were believed to be healthy and were experiencing no tendency towards a disordered personality.

*Clusters in Female Dataset*

*`Cluster 1: Psychopathological/Oppositional*

This cluster was composed of only 7 individuals and makes up only 15% of the female population. These individuals had heightened scores on many scales with the highest score on scale 8 (Schizophrenia) followed by scale 4 (Psychopathic Deviate), scale 6 (Paranoia), scale 7 (Psychasthenia), and scale 3 (Hysteria). Table 3 and Figure 8 depict these differences in scores. The codetype for this cluster is 8-4/4-8 and according to Archer (1997) there are certain characteristics that would be found in this cluster. Individuals with this codetype have been perceived as angry, high on impulsivity, are evasive in therapy, have high levels of interpersonal conflict, and handle conflict through denial of problems. It is thought to occur at a rate of 2.1% in female inpatient adolescent populations (Archer, 1997). Individuals in this group were noted to come from chaotic family environments and were likely to have experienced sexual abuse (Williams & Butcher, 1989 as cited by Archer, 1997).

*Cluster 2: Normative*

This group is composed of twenty-one individuals and comprises 46% of the female population. This is meaningful as this is the largest cluster and it also appears to have the most resilient personality profile. The remarkably lowest scores on this profile occur on scale 9 (Hypomania) and scale 1 (Hypochondriasis). Low scores on these scales are associated with fewer somatic complaints, higher psychological insight, and a withdrawn or reclusive tendency (Archer, 1997).

*Cluster 3: Oppositional/ Interpersonally Sensitive*

This cluster was composed of seventeen females and makes up 37% of the female dataset. These individuals have moderately high scores on three scales, with the highest score

being on scale 4 (Psychopathic Deviate) and scale 9 (Hypomania). Individuals with this codetype have been noted to make positive first impressions, exhibit sensation-seeking behaviors, demonstrate narcissistic tendencies, and are unwilling to accept responsibility for behaviors (Archer, 1997). Eighty-three percent of these individuals have demonstrated one or all three of the following behaviors: chronic truancy, runaway from home, and runaway from treatment settings (Marks, 1974 as cited by Archer, 1997).

*Comparison of Cluster Profiles in Combined Dataset*

*Cluster 1: Psychopathological/Physical Complaints*

This cluster was composed of 30 individuals and comprised only 9% of the total sample. The gender breakdown involved 23 males and 7 females, with the ratio of male to females being 5 to 1. Thus, there are a few more females than males given the difference in sample size. However, this difference is not large enough to be considered clinically significant. There were many scales elevated in this cluster (see Table 4 and Figure 10) with the highest score on scale 8 (Schizophrenia), followed by scale 6 (Paranoia), scale 1 (Hypochondriasis), scale 2 (Depression), scale 9 (Hypomania) and scale 3 (Hysteria). The codetype for this cluster was 8-6/6-8, which is the same codetype found in the clustering of the male dataset. As noted earlier, individuals with an 8-6/6-8 codetype often exhibit violent tendencies, are preoccupied with being teased, and often believe others are attacking them when the other person may be responding neutrally to them (Archer, 1997).

*Cluster 2: Depressed/Interpersonally Sensitive*

This cluster was made up of 124 individuals, which is 39.6% of the total population. One hundred and five males and 19 females made up this cluster. These individuals had moderately elevated scores on scale 2 (Depression) and scale 6 (Paranoia). The lowest relative score was on

scale 5 (Masculinity-Femininity). Individuals in this cluster might be expected to exhibit more internalizing problems and be more reluctant to seek help from others.

*Cluster 3: Normative*

This cluster was composed of 159 individuals and made up 50.7% of the total population. There were a total of 184 males and 25 females. This is the only cluster in which the percentage of females out of the group of females was lower than the percentage of males out of the group of males. Individuals in this group would be expected to be healthy and would not be experiencing a tendency towards a disordered personality.

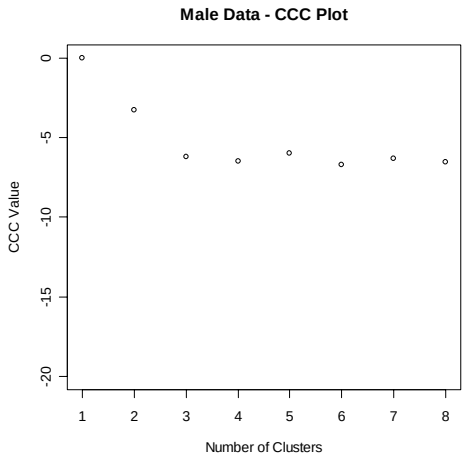


Figure 1. *Cubic Clustering Criterion for Cluster Analysis of Male MMPI-A Data*

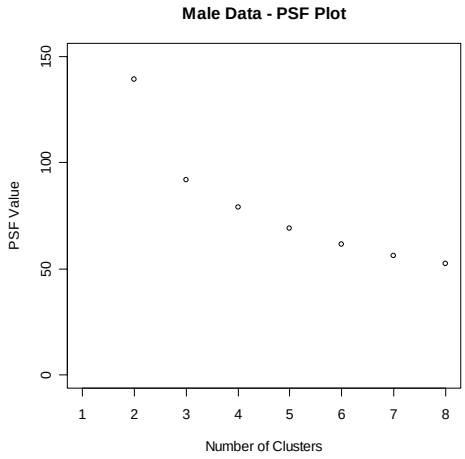


Figure 2. *Pseudo-F in Cluster Analysis of Male MMPI-A Data*

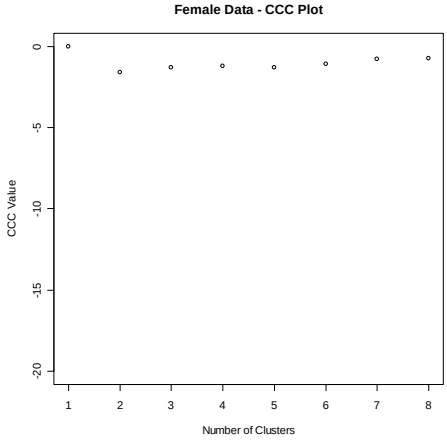


Figure 3. *Cubic Clustering Criterion for Cluster Analysis of Female MMPI-A Data*

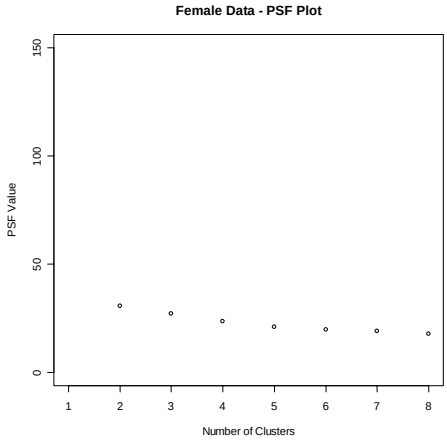


Figure 4. *Pseudo-F in Cluster Analysis of Male MMPI-A Data*

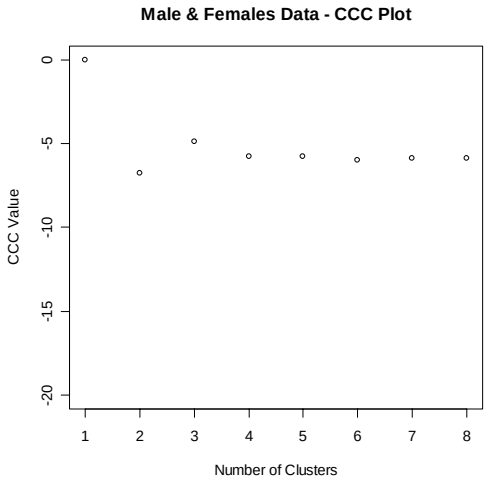


Figure 5. *Cubic Clustering Criterion in Cluster Analysis of Male and Female MMPI-A Data*

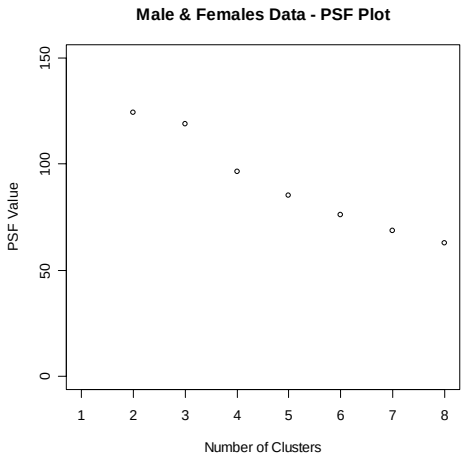


Figure 6. *Psuedo-F in Cluster Analysis of Male and Female MMPI-A Data*

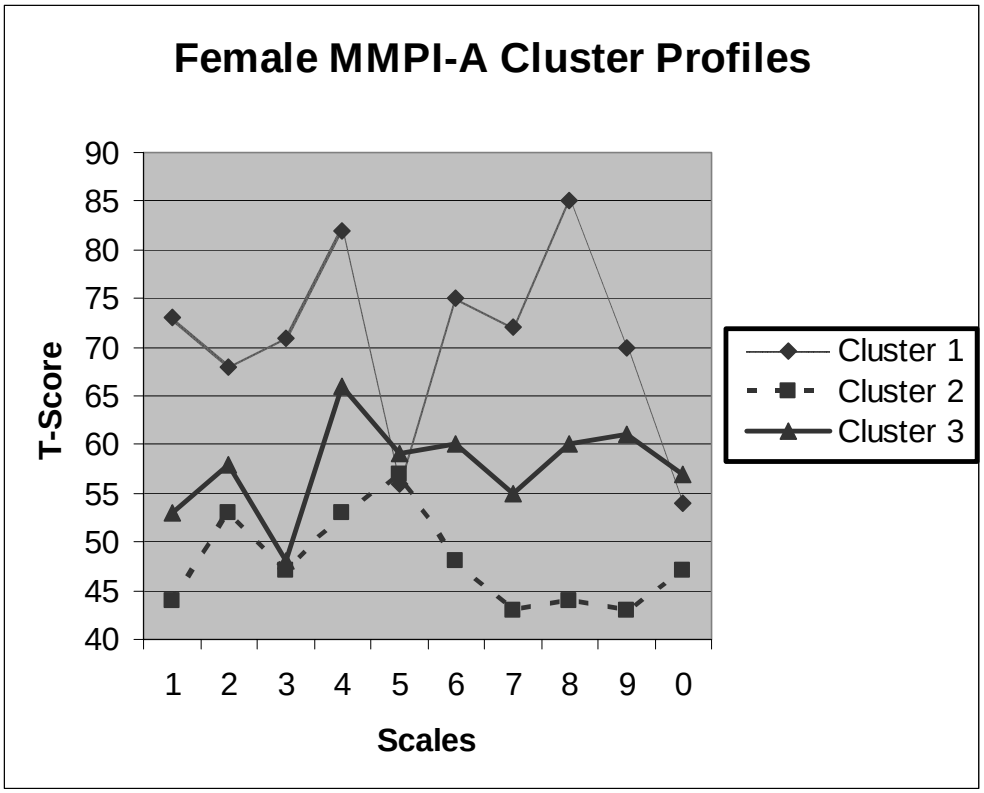


Figure 7. *Cluster Profile with Females*

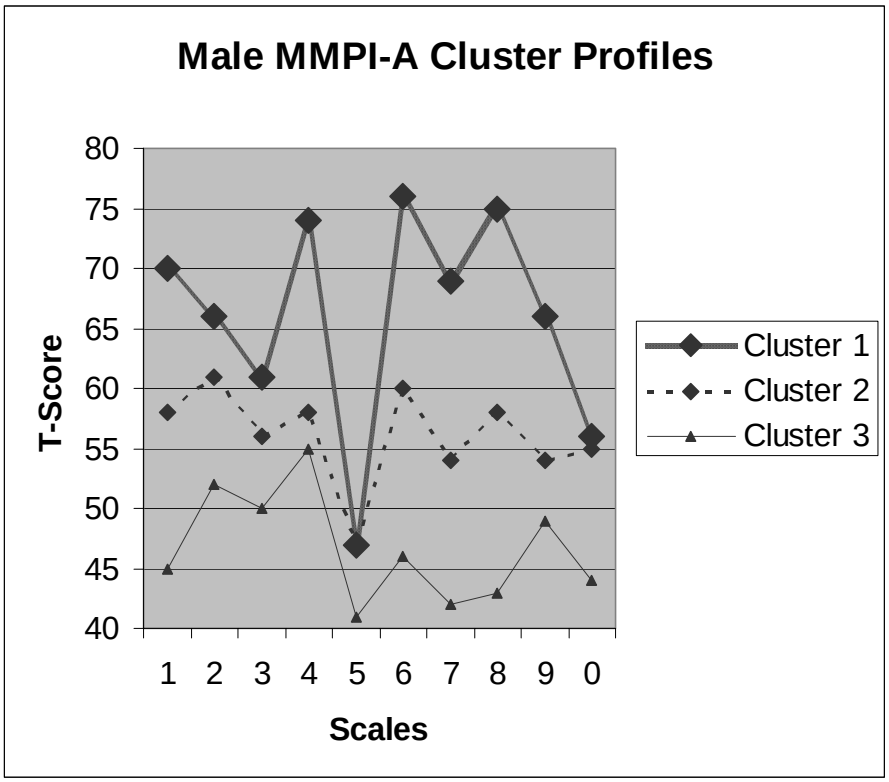


Figure 8. *Cluster Profile with Males*

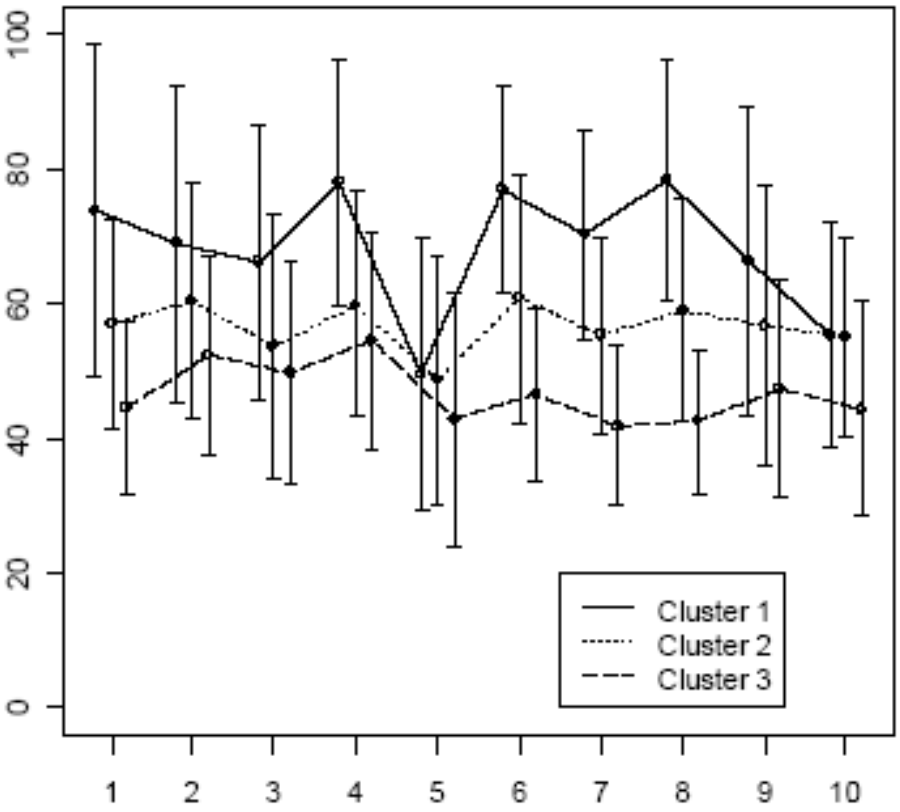

Figure 9. *Cluster Profile with Both Males and Females*

Table 2. Mean Base Rate of Male MMPI-A Scale Scores and Standard Deviations

| | Cluster 1 | | Cluster 2 | | Cluster 3 | |
|---|---|---|---|---|---|---|
| MMPI-A Scale | Mean | SD | Mean | SD | Mean | SD |
| Hypochondriasis | 69.58* | 14.33 | 58.03 | 7.89 | 44.64 | 6.29 |
| Depression | 66.29* | 11.81 | 61.46* | 8.18 | 51.95 | 7.25 |
| Hysteria | 60.55* | 11.51 | 55.72 | 10.44 | 49.75 | 7.59 |
| Psychopathic Deviate | 74.39** | 9.95 | 58.28 | 8.07 | 54.86 | 8.11 |
| Masculinity-Femininity | 46.55 | 9.42 | 47.47 | 7.98 | 40.85 | 8.04 |
| Paranoia | 75.81** | 7.83 | 60.14* | 9.16 | 46.14 | 6.31 |
| Psychasthenia | 68.68* | 7.87 | 54.17 | 7.20 | 41.93 | 5.69 |
| Schizophrenia | 75.13** | 8.17 | 57.65 | 7.44 | 42.62 | 5.42 |
| Hypomania | 66.03* | 11.34 | 54.21 | 9.83 | 48.68 | 8.42 |
| Social Introversion | 55.77 | 7.87 | 54.82 | 6.84 | 43.80 | 7.91 |

** Denotes Clinically High Elevation * Denotes Moderately High Elevation

Table 3. Mean Base Rate of Female MMPI-A Scale Scores and Standard Deviations

| | Cluster 1 | | Cluster 2 | | Cluster 3 | |
|---|---|---|---|---|---|---|
| MMPI-A Scale | Mean | SD | Mean | SD | Mean | SD |
| Hypochondriasis | 72.86** | 5.14 | 43.76 | 7.08 | 52.53 | 7.33 |
| Depression | 68.14* | 11.88 | 53.48 | 8.30 | 57.65 | 10.55 |
| Hysteria | 71.00** | 8.83 | 47.14 | 8.63 | 47.76 | 8.38 |
| Psychopathic Deviate | 81.71** | 6.45 | 52.67 | 7.35 | 66.06* | 6.83 |
| Masculinity-Femininity | 56.29 | 6.58 | 57.09 | 6.97 | 59.35 | 9.78 |
| Paranoia | 75.43** | 7.68 | 48.33 | 6.75 | 60.47* | 8.49 |
| Psychasthenia | 71.71** | 5.47 | 43.24 | 8.35 | 55.47 | 7.31 |
| Schizophrenia | 85.29** | 6.05 | 43.67 | 6.81 | 59.65 | 9.27 |
| Hypomania | 69.86* | 10.46 | 42.90 | 7.24 | 61.00* | 11.19 |
| Social Introversion | 54.29 | 7.91 | 47.38 | 9.21 | 57.41 | 8.80 |

** Denotes Clinically High Elevation * Denotes Moderately High Elevation

Table 4. Mean Base Rate of Male and Female MMPI-A Scale Scores and Standard Deviations

| | Cluster 1 | | Cluster 2 | | Cluster 3 | |
|---|---|---|---|---|---|---|
| MMPI-A Scale | Mean | SD | Mean | SD | Mean | SD |
| Hypochondriasis | 73.93** | 12.10 | 57.10 | 7.84 | 44.58 | 6.49 |
| Depression | 68.90* | 11.51 | 60.31* | 8.78 | 52.47 | 7.57 |
| Hysteria | 66.10* | 10.04 | 53.70 | 9.95 | 49.79 | 8.37 |
| Psychopathic Deviate | 78.10** | 8.92 | 59.90 | 8.43 | 54.58 | 8.08 |
| Masculinity-Femininity | 49.67 | 9.86 | 48.85 | 9.35 | 42.99 | 9.53 |
| Paranoia | 77.00** | 7.60 | 60.83* | 9.26 | 46.47 | 6.49 |
| Psychasthenia | 70.20** | 7.62 | 55.32 | 7.36 | 41.92 | 5.97 |
| Schizophrenia | 78.27** | 8.65 | 59.04 | 8.30 | 42.62 | 5.40 |
| Hypomania | 66.57* | 11.25 | 56.71 | 10.51 | 47.36 | 8.11 |
| Social Introversion | 55.43 | 8.08 | 55.12 | 7.46 | 44.36 | 8.05 |

** Denotes Clinically High Elevation * Denotes Moderately High Elevation

# CHAPTER 5

# DISCUSSION AND SUMMARY

## *Summary*

Personality is an important determinant of mental health, behavioral choices, coping choices, resiliency, reactivity, or lack of reactivity to events (Contrada, Leventhal, & O'Leary, 1990 as cited by Bolger & Zuckerman, 1995). Thus, understanding personality is an important cornerstone in understanding behaviors and behavioral change. Researchers have suggested the dearth of research on antisocial and offending behaviors among youth is problematic and may hinder rehabilitative efforts (Salekin, Leistico, Neumann, DiCiccio, and Duros, 2004). Thus, there is a strong need to conduct personality research with this specific population of juvenile offenders. Mental health problems are a pertinent issue for study as a greater understanding of mental health is theorized to increase the effectiveness of intervention. Thus, it benefits both the health of the individual as well as the overall health of society.

The current study aimed to investigate the psychological characteristics of juvenile offenders and create a typology to increase the understanding of personality factors influencing offenders' choices. Labeling, diagnosing and creating typologies of individuals have historically been utilized by the field of psychology to further the psychological understanding and treatment of individuals (Espelage, Cauffman, Broidy, Piquero, Mazerolle, & Steiner, 2003; Kamphaus, Lease & DiStefano, 2003; & Worling, 2001). Typological clustering studies of juvenile offenders, such as this one, are necessary and useful given the heterogeneity of offenders' psychological problems and the demand from psychology to respond to offenders' specific needs

to alleviate suffering and decrease recidivism rates. Youth, with a variety of different psychological experiences, go to detention centers; accordingly detention centers should be the first line of treatment for many if not all of these individuals. In many communities the availability of mental health services is so limited that judges often choose to sentence individuals to detention centers for rehabilitative mental health services (Trupin, Stewart, Beach, & Boesky, 2002). The special status of juvenile offenders, as recognized by the government of the United States, highlights the opportunity for psychology to lend rehabilitative efforts; yet, there is limited research on intervention strategies for this population.

Research needs to respond to the issues relating to the juvenile offender population in general, while also attending to specific concerns generated by the recent increase in the percentage of females offending (Acoca, 1999; Poe-Yamagata & Butts, 1996; Snyder, 2002). During the 1990s, Poe-Yamagata et al. (1996) found that the rate of juvenile offending by females increased four times faster than that of males. Law enforcement agencies made 654,000 arrests of females under age 18 in 2002. Between 1993 and 2002, arrests of juvenile females generally increased more (or decreased less) than male arrests in most offense categories (Office of Juvenile Justice and Delinquency Prevention, 2004). Chesney-Lind (2001) stated that one out of every four arrests of young people in the United States involved a female. Between 1980 and 2002, the increase in the female juvenile arrest rate was greater than the increase in the male rate for aggravated assault (99% vs. 14%), simple assault (258% vs. 99%), and weapon related violations (125% vs. 7%) (Office of Juvenile Justice and Delinquency Prevention, 2004). Despite the increases in female offending, there is a dearth of research involving female juvenile offenders. More studies, such as this one, are needed to close the gender gap found in research on offending.

Specifically, the purpose of this study involved two components: a) to explore what clusters are present in the heterogeneous population of juvenile offenders utilizing the Minnesota Multiphasic Personality Inventory – Adolescent Form (MMPI-A), and b) to determine if there are differences in clusters among genders. This study examined subtypes of juvenile offenders, via a cluster analysis, utilizing the clinical subscales on the Minnesota Multiphasic Personality Inventory- Adolescent (MMPI-A) Form. The overall aim was to utilize personality profile information to understand the correlates of offending behaviors and relate correlates to possible treatment methods.

*Statement of Procedures*

The data used in the study was gathered as part of the assessment procedures for the Juvenile Counseling and Assessment Program. The adolescents who participated in this study were either on probation or in a detention center in the southeastern region of the United States. For administration, the standard booklet of the MMPI-A was given and scored according to adolescent norms. The MMPI-A Adolescent norm conversion was performed with tables obtained from the MMPI-A scoring manual (Butcher, Williams, Graham, Archer, Tellegen, Ben-Porath, & Kaemmer, 1992).

The MMPI-A was chosen for this study, as it is a personality instrument with widespread use in practice. It also contributes to the literature on personality assessment of juvenile offenders. The MMPI-A was developed out of the MMPI and is a well-normed, standardized questionnaire that examines a wide range of personality characteristics among adults. Hathaway and McKinley (1943), developed the MMPI using empirical scale construction methods. The scales were constructed by contrasting the response pattern of various patient groups with those of a sample of non-psychiatric individuals. The MMPI-A is much like the MMPI but is geared to

take into account developmental fluctuations associated with normal adolescent development. The MMPI-A is a much more conservative instrument than the MMPI. This means that the same responses from same subjects would show a more severe elevation on the MMPI than on the MMPI-A.

This study was cross-sectional in design and was intended to examine the psychological experiences of adolescents in the juvenile justice system as opposed to previous studies that have examined psychological disorders in offenders. In addition, this study fills an important gap by utilizing different statistical methodology, specifically cluster analysis of the MMPI-A clinical scales (Hathaway & McKinley, 1943). The aim of this statistical technique was to identify common profiles in the sample. Cluster analysis refers to a set of classification procedures used to discern homogenous subgroups within the larger heterogeneous group (Aldenderfer, 1984). The statistical methodology involved Ward's Hierarchical Cluster Analysis followed by an iterative cluster partitioning via K-means cluster analysis. The research focused on the following four null hypotheses, which were all rejected.

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

*Null Hypothesis 2:* No cluster subtypes of male offenders will be found using the scores from the MMPI-A.

*Null Hypothesis 3:* There will be no significant difference between the cluster subtypes of female offenders.

*Null Hypothesis 4:* There will be no significant difference between the cluster subtypes of male offenders.

*Ethnicity*

There was no racial difference found by cluster for males, females or the combined data set. This suggests that there are no specific differences in ethnicity impacting personality characteristics or cluster assignment. While minority status has been linked to age at the time of first offense and chronicity of offending (Cauffman, Schoelle, Mullvey & Kelleher, 2005), it does not appear to be related to personality disorders or mental health difficulties. There was no difference found in ethnicity among the different offense types. The offense types included a) crimes against persons, b) property crimes, c) status offenses, and d) drug offenses. This is an important finding and needs to be studied further as the current dataset involved a low percentage of Hispanic individuals.

*Offense Type Differences*

There was no statistically significant difference in the distribution of offense across clusters. This suggests that there is no relationship between the nature of the offense and personality characteristics. This is a salient finding as detention center employees often refer individuals for mental health services based on the crime that was committed. This method of referral is inaccurate and may lead to the inefficient use of exceedingly limited mental health resources.

*Age Differences*

There was a statistical difference but not a clinical difference in age between different clusters in the female and male datasets. The difference between clusters was less than a year and provided no substantial indication that age influences personality characteristics or cluster assignment. Thus, individuals in the detention center setting may have various different

personality characteristics without any of these being related to their age. Age does not appear to be a factor in determining the likelihood of a personality disorder nor does it indicate a higher probability of mental health needs for individuals in the juvenile justice system. Based on these findings, a younger offender may be just as likely to have personality-disordered characteristics as an older juvenile offender. It would be meaningful to further explore how personality may be altered for juvenile offenders in the different clusters across time and changes in age by using longitudinal research methodology.

*Gender and Cluster Characteristics*

Although there are some differences within each cluster by gender, there was an overall trend toward finding similar clusters across genders. The three primary clusters: Psychopathological, Interpersonally Sensitive and Normative were found among the male and female datasets. Thus, it could be concluded that, from a broad overview, the spread of different levels of mental health needs were expressed similarly across genders, with some smaller differences within the clusters by gender. This finding is in contrast to the hypotheses of Stefurak (2004) and Espelage, Cauffman, Broidy, Piquero, Mazerolle, & Steiner (2003), which indicated robust gender differences, and no similarity across genders, in cluster characteristics.

*Conclusions and Implications*

The current study examined the link between personality profiles and offending behaviors among adolescents. These links may increase our understanding of the role personality plays in development of offending behavior. Previous studies in this field have focused on discrete characteristics of offenders, such as low impulse control or attention deficit hyperactivity disorder symptoms; yet, these studies have not given a more detailed and accurate overview of various combined psychological characteristics.

Some discrete personality correlates of delinquency have been found in different countries and across age, gender, and ethnicity (Caspi, Moffitt, Silva, Stouthamer-Loeber, Krueger, & Schmutte, 1994), but little research has been conducted on the personality profiles of the same individuals using cluster analysis. Research studying personality disorders among adult offenders, and personality disorder characteristics among adolescent offenders, provides a step in the direction of understanding the complexity of the many different types of offenders.

The cluster analysis of the datasets indicated that three groups existed within the male MMPI-A data, three groups existed within the female MMPI-A data, and there were also three groups in the combined data set. This cluster solution was chosen as it corresponded with a review of the juvenile offender literature indicating higher levels of mental health problems among the offender population (Kazdin, 2000). An alternative approach using a two-cluster solution was not chosen, as it would have minimized the presence of disordered personality formation and would have created a moderately disordered cluster and a normative cluster. Ultimately, this was thought to be disadvantageous as it obscured the varying levels of mental health problems among offenders and did not present an accurate picture of the heterogeneity among offenders.

After attaining clusters, characteristics of the clusters were examined and differences between clusters were explored. Scales with a *T*-score greater than 70 were considered to be highly elevated and *T*-scores that were greater than 60 and less than 70 were deemed to be moderately elevated in accordance with Archer's MMPI-A interpretation guidelines (Archer, 1997; Krishnamurthy & Archer, 1999). As noted above, a three cluster solution was utilized and similar clusters were found across the male dataset, female dataset, and combined dataset.

A decision was made to focus only on the male and female dataset clusters after examining the three cluster solution for the combined dataset. The three cluster solution for the combined data set appeared to merely be a replication of the three cluster solution found in the male dataset (see Tables 2, 3, and 4) and did not provide new or meaningful information regarding personality profiles of offenders. The overlap between the male clusters and the combined clusters is most likely due to the high percentage of males (86%) in the combined dataset. Further research using a sample with a more equal representation of males and females would be beneficial to study.

The characteristics of the current sample of juvenile offenders was explored by utilizing the codetype and scale interpretation information provided by Archer (1997). Cluster codetypes will allow for more critical and specific exploration of offenders. Using codetype descriptors enhanced awareness of clinical implications as well as future avenues for research.

*Psychopathological Clusters*

Across male and female datasets, a more psychopathological cluster appeared (see Tables 2 and 3). A slightly greater percentage of females (15%) than males (11%) were found in the Psychopathological cluster group. Both the Psychopathological cluster among females and the Psychopathological cluster among males had elevated scores on scale 6 (Paranoia), scale 8 (Schizophrenia), and scale 4 (Psychopathic Deviate). These cluster characteristics were noted to be similar to findings of other researchers and supported the idea that a greater percentage of offenders, as compared to a nonoffender population, have a codetype of 4-9 or 4-9-8 (Hathaway & Monachesi, 1963). It is important to note some researchers have suggested that the 4-9 or 4-9-8 codetype may be a misrepresentation of offenders (William & Butcher, 1989). The current study supports the idea that a subgroup of offenders have moderate to high scores on scales 4, 8,

and 9 but there is also an indication that scales 4, 8, and 9 are not elevated across all offenders. This difference highlights the need for cluster profile studies.

The Psychopathological cluster found among males was noted to be slightly different then the Psychopathological cluster among the female dataset. The codetype for the psychopathological female cluster was 8-4/4-8 and the codetype for the psychopathological male cluster was 6-8/8-6. Individuals with an 8-4/4-8 codetype often are perceived as angry, high on impulsivity, evasive in therapy, have high levels of interpersonal conflict, and utilize denial to minimize negative emotions. In contrast, individuals with the codetype 6-8/8-6 often have high levels of anger, exhibit difficulty in forming relationships, use violence, are preoccupied with being teased, and frequently use the defense of projection. Relationships may be hard for similar reasons for the male cluster and the female cluster as they both demonstrate a tendency to have externalizing problems and are likely to use aggression when faced with difficulties in relationships.

Cluster codetype can be utilized to hypothesize about gender differences in the Psychopathological Cluster. While there is some overlap and similarity between the two genders, there is also reason to believe socialization and biological factors may cause the two groups to differ in some areas. Based on cluster codetype, it is hypothesized that males and females in this cluster will be referred to therapy for different reasons. To begin with, the males in the Psychopathological Cluster may be more likely to be referred for odd or strange behavior, while the females in this cluster may be more likely to be referred for therapy due to anger management problems or relational conflict. This possible difference in referral reason is salient as it suggests a different manner of how severe psychopathology might be expressed among male versus female offenders. Due to the higher rate of anger problems among the juvenile offender

population at large, females presenting relational problems may be overlooked more easily than males demonstrating peculiar behavior. One of the other notable differences is in the amount of drug use according to codetype. The male cluster is hypothesized to use more drugs than the females and have higher rates of overdosing on substances with intent to attempt suicide. Further research is needed to determine if there is indeed a gender difference in drug use and abuse among juvenile offender with severe psychopathology.

*Optimal Therapeutic Modality*

The Psychopathological cluster may be the one in greatest need of therapeutic intervention and may benefit greatly from individual therapy. Therapy with this group may be intensified in frequency and in length of treatment in order to assist in the formation of a supportive alliance. Due to the severe scores on many scales, group interventions should be approached with caution. If a group intervention is attempted, group leaders should be mindful that individuals may be easily provoked, may react angrily or even violently towards other group members, and may be difficult to challenge. Since one of the primary therapeutic aspects of group therapy involves trust and cohesion among group members. This modality of therapy may be particularly challenging with a cluster of individuals that have a pattern of low trust and strained interpersonal interactions. If a long-term group is carried out and members are able to develop trust and cohesion, their mental health may improve exponentially and may be more efficacious than individual therapy due to the easier generalizability of skills. Parent training also is likely to be an important aspect of treatment and may be combined with family systems therapy. Family systems therapy, like group therapy, should be approached with care as the members of this cluster and individuals with this codetype may be much more likely to have a violent or abusive home life as compared to other clusters and codetypes (Archer, 1997).

*Interpersonally Sensitive Clusters*

The second cluster, which appeared in both datasets, addressed a core component of interpersonal sensitivity (see Tables 2, 3 and 4). This cluster was the largest group among females. Meanwhile, it was the second largest group among males. The codetype among males was 2-6/6-2. Individuals with this codetype are recognized to be apathetic, mildly depressed, have high social sensitivity, and often withdraw from social activities. The females in this cluster had the codetype 9-6/6-9. Individuals with this codetype often demonstrate impulsivity, grandiose self-perceptions, interpersonal sensitivity, and distrust. The males and females share similar characteristic of interpersonal sensitivity but demonstrated different affective difficulties. Therapists in the detention center setting often indicate a preference for working with males over females, stating that it is more difficult to form a therapeutic relationship with females. The males in the Interpersonally Sensitive Cluster are more likely to appear depressed or dysthymic while the females may appear more grandiose. Further complicating the dynamic of grandiosity is the factor of interpersonal sensitivity. Girls may present grandiose displays when they are insulted, while males may be more likely to appear depressed.

The hallmark of the Interpersonally Sensitive Cluster is that it only has moderate elevations but that these elevations are remarkable in their suggestion of affective disturbance and sensitivity, which are suggestive of problematic and delinquent pathways (Steiner, Cauffman, & Duxbury, 1999). Interpersonal sensitivity was reflected in the moderately high score on the Paranoia scale and refers to a biased view to see interpersonal exchanges in a negative manner. Perceived malevolence is a primary problem for this group and may cause individuals to have more frequent and more intense bouts of anger. Due to this perception that others are malicious these individuals may also have a sense of justification in acting out angrily.

Based on this idea of how sensitivity may impact aggression, the Interpersonally Sensitive Cluster may be more likely to have higher rates of recidivism and more violent future behaviors than the Normative Cluster. Interpersonal sensitivity may develop in a myriad of different manners but there are two specific hypothesized routes: 1) interpersonal sensitivity may develop from social cognitive deficits such as an inability to perceive the difference between a "put down" and a good humored joke or 2) sensitivity may develop from effective cognitive processing and social learning in the context of negative interpersonal events.

Sensitivity to "put downs" or social attacks is a primary characteristic among this cluster. This may lead these individuals to quickly resort to aggressive tactics to halt perceived attacks or to "save face" after an attack. This cluster may not have severe mental health problems but intervention may be very salient for this cluster as Archer (1997) indicates that even a modest elevation on the MMPI-A may indicate the use of interventions.

*Optimal Therapeutic Modality*

The optimal therapeutic modality for the Interpersonally Sensitive individuals may be group therapy. As these individuals do not have severe personality dysfunctions and appear to be moderately emotionally healthy, they may be better suited to group work than individuals in the Psychopathological Cluster. Furthermore, many of the personality problems and mental health issues of the Interpersonally Sensitive Cluster are social in nature and may not be treated as effectively in individual therapy. The youth in this group may also be less likely to trust the legitimacy of the therapist's suggestions about how an event should be perceived or how others see them then they are to trust peers. These adolescents may be more successfully challenged and supported by peers. Furthermore, adolescents in the Interpersonally Sensitive group have

often had more interpersonal struggles with peers than with adults and thus are seeking a corrective emotional experience with peers more so than with adults.

When creating a therapy group for the Interpersonally Sensitive Cluster, a few factors need to be considered. First, the group may be more effective if there are a few prosocial models. Thus, a heterogeneous group with some more socially skilled individuals may be most advantageous. Furthermore, a process-oriented group may be highly useful for altering their interpersonal perceptions and interactions. In order to carry out an effective process-oriented group, individuals may need to be socialized to the group framework through individual cognitive behavioral therapy. Individuals may fare better in a group therapy situation if they have learned how to regulate arousal level, develop cognitive flexibility in appraising interpersonal interactions, and make use of the therapist's modeling of Prosocial interactions. Overall, group work may be highly beneficial for this cluster if efforts are put into

*Normative Clusters*

The normative clusters found in the male dataset and female dataset had a flat profile with a notably low score on the scale 7 (Psychasthenia), which measures anxiety. This profile is thought to be reflective of normal personality functioning and indicates a higher level of mental health than is found in the other two clusters. Individuals in this cluster may have made poor choices, in part due to low emotionality, low arousal and an inability to recognize and utilize emotional states to guide decisions regarding thoughts and behavior. Another hypothesis is that many of these cluster members are healthy offenders, individuals that commit minor crimes that are limited to adolescence.

*Pathways to Offending*

Researchers have fallen into two general camps with one group emphasizing the relationship between offending and low anxiety and low impulse control (Herpertz, Ulrike-Werth, Lukas, Qunaibi, Schuerkens, Kunert, Freese, Flesch, Mueller-Isberner, Osterheider, & Sass, 2001). The other theoretical camp has suggested that emotional distress is a primary route to offending and may be more important than a lack of anxiety (Steiner, Cauffman & Duxbury, 1999). The findings in this study lead the researcher to suggest that there may be at least two, if not multiple pathways that lead to offending. The individuals in the Psychopathological Cluster may be likely to offend due to their mental health and personality disorder issues. While the Psychopathological Cluster and the Interpersonally Sensitive Cluster may experience mental health issues as a pathway variable; the Normative Cluster members may have a pathway that primarily involves low anxiety. The idea of multiple pathways to offending corresponds with the idea of multiple different profiles of offenders. It is likely that there are various routes but it is also likely that the route to offending might be indicated by the profile of the offender. A longitudinal study of offender by cluster assignment is necessary to examine this idea.

*Comparison with Other Studies*

Earlier cluster analysis of juvenile offenders using the MMPI-A came up with somewhat different findings in respect to the number of clusters and cluster characteristics. Espelage, Cauffman, Broidy, Piquero, Mazerolle, & Steiner (2003) suggested that two clusters existed among males and two clusters existed among females. Espelage and colleagues (2003) labeled the males as having a Normative Cluster and a Disorganized Cluster. The Normative Cluster had a profile without elevations, as did the Normative Clusters in the current study. However, a Normative Cluster was found in the male and female dataset of the current study but was only

found among the males in Espelage et al. study. The gender difference found in the Espelage et al. study and the lack of gender difference in the current study highlight the need for further exploration of gender in the juvenile offender population.

The Disorganized Cluster found by Espelage, Cauffman, Broidy, Piquero, Mazerolle, & Steiner (2003) exhibited clinical elevations on scales 8 (Schizophrenia), 6 (Paranoia), 4 (Psychopathic Deviate), and 7 (Psychasthenia). Espelage and colleague's (2003) Disorganized Cluster is similar to the Psychopathological cluster found across males and females within the datasets. The only difference noted is that the Hypochondriasis Scale is elevated among Psychopathological cluster members in the current study but not in Espelage et al. study. The difference in Hypochondriasis is an important feature and deserves further research. It may be the case that individuals in the current study are cognizant of suffering but find that seeking mental health is stigmatizing but seeking help for somatic complaints is respected. Furthermore, many of the individuals in the current study have regular contact with the nursing staff while individuals in the other study may not have had this contact and may be less mindful of their medical conditions or less likely to utilize somatic complaints as a coping mechanism for psychological strain for some other reason.

Espelage, Cauffman, Broidy, Piquero, Mazerolle, & Steiner (2003) found two clusters in the female offender group: the Impulsive-Antisocial Cluster and the Irritable-Isolated Cluster. The Impulsive-Antisocial Cluster had a high score on scale 4 (Psychopathic Deviate). There was no cluster found in the current study among females or males that merely had a high Psychopathic Deviate score. However, females in the Interpersonally Sensitive Cluster had moderately high scores on Paranoia and Hypomania. Likewise, males in the Interpersonally Sensitive Cluster had moderately high scores on Paranoia and Depression. There are two

hypotheses that explain why Espelage's Impulsive-Antisocial Cluster may be different from the clusters in the current study. First of all, Espelage's study was conducted with the MMPI and not the MMPI-A, which was used in the current study. The MMPI-A is more conservative in scoring as it takes into account normal adolescent development and thus, the same responses may trigger an elevated score on the MMPI but a normative score on the MMPI-A. A second hypothesis is that since Espelage and colleagues included individuals with more severe offenses these individuals might have a real difference in their Psychopathic Deviate tendencies while having no personality characteristics of Paranoia or Depression. The second female cluster found in the study by Espelage, Cauffman, Broidy, Piquero, Mazerolle, & Steiner (2003) involved more elevated scores. The Irritable-Isolated Cluster appeared much like the Psychopathological clusters among the males and females in the current study as there were multiple scales with scores in the clinical range.

Overall, the current study indicates there is correspondence between the current study's clusters and those found by other researchers. The presence of a Cluster like the Normative Cluster found among Espelage's male sample to be present among males and females. The presence of a Psychopathological cluster in the current study corresponds with the Irritable-Isolated Cluster among Espelage's female sample and the Disorganized Cluster among the male sample. The primary difference in findings was that there appears to be an Interpersonally Sensitive group that is different from any of the clusters found by Espelage and colleagues. This study indicates three clusters in the male and female datasets: Psychopathology Cluster, Interpersonally Sensitive Cluster, and a Normative Cluster. However, Espelage and colleagues only suggest a Normative Cluster to exist among males. Furthermore, there is no indication of an Interpersonally Sensitive Cluster.

Stefurak (2004) conducted a comparable cluster analytic study of Millon Adolescent Clinical Inventory data but used a sample composed only of female juvenile offenders. Stefurak, like the current researcher, found three clusters in his dataset: the Externalizing Problems Cluster, the Depressed/Personally Ambivalent Cluster, and the Anxious Prosocial Cluster. No evidence for an Anxious Prosocial Cluster was found in the current study. However, there was evidence of clusters that corresponded to Stefurak's other clusters. The Externalizing Problems Cluster, as described by Stefurak, had high scores on scales measuring unruliness and aggressive behavior. This Cluster appears to be similar to the Psychopathological cluster, which had heightened scores on multiple scales including scales predicting aggressive tendencies. Likewise, the Depressed/Personally Ambivalent Cluster that is noted by Stefurak (2004) is much like the Interpersonally Sensitive Cluster. These individuals have moderate elevations on depression and paranoia and show a moderate level of affective disturbance.

*Preventative Interventions*

By understanding the profile of the offender and linking that with a pathway, therapists might not only be able to develop rehabilitative interventions but may also develop preventative interventions. Thus, for individuals who have moderate or high levels of personality dysfunctions; individual, group, or systems therapy may be the most effective method of assisting the individual in maintaining prosocial behavior while also decreasing the likelihood of antisocial behavior. Emotions and attributions are the building blocks for personality development and change (Magai & McFadden, 1995 as cited by Granic & Patterson, 2006). Thus, preventative interventions may be focused on developing healthy emotional awareness and prosocial attributional styles.

However, individuals who appear to fit with the Normative Cluster profile and have low levels of anxiety with no outstanding elevations on other scales may need a different preventative intervention. These individuals are considered more difficult to socialize in general and in therapy, specifically, due to their lower anxiety levels. Having low anxiety, in some ways, may be seen as akin to having a learning disability. Just as an individual with a reading disability may need to spend time on developing strategies for reading, an individual who has difficulty processing emotions might need to develop a set of skills to assist in emotional processing. Thus, effective intervention for the Normative Cluster might be to increase their capacity to label and use feelings to direct their behaviors. By making individuals more aware of their feelings, they may be more likely to discern choices and be aware of their reactions to choices in deciding upon a behavior.

*Treatment Foci*

Just as prevention may be related to the individual's characteristics, rehabilitation and psychological treatment may be focused on different areas based on the symptoms presented by the offender. The three profiles discovered may serve as a guide for determining treatment focus. There may also be specific areas of concern for each cluster. Furthermore, there are some areas of focus that appear to go across clusters and may be beneficial to explore among all juvenile offenders. Research suggests that, in order for improvements to be made, treatment must trigger a reorganization of affective, cognitive, and behavioral systems (Greenberg, Rice, & Elliott, 1996 as cited by Granic & Patterson, 2006). Therefore, cluster profile information may be used to guide treatment.

*Posttraumatic Stress Disorder Treatment*

Post-Traumatic Stress Disorder (PTSD) can include high levels of distrust, anxiety and paranoia (Steiner, Garcia, & Matthews, 1997). These symptoms are much like what is seen in the Psychopathological Cluster. Not only can we reference symptoms of PTSD to match with the Psychopathological cluster but we can reference a study of individuals with similar codetypes and find that they are more often victims of abuse (Williams & Butcher, 1989 as cited by Archer 1997). Trauma has been linked both to delinquency and PTSD (Steiner et al., 1997). In working with individuals from the Psychopathological cluster it might behoove therapists to explore the possibilities of Posttraumatic Stress Disorder (PTSD). It is hypothesized that the Psychopathological cluster may have a pathway involving the highest level of traumatogenic experiences. These traumatogenic experiences are hypothesized to include neglect, physical abuse, verbal abuse, sexual abuse, poverty, and the witnessing of domestic violence or community violence. Delinquency has been suggested to be a direct or indirect reflection of past victimization (Ryan, Miyoshi, Metzner, Krugman, & Fryer, 1996 as cited by Steiner et al., 1997) and thus, there is reason to believe it may be a factor to consider in treating individuals in the Psychopathological Cluster. Cognitive behavioral therapy involving anger management and relaxation training may be beneficial in combination with family therapy or peer support groups.

*Decreasing Paranoia May Decrease Recidivism*

The Psychopathological Cluster has a high level of paranoia, which is hypothesized to be characterized by negative attributions to others' neutral statements and behaviors. The style of making negative attributions is theorized to come at a cost of higher levels of fear and higher frequencies of insults. Some theorists suggest that this tendency to see others as against oneself is a biased view. However, it may also be argued that this negative view of interactions may

develop from the real experience of early traumatogenic experiences including neglect or harsh punishment. This possibility of multiple different pathways to Paranoia is important in guiding prevention and treatment. A therapeutic alliance may be advantageous for individuals that develop paranoia from traumatogenic experiences while cognitive therapy may be more effective in treating a social cognitive deficit. Further study would be beneficial in determining the different pathways and investigating the effectiveness of various different therapeutic orientations for these individuals.

The high level of paranoia found in the Psychopathological cluster and the moderate elevation in the Interpersonally Sensitive Cluster may relate to overall negative emotionality and may be a risk factor for offending. Negative emotionality has been defined as the tendency to experience aversive states such as anger, anxiety, or irritability (Watson and Clark, 1984 as cited by Caspi, Moffitt, Silva, Stoutham-Loeber, Krueger, & Schmutte, 1994). High levels of negative emotionality are strongly influenced by the attributional style of the individual. Those individuals with a more paranoid view of interpersonal interactions would be more likely to experience higher levels of negative emotions and may experience these negative emotions chronically if they have a higher level of paranoia. It is hypothesized that individuals who have a high level of negative emotionality and who also have low impulsive control would be at a great disadvantage behaviorally and emotionally (Caspi et al., 1994). While having negative emotions is unpleasant, being impulsive while experiencing negative emotions is highly problematic. One might also hypothesize that a high level of paranoia might lead one to react more quickly due to a perceived strong need to alleviate the negative emotionality tied to the heightened perception of threat. Furthermore, the removal of negative emotionality after

reacting impulsively acts as a positive reinforcer and may even be a pathway variable that shapes an individual into having lower impulse control.

*Adolescent Affective Disturbance Linked to Aggression*

The Interpersonally Sensitive Cluster had a moderate level of affective disturbance, with males appearing depressed and females appearing manic. In contrast, the Psychopathological Cluster had a slightly higher level of affective disturbance with both males and females appearing depressed. Individuals from both groups, with depressed or manic symptoms, may benefit from interventions focused on stabilizing affect and mood regulation. There may be an important link between depression, mania, and oppositional behavior, which may influence offending.

In general, affective disorders have been noted to appear differently in adolescents than in adults (Mash and Barkley, 1996) and this difference may relate to how affective disturbance might translate into offending. Adolescents may be more likely to be irritable and angry when depressed rather than tearful and apathetic. Thus, depressed adolescents may be at greater risk for offending.

Beyond the developmental differences associated with affective disorders, there is an indication that the biological correlates of depression are similar to the biological correlates of aggression. Deficits in serotonin have been linked with mood dysregulation and have also been suggested to cause increases in impulsivity and negative reactivity in adolescents (Spoont, 1992 as cited by Caspi, Moffitt, Silva, Stoutham-Loeber, Krueger, & Schmutte, 1994). Thus, it is suggested that individuals may experience depression or mania as a precursor to reckless behavior (Caspi et al., 1994). Depression or mania may be seen as putting an individual at risk

of behaving in a risky manner that might translate into offending behaviors ranging from truancy to destruction of property to the harming of another person.

It may be suggested that even low levels of depression should be treated among offenders as the existence of affective disturbances may play a role in the pathways of offending. Furthermore, longitudinal research on depression and negative attributions suggests that individuals who are depressed as adolescents are likely to continue to have negative attributional styles when they enter adulthood, unless there is a change in environmental conditions or a planned therapeutic intervention (Caspi, Moffitt, Silva, Stouthamer-Loeber, Krueger, & Schmutte, 1994). Thus, having a depressed or manic mood is not only a therapeutic concern but also a concern in regards to recidivism. Whether it is a moderately depressed mood as in the Interpersonally Sensitive Clusters or a more depressed mood, as in the Psychopathological Clusters there is a need for intervention in order to decrease the individual's emotional discomfort and to prevent recidivism.

*The Theory of Healthy Offending*

Many theorists have postulated that the majority of adolescent offenders are healthy offenders, who are merely asserting their independence and striving for adulthood privileges, which match with their biological age. In the current sample, one may make an argument that the Normative Cluster is primarily composed of these healthy offenders. The Normative Cluster was found to have a flat personality profile with no elevations indicating a healthier personality, which suggests a lower likelihood of long-term offending (Moffitt, 1993). Moffitt (1993) conducted a longitudinal examination of characteristics of long-term offenders and short-term adolescent offenders. One of the differences found in long-term offenders was the presence of more personality disorder characteristics and mental health problems.

It is theorized that adolescents may develop healthy offending behaviors for two primary reasons: 1) the experience of a maturity gap between their biological age and their social age and 2) reinforcement. The maturity gap that Moffitt refers to the strain theorized to be experienced by adolescents that are biologically adult but constrained by social rules that define them as youths. Early developmental theorists such as Erickson (1960 as cited by Moffitt, 1993) referred to antisocial behavior as a healthful statement of personal independence and a triumph over social challenges. Moffitt suggests that the majority of offenders would be healthy and short-term offenders. This may be true for roughly half of the males and females, the percentage of the sample that fell into the Normative Cluster.

*Continuum of Risk*

One may see juvenile offenders as existing on a continuum of risk and this continuum may be utilized to determine how limited mental health resources are distributed across the large population of juvenile offenders. It could be hypothesized that the majority of individuals in the Normative Cluster are highly unlikely to have long-term offending problems and may need very limited mental health interventions. For all individuals in the Normative Cluster, except individuals with scale 7 scores below 40, the adjudication process may alone be a transformative intervention. The logical consequences of going before the judge, being detained and meeting with the probation officer may be enough to limit these offenders from committing future offending behaviors. As noted earlier, Normative Cluster members with a substantially low score of anxiety on scale 7 may need direct therapeutic intervention and may respond most positively to directive therapy. The Interpersonally Sensitive Cluster may be susceptible to a pathway of repeat offending if there is no intervention. Furthermore, one would hypothesize the Psychopathological Cluster may be at high risk for long-term offending and that a high level of

intervention may be advantageous for members in this cluster. Thus, the Psychopathological Cluster members need the greatest amount of mental health intervention followed by the Interpersonally Sensitive Cluster and then the Normative Cluster.

In summation, the results of this study have four major implications. First, information about the subgroups of juvenile offenders adds to our understanding of offending behaviors among adolescents. Second, the findings have implications for focusing treatment more appropriately on areas that fit with offenders. The third major implication is that this study highlights how offenders exist on a continuum of risk and a continuum of need in regards to mental health services. Finally, this study develops two areas of research in psychology: cluster analytic research and juvenile offender research.

*Limitations of the Study*

The sample was limited to juvenile offenders that were referred for a mental health assessment to aid in placement or interventions. The sample involved only individuals living in the state of Georgia. Those adolescents not chosen for assessment may have different personality styles and may have led to a different cluster solution or different cluster characteristics. Since the sample was limited geographically, the sample may not be typical of juvenile offenders from other geographic areas.

A limitation is that the subjects may have altered their responses on the MMPI-A since they knew the information was going to be given to the judge or their probation officer. The subjects may have presented themselves in a more positive, prosocial manner than is accurate. There may be a higher level of severity in this population than was found due to the restrictive nature of being tested for legal reasons.

The sample was not randomly selected and thus further limitations are introduced. The judge, probation officer, or detention center official referred individuals to participate in the study and this selection process may have been biased. Furthermore, there was a great disparity in the size of the female group and male group. This difference is important, as different clusters may have been found among the female population if a larger group of individual had been involved.

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