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# A Typology of Preadolescent Sexual Abusers Based on the Emerging Personality Patterns in the Millon Preadolescent Clinical Inventory

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A TYPOLOGY OF PREADOLESCENT SEXUAL ABUSERS BASED ON THE EMERGING  
PERSONALITY PATTERNS IN THE MILLON PREADOLESCENT CLINICAL  
INVENTORY

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PERSONALITY PATTERNS IN THE MILLON PREADOLESCENT CLINICAL  
INVENTORY

A dissertation submitted in partial fulfillment  
of the requirements for the degree of  
Doctor of Philosophy in Counselor Education

By

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## **ABSTRACT**

The purpose of this study was to develop a personality-based typology of preadolescents with sexual behavior problems based the Emerging Personality Patterns in the Millon Preadolescent Clinical Inventory (M-PACI, Millon et al., 2005). Grounding a typology in a theory driven personality system may offer clarity and specificity in understanding preadolescents with sexual behavior problems in a manner that has not yet been explored. A personality and theory driven typology could provide a more comprehensive framework for assessing and treating children who sexually abuse than any of the current taxonomic models.

The study used an ex post facto design with test of hypotheses. The research hypotheses were derived through logical and empirical data findings. A sample of thirty-one participants were administered the M-PACI and a mental health professional completed a demographics and clinical information form on each participant. The participants scores on the M-PACI resulted in them being placed into one of three Emerging Personality Patterns groups, Active, Passive, or Unstable. These three groups were analyzed using a multivariate analysis of variance (MANOVA) on seven dependent variables.

Results indicated that Active and Unstable Emerging Personality Patterns participants had significantly higher levels of maltreatment experiences and significantly more Current Clinical Signs as measured by the M-PACI, than the Passive Emerging Personality Patterns group. The results indicate that personality is a useful variable in differentiating preadolescents with sexual behavior problems. The implications for this study lend support for the conceptualization of preadolescents with sexual behavior using a personality based typology.

This dissertation is approved for recommendation  
to the Graduate Council.

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## **CHAPTER ONE: THE PROBLEM**

Sexual abuse is a public health problem. It was once assumed that sexual perpetration was entirely a problem of adult men (Pithers & Gray, 1998). The United States Department of Health and Human Services (2008) reported that in 2006 there were over 940,000 cases of confirmed child maltreatment, with approximately 7% of those cases involving sexual abuse. Prior to 1985, research studying children who are sexually abusive was limited and almost non-existent (Wieckowski, Hartsoe, Mayer, & Shortz, 1998). What has been much less recognized is that children below the age of 12 also sexually victimize other children. Research shows that 30% to 50% of all child sexual abuses are committed by youths younger than 18 years of age (American Academy of Child and Adolescent Psychiatry, 2000). There are mounting reports of children younger than 12 years of age committing sexually abusive behaviors against others. Children 6 to 12 years old are estimated to commit 13% to 18% of all substantiated child sexual maltreatment (Pithers & Gray, 1998).

The recognition of this group of children who sexually abuse others requires that we carefully examine, develop, and evaluate empirically based methods of assessment and intervention. Children with sexual behavior problems are recognized as a heterogeneous group (Rasmussen, 2004). This underscores the need to understand the various types of sexual behavior problems manifested within this group. Typological classification is one method to derive clinically meaningful categories. The development of a clinically and statistically significant classification of children who sexually abuse may improve our current state of assessment and treatment for this population.

## **Statement of the Problem**

Children with sexual behavior problems are the least studied and understood subgroup of the sexual abuser population. Typological classification can provide a useful framework to plan and administer treatment and assess risk for future sexual behavior problems (Lambie & Seymour, 2006). Hall, Matthews, and Pearce (2002) identified a five-group typology of younger children with sexual behavior problems ages 3 to 7. Bonner, Walker, and Berliner (1999) proposed a three-group typology based on clinical impression only. Pithers, Gray, Busconi, and Houchens (1998) derived five empirical clusters in their preliminary typology based a number of dimensions to include clinical and psychometric variables. The current typological classifications for children with sexual behavior problems provide broad descriptive and clinical information, but do so without a theoretical underpinning. The use of personality measures in typological classification may provide useful information to clinical practice through measuring the underlying emotional, interpersonal, and motivational styles that are relevant to a range of disorders (McCrae, 1991). Personality variables can potentially provide a more effective way to predict future risk and match interventions to specific personality types in youth with sexual behavior problems (Goldstein & McGinnis, 1997; Stefurak, Calhoun, & Glaser, 2004; Worling, 2001).

Grounding a typology in a theory driven personality system may offer clarity and specificity in understanding children with sexual behavior problems in a manner that has not yet been explored. A personality and theory driven typology could provide a more comprehensive framework for assessing and treating children who sexually abuse than any of the current taxonomic models. This study will investigate the relationship between emerging personality

patterns and sexually abusive behaviors in a sample of inpatient and outpatient pre-adolescent boys and girls referred for assessment or treatment due to sexual behavior problems.

### **Assumptions Underlying the Study**

There are several assumptions that underlie this study. It is assumed that the participants are a representative sample of children 9 to 12 years old with sexual behavior problems. It is assumed that the Millon Pre-Adolescent Clinical Inventory (M-PACI; Millon, Tringone, Millon, & Grossman, 2005) will adequately measure the construct of personality patterns and current clinical symptoms. It is assumed that the Millon Pre-Adolescent Clinical Inventory (M-PACI) was administered in compliance with the testing protocols in the administration manual. It is also assumed that the demographic and case history data obtained is accurate and available for all participants.

### **Research Questions**

1. Can emerging personality patterns as measured by the M-PACI predict the severity of sexual maladjustment in preadolescent sexual abusers?
2. Are emerging personality patterns as measured by the M-PACI related to environmental experiences in preadolescent sexual abusers?
3. Can emerging personality patterns as measured by the M-PACI predict the clinical symptomology in preadolescent sexual abusers?

### **Significance of the Study**

There are at present, only three published typologies specific to the pre-adolescent sexual abuser population (Bonner, Walker, & Berliner, 1999; Hall, Mathews, & Pearce, 2002; Pithers, Gray, Busconi, & Houchens, 1998). Both empirically and clinically derived typologies have been developed for this population. Each of the typologies has provided some useful descriptive

information about the population, though no one typology can provide a completely comprehensive framework for assessing children with sexual behavior problems (Rasmussen, 2004). The Association for the Treatment of Sexual Abusers (ATSA, 2006) Task Force on Children with Sexual Behavior Problems suggested that there might not be distinct taxonomic subgroups of children with sexual behavior problems based on a review of the current typologies.

None of the typologies however, has utilized a personality derived and theory driven grouping to hypothesize etiological and intervention considerations. The emergence of particular personality patterns in childhood may provide us with new information to assist in understanding the trajectory of childhood development. Personality development begins in childhood and has been shown to have stability into adolescence and adulthood (Del Barrio, Carrasco, & Holgado, 2006; Hagekull and Bohlin, 2003; Tackett, 2006). An exploration of the emerging personality patterns in children with sexual behavior problems may provide additional information in which to view and understand this population. By developing a typology grounded in a theory driven personality system we may provide a more clear and explicit understanding of children with sexual behavior problems. This would allow for the development of a comprehensive framework in which to contextualize the emergence of sexually abusive behaviors and propose treatment interventions specific to personality types in a manner in which the current taxonomic models are limited.

### **Delimitations**

Participants were delimited to children 9 to 12 years old from participating inpatient and outpatient mental health therapy programs that evaluate and treat children with sexual behavior problems. The participants were delimited by those that were referred for assessment or

treatment for having a clinically or legally identified sexual behavior problem. The participants selected were also delimited to those participants who were eligible for the study in the time frame in which the data was being collected. The M-PACI (Millon, et al., 2005) is a self-report personality and clinical syndromes measure normed for youth seen in clinical settings. The M-PACI (Millon, et al., 2005) is delimited by participant honesty on the tool. The tool is also delimited by the participants' ability to read at a third grade level.

### **Definitions and Operational Terms**

For the purposes of this study the following definitions and operational terms will apply.

1. Age vulnerability: For the purposes of this study age vulnerability is defined as a three or more year age difference where the participant is older than the other individual and a sexual encounter occurred.
2. Behavioral history indicators: For the purposes of this study behavioral history indicators are defined as documented evidence of lying/deception, physically aggressive behavior, hyperactivity or impulsivity, delinquency (peer group, stealing, truancy), anxious/excessive worrying, depressiveness/moody, shy or inhibited/inadequate, and atypical behaviors (hears voices, bizarre thoughts, hallucinations).
3. Current clinical signs: For the purposes of this study current clinical signs are measured by the Millon Pre-Adolescent Clinical Inventory (M-PACI, Millon, et al., 2005) current clinical signs scales. This represents specific clusters of clinical symptoms that often affect a child's functioning in home, school, and social settings. The seven scales of the M-PACI (Millon, et al., 2005) are Anxiety/Fear, Attention

Deficits, Obsessions/Compulsions, Conduct Problems, Disruptive Behaviors, Depressive Mood, and Reality Distortions (Millon et al., 2005).

4. Developmental history indicators: For the purposes of this study, developmental history indicators are defined as a delay in developmental milestones such as toilet training social skills, self-care, communication, receiving special education services, and intelligence quotient 84 or below.
5. DSM-IV TR diagnosis: For the purposes of this study the DSM IV TR diagnosis is defined as a professionally documented multi-axial diagnosis.
6. Emerging personality patterns: For the purposes of this study, emerging personality patterns is measured by the Millon Preadolescent Clinical Inventory (Millon et al., 2005). The six basic styles are derived from Millon's theory and include three active personality types; Outgoing, Unruly and Inhibited, and three passive personality types; Submissive, Confident, and Conforming. The seventh pattern is the Unstable, and represents conflict between the active and passive polarities and measures more serious personality issues (Millon et al., 2005).
7. Familial economic stress: For the purposes of this study familial economic stress is defined as the primary caretakers self report of having low income or economic distress.
8. Family environmental factors: For the purposes of this study family environmental factors are defined as presence of familial economic stress, poor or ineffective parenting, parental rights terminated, parent/guardian criminal history, history of child protective services case on the family, secondary family placement, social services placement, parent/guardian substance abuse, single parent/caregiver home,



- resides in violent community, marital discord at home, and parent has history of abuse as a child.
9. Family history of criminal behavior: For the purposes of this study the family history of criminal behavior is defined as a known history of legal sanctions against a family member who either resides with the participant or has regular interaction with the participant.
  10. Family history of protective services: For the purpose of this study family history of protective services is defined as the number of prior or open cases from a child welfare protection agency on the family/caretaker of the participant.
  11. Global sexual aggression: For the purposes of this study global sexual aggression is defined as the sum score of level of sexually intrusive behaviors, level of coercion, and number of offenses.
  12. Intellectual deficit: For the purposes of this study intellectual deficits are defined by a documented IQ of less than eighty-four on a standardized measure of intelligence.
  13. Intellectual vulnerability: For the purposes of this study intellectual vulnerability is defined by a known functional differential between the participant and the victim with the participant having the intellectual advantage during a sexually abusive encounter.
  14. Level of coercion: For the purposes of this study level of coercion is defined as the severity of force used to perpetrate a sexual offense. Level of coercion is dichotomized as low coercion; conning a victim through games, tricks or bribes or other enticements, and high coercion that is defined as the use of physical force (striking or restraining a victim), use of a weapon (inflicting harm with weapon or

- brandishing weapon to gain compliance), and verbal threats of force to gain compliance.
15. Loss of parental rights: For the purposes of this study a loss of parental rights is defined as the participants' parents having their rights terminated by a court of jurisdiction.
  16. Maltreatment experiences: For the purposes of this study maltreatment experiences are defined as evidence of sexual abuse, physical abuse, or neglect.
  17. Millon Preadolescent Clinical Inventory: Is a 97 item self-report inventory designed for 9-12 year olds. This inventory is designed to help mental health professionals identify, predict, and understand a broad range of psychological issues for preadolescents in clinical settings. The inventory has fourteen profile scales grouped into two sets: Emerging personality patterns and current clinical signs (Millon et al., 2005).
  18. Neglect: For the purposes of this study neglect is defined as both isolated incidents, as well as a pattern of failure over time on the part of a parent, other family member or caregiver to provide for the development and well-being of the child when that person is in position to do so. Neglect can include the following: neglect of health, education, emotional development, nutrition, and shelter and safe living conditions (World Health Organization [WHO], 2006).
  19. Nurturing parent-child relationship: For the purposes of this study a nurturing parent-child relationship is defined by evidence of a strong and warm attachment between parent and child as rated by a mental health professional.

20. Parental relationships: For the purposes of this study, parental relationships are defined as the marital status of the biological parents, co-habitation of the biological parents, and estrangement of a parent.
21. Parental resilience: For the purposes of this study parental resilience is defined as the parent's ability to cope with daily stressors while effectively caring for their offspring as rated by a mental health professional.
22. Participant: For the purposes of this study a participant is defined as a preadolescent sexual abuser (see definition of preadolescent sexual abuser).
23. Physical abuse: For the purposes of this study physical abuse of a child is defined as the intentional use of physical force against a child that results in or has a high likelihood of resulting in harm for the child's health, survival, development or dignity. This includes hitting, beating, kicking, shaking, biting, strangling, scalding, burning, poisoning and suffocating (WHO, 2006).
24. Physical vulnerability: For the purposes of this study a physical vulnerability is defined as a difference in stature or body ability (e.g. wheelchair bound or physical disability) between the participant and the victim, with the participant having the physical advantage in a sexually abusive encounter.
25. Poor parenting: For the purposes of this study poor parenting is defined as inconsistent interactions or application of discipline and care or poor supervision of the participant.
26. Positive academic achievement: For the purposes of this study positive academic achievement is defined by the youth performing at or above their expected academic ability.

27. Positive community connections: For the purposes of this study positive community connections are defined as participation in activities outside of the home that promote affiliation with others, such as sports, church, or youth group involvement (Bremer, 2001; Howard, Budge, & McKay, 2010; Hunter, Figueredo, Becker, & Malamuth, 2007).
28. Preadolescent sexual abuser: For the purposes of this preadolescent sexual abusers are defined as children ages 9-12 who initiate behaviors involving sexual body parts (i.e. genitals, anus, buttocks, or breasts) that are developmentally inappropriate or potentially detrimental to themselves or others. The motivation behind the behaviors need not be sexual in nature and could be related to anxiety, curiosity, imitation sensation seeking, anger, self-soothing, or other motives (ATSA, 2006).
29. Prosocial friendships: For the purposes of this study, prosocial friendships are defined as having a close peer or peer group and that those peer associations do not involve delinquent behaviors.
30. Protective factors: For the purposes of this study protective factors are defined as conditions in families and youth that may increase the health and well being of children and families when present. These include nurturing parent/child relationship, positive academic achievement, positive community connections, social competence, parental resilience, pro-social friendships, Family has concrete support (food, money, people to turn to if needed), and child has problem solving skills.
31. Role vulnerability: For the purposes of this study the role vulnerability is defined as the participants' misuse of assigned authority over the victim (e.g. baby sitter, captain of the sports team) in a sexual abusive incident.

32. Sexual abuse victimization: For the purposes of this study sexual abuse victimization is defined as the involvement of a child in sexual activity that he or she does not fully understand; is unable to give informed consent to, or that violates the laws or social taboos of society. Sexual victimization may include either physical or non-physical actions (i.e. exploiting the child in pornographic mediums). Child sexual abuse is evidenced by this action between a child and an adult or another child who by age or development is in a relationship of responsibility, trust or power (World Health Organization, 2006).
33. Sexually intrusive contact level: For the purposes of this study sexually intrusive contact is defined as non contact acts: exposure of genitals, exposing others to activities such as bathing or bathroom use, forcing another to undress or pose nude, and exposing another to sexual activity such as sexual behavior with another person, masturbation, or sexually explicit media. Contact, but not penetrative acts are defined as fondling a person in a personal area (non-genital), fondling a person's genitals, or having a person fondle the offender's genital area. Penetrative acts are defined as oral sex-perpetrator to victim, oral sex-victim to perpetrator, digital or object penetration to the anus or vagina, and penile penetration to the anus or vagina of another person (Burton, 2000).
34. Secondary family placement: For the purposes of this study a secondary family placement is defined as the participant being placed either by the parent or some child welfare entity into the physical custody of another family member (e.g. grandparent, aunt, uncle).

35. Social services placement: For the purposes of this study a social services placement is defined as the placement of the participant into a non-relative environment such as a foster home or emergency shelter.
36. Typology: For the purposes of this study typology is defined as a system of grouping cases based on their distinguishing features.
37. Victim relationship: For the purposes of this study, victim relationship is defined as the relationship of the victim to the participant; family member, family member with low frequency of contact, non-relative casual acquaintance or one whom has infrequent contact with the participant, and stranger; defined as one whom upon introduction to the participant was offended on.

## **Summary**

Children who sexually abuse are the least studied and understood subset of those who sexually abuse others. Attempts to understand this populations' etiological and treatment needs have often taken form in typological classification. The current published typologies have laid the groundwork for clinical and empirical guidance however; a number of factors limit each typology. The current typologies are based on atheoretical models. Approaching a taxonomic system of classification from a grounded theoretical perspective of personality may provide a more rich model for understanding children who sexually abuse on both etiological and treatment dimensions. The M-PACI is based on Millon's (1969; 1990) personality model, which is formulated as an evolutionary model of psychology. By providing a theoretically based classification system for preadolescent sexual abusers, intervention can be directly related to clinical science (Dorr, 1999). By using a personality-derived measure such as the M-PACI, a

distinct typological classification for preadolescent sexual abusers can be developed to expand the body of knowledge concerning this population.

## CHAPTER TWO: CRITIQUE OF THE LITERATURE

### Introduction

Preadolescents that have sexually abused have received relatively little research focus as compared to adult and adolescent sexual abusers. The available conceptualizations of preadolescent sexual abusers provide rich descriptive characteristics, but do so without an empirically guided framework. Personality is a distinctive style of adaptive functioning to a range of environments (Millon & Grossman, 2006). The growing body of research on personality in children has provided evidence of the stability of personality traits in children through adolescence and into adulthood (Abe, 2005; Hampson & Goldberg, 2006; Tackett, Krueger, Iacono, & McGue, 2008). Given that personality has an impact on how one interacts with their environment, it would be prudent to understand how personality relates to those individuals who sexually abuse others. This chapter is divided into four sections. The first section is a historical background on the construct of personality, including the development of major models and theory specific views of personality. The second section reviews the literature on personality development in children with a focus on the applicability of personality constructs to this population based on the extant literature. Section three focuses on sexual behaviors in children and includes a review of sexual development, sexual behavior problems and typologies of children with sexual behavior problems. The fourth section describes the Millon model of personality.

### Personality Theory

McCrae and Costa (1996) state that personality theories appear to serve three functions. First, they are a means to address basic philosophical questions about human nature. Second, they serve as a source for insights about various psychological mechanisms and human



characteristics. Third, personality theory attempts to define the scope and limits of personality psychology and identify the variables to be studied and the phenomena to be explained (McCrae & Costa, 1996). Causal connection between the character of early experience and later behavior has yet to be confirmed by scientific evidence. Different and equally compelling developmental hypothesis can and are posited to explain the same behavior (Millon & Grossman, 2006).

Personality can be heuristically decomposed into various trait domains. Though this type of division can facilitate clinical investigation and experimental research, no such subgroup exists in reality. Personality development is seen as a complex interplay of elements within and across these trait domains (Millon & Grossman, 2006).

Personality has also been approached from two perspectives with great historical traditions. The nomothetic or construct-centered (Allport, 1937) approach to personality takes the view of personality in an abstract sense, and not with any one individual. The focus is on ascertaining how certain constructs tend to relate to or cohere with others, and why (Allport, 1937). The idiographic approach emphasizes the individuality and uniqueness of each person. This approach is focused on one's individuality as the result of the unique history or transactions between biological and contextual factors. The extreme form of the idiographic approach opposes taxonomic methods (Millon & Davis, 1996). Both the nomothetic and idiographic perspectives of personality are limited in scope in their extreme forms. The nomothetic approach does not adequately recognize the singularity of each person and the idiographic approach does not consider that each individual must be compared and contrasted with others (Millon & Davis, 1996). Millon and Davis (1996) indicate that integrating the two approaches may produce the most satisfying perspective in which to view personality.

Millon and Grossman (2006) have stated that all scientific theories are to an extent a simplification or reduction of reality. The inherent reductionism in theories involves trade-offs between scope or breadth and precision or detail. It is within this context that we must recognize the limits as well as advantages of personality theory in considering the entire fabric of a person.

### **Historical perspectives on personality theory and trait psychology**

Historically, the word personality derives from the Greek term *persona* (Millon & Davis, 1996). The *persona* referred to the theatrical mask used by dramatic players. The mask's original meaning suggested a pretense of appearance, or traits other than those of the actor behind the mask. The term *persona* is now known to represent the real person and not the mask (Millon & Davis, 1996). The field of personality is primarily influenced by the trait psychology model (Endler & Magnusson, 1976). The precursor to the trait model is Hippocrates' (c. 400 BC) four typologies. The four types of temperament proposed were the choleric, melancholic, sanguine, and phlegmatic. Each of these types was suggested to be related to one of the four bodily humours (yellow bile, black bile, blood, and phlegm, respectively). Hippocrates devised the first formal system for classifying mental disorders some 2,300 years ago. His major categories were mania (overexcitability), melancholia (depression), and phrenitis (brain fever) (Aiken, 1999). It was not until recently that the pursuit of understanding personality came to the forefront in science. Ideas such as "tabula rasa" or blank slate by John Locke and Voltaire and pseudo-sciences such as astrology, palmistry, and phrenology piqued our interest in personality (Aiken, 1999).

In the late 19<sup>th</sup> century, Francis Galton began measuring traits and describes word association technique, behavior sampling, and other methods to measure character (Aiken, 1999). Around this same time, Emile Kraepelin proposed a new classification system for mental

disorders. Carl Jung's (1923) classification of introversion and extroversion was based solely on psychological factors and is one of the first modern era personality classifications. William Sheldon (1940) related physique to temperament, proposing the three dimensions of endomorphy, mesomorphy, and ectomorphy, which he related to three dimensions of temperament (viscerotonia-love of relaxation and comfort, somatonia-association with physical assertiveness, and cerebrotonia-associated with a pronounced need for privacy, respectively).

Trait models of personality are dimensional, which allows for comparison of individuals. The trait models also propose to explain individual difference and do not assume that an individual will behave the same in different situations. Trait psychology also assumes that traits may have genetic or environmental origins (McCrae & Costa, 1996). Gordon Allport was considered the prime trait theorist of his time (McCrae & Costa, 1996). He believed that a person's pattern of dispositions or traits were generalized across situations and determined one's behavior. Allport (1937) further believed that traits occurred in unique patterns that operated in unique ways in each person. Various trait theories are in disagreement as to the specific structure and content of traits (Endler, 2000). They all do agree however, that traits are dispositions and that traits account for behavioral consistency across a wide variety of situations.

The trait theorists in the early and late twentieth century predominates the field of personality. The early trait theorist examined individual's self-reported behaviors and self-perceptions. The aim of the trait theorists was to discover a finite and relatively small taxonomy of basic dimensions of personality and social behavior that could be used in describing everyone (Endler, 2000). This evolved into the identification and focus of the five factors approach to personality measurement. The factors are termed the "Big Five" or the Five-Factor Model, which are empirically related yet conceptually distinct models (Costa & McCrae, 1992; Goldberg,

1982). The most widely used terminology of the five factors approach to personality includes Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness. The limitations to the trait theory approach to personality have been based on limited evidence of temporal stability across situations. Trait theories are also criticized for being atheoretical (Endler, & Parker, 1992; Wiggins, 1980). Classical theories of personality on the other hand offer a broader scope of the whole person.

### **Classical Personality Theories**

Personality theory has strongly influenced the development of psychology. Personality psychology has attempted to integrate a wide variety of intrapersonal and interpersonal phenomena into a larger unifying theory of the whole person. Buss (1984) indicated that human nature and individual differences were the core themes that all major theories define in their propositions of personality. A review of classical personality theories and how each defines personality follows.

#### **Psychoanalytic theory and personality**

Psychoanalytic theory emphasizes the concept that psychological events are related to each other and to an individual's past. The objective of psychoanalysis is to remove neuroses and thereby cure patients by returning the damaged ego to its normal state (Freud, 1949).

Psychoanalysis has been referred to as "The most ambitious, comprehensive, and complex attempt to understand human behavior, both normal and pathological" (Wolitzky, 2006, p. 65).

The first and foremost principle of psychoanalytic theory is the concept of determinism. The theory suggests that mental events are not random or by chance, but a chain of casually related phenomena that are connected to past events. Many of these connections are considered unconscious (Arlow, 2005). Psychoanalytic theory proposes a topographic viewpoint in that

every mental element has a different level of accessibility to the consciousness. Psychoanalytic theory also assumes a dynamic viewpoint of instincts and drives that impels the mind to activity. The theory holds a genetic viewpoint that allows for tracing of the origins of later conflicts, traits, neurotic symptoms and psychological structure to events and wishes of the childhood (Arlow, 2005). Psychoanalytic theory indicates that the personality evolves out of the interaction between innate biological factors and life experience. In particular, libidinal drives influence and often are the source of conflict within an individual. The theory assumes a predictable sequence of development that is altered by life events, both inhibiting and developing the personality structure (Arlow, 2005).

### **Behavior theory and personality**

John Watson (1913) viewed psychology as an objective experimental branch of natural science whose theoretical goal is the prediction and control of behavior. Behavior theory's fundamental assumption is that behavior is maintained by its consequences (Skinner, 1953). Processes of change in behavior theory are based on altering relationships between behaviors and their consequences. Behavior theory utilizes learning experiences as the mechanism for change (Skinner, 1953).

The central assumption of personality from behavior theory is that stable and generalized personality traits determine behavioral consistency in a variety of situations (Wilson, 2005). Operant theory of contingencies of reinforcement is the general method used to explain the phenomena of personality. Behavioral theories assume that behavior is to be viewed nonmentally and in context, and that even private events such as thinking, feeling, seeing, hearing, dreaming and so forth are behaviors that can be traced back to origins in the person's experience of consequences in the past; or reinforcement history (Bolling, Terry, & Kohlenberg,

2006). Behavioral theories take an idiographic approach to understanding events and behaviors in the context of a person. The uniqueness of people's life experience and their chosen contingency of reinforcement create one's individual personality.

### **Cognitive theory and personality**

Cognitive theory is based on the rationale that an individual's affect and behavior is primarily determined by the way in which they structure the world (Beck, 1976; Beck, Rush, Shaw, & Emery, 1979). Cognitions are based on attitudes and assumptions that are developed from previous experiences. Beck stated that an individual's consciousness contains elements that are responsible for emotional problems and distorted thinking. Cognitive theory states that with proper instruction, the individual can use various rational techniques to deal with disturbing elements in the consciousness (Beck, 1976).

Cognitive theory emphasizes the role of information processing in individual's response and adaptation. Personality is viewed as a reflection of one's cognitive organization and structure, which are biologically and socially influence. Personal learning experiences help determine how one develops and respond within the constraints of ones neuroanatomy and biochemistry (Beck & Weishaar, 2005). Cognitive theory acknowledges the capacity for rationality that develops later in our life and that irrationality are the remnants of more primal emotional or drive based information processing systems (Dozois, Frewen, & Covin, 2006). Schemata or enduring internal structures of prototypical features of stimuli or ideas are used to organize new information in a meaningful way so that it can be conceptualized in to the core belief about the self. Schematic organization becomes maladaptive due to biased encoding of information, and the core content of schemas may become negative. Beck argues that the development of maladaptive self-schema occurs during early childhood but that it lays dormant

until it is later triggered by adverse circumstances (Beck, 1976; Beck, Rush, Shaw, & Emery, 1979).

### **Existential and humanistic theory and personality**

Existential and humanistic theories assume are that individuals' have the freedom and courage to transcend existential givens and biological and environmental influences to create their own future (Wong, 2006). These theories emphasize the phenomenological fields of reality each person experiences (May, 1961; Rogers, 1961). These theories focus on the lived experience of the whole person in context, and the striving for survival and fulfillment (May, 1961; Rogers, 1961, Rogers & Stevens, 1967).

Personality is viewed from a dialectic standpoint where humans endure conflict between positive and negative existential givens, which motivate a person. The positive existential givens include things such as the quest for meaning, the defiant human spirit, and faith in a higher power. The negative existential givens include meaninglessness, despair, or fear of death (Wong, 2006). The tendency within an individual is to actualize, maintain, and enhance experience. Personality development is seen as a basic congruence between the phenomenal field of experience and the conceptual structure of the self (Raskin & Rogers, 2005). Both theories assume a phenomenological view of personality where dynamics between existential givens and meaning can be described in terms of functional components and in terms of narrative structures (Wong, 2006).

### **Personality Development in Children**

According to Millon and Grossman (2006) numerous theorists share the premise that early experiences play a central role in shaping personality. Children are seen to display a wide variety of behavior in the first years of life. These behaviors, which may be seemingly random

or unpredictable at times, serve as an exploratory function for the child (Millon & Grossman, 2006). The child is in effect trying out a variety of behavioral alternatives for interacting with his or her environment. The child's ultimate goal is to discover which actions enable him or her to achieve desires and avoid discomforts. The child's innate capacities are experienced through their environmental experiences with parents, caregivers, relatives, and peers. The child learns to discriminate which activities are both permissible and rewarding, and which are not (Millon & Grossman, 2006). The shaping of personality is the result of this interaction of innate capacities and the range of diverse behaviors that become narrowed, selective, and crystallized into preferred ways of relating to others and coping with the world (Millon & Grossman, 2006).

Having a common model for children and adult personality may allow for the integration of the larger body of adult personality trait research with children (Jenson-Campbell, Adams, Perry, Workman, Furdella, & Egan, 2002; John & Srivastava, 1999). The Five-Factor model is a well researched model of personality traits in adults where five factors, generally known as Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness, are posited to be a comprehensive description of personality (Digman, 1990; McCrae & Costa, 1996; Sodano & Tracey, 2006; Trapnell & Wiggins, 1990). A merit of using the Five-Factor Model is that it presents a comprehensive yet manageable guide to personality traits (Digman, 1990; McCrae & Costa, 1996). The following critique of the literature on children's personality is focused primarily on the trait model, because it has been the most researched personality system in children.

### **Trait theory and personality development in children**

Research on the trait systems approach to personality in children began in the early 1980's. According to Barenboim, (1981) three developmental stages can be identified in



children's perception of personality description. The earliest stage occurs between ages 5 and 8 years old, where children can identify the behavioral characteristics when describing personality. In the middle stage from 8 to 12 years old they are able to identify trait constructs to describe themselves and peers. The third stage occurs from age 12 and older, where they are able to establish psychological comparisons with themselves and other children. This developmental progression suggests that with age and increasing ability that children can express increasingly different personality traits (Barenboim, 1981). Research studies have examined the evidence for support of a trait factor model for children's personality as well as its stability across time.

Kubzansky, Buka, and Martin (2009) investigated whether personality or temperamental qualities in children persisted over the life course and could predict adult midlife health. The researchers hypothesized that specific childhood personality attributes such as distress proneness, behavioral inhibition, and ability to stay focused on a task would be associated with adult health status. The study utilized a longitudinal epidemiological design with a socioeconomically diverse group of men and women. The data was a subsample of the Providence cohort of the National Collaborative Perinatal Project (NCPP). The NCPP began in the late 1950's as a prospective multisite investigation of approximately 60,000 pregnancies through the first 7 years of life, and was designed to study factors in the prenatal, perinatal, and early childhood periods that were believed to negatively influence subsequent health and development. The subsample of the original cohort was matched with the control group on sex, race, birth date, Full Scale IQ, maternal age, and maternal education level. Each participant was interviewed at age 7 and 35 utilizing a battery self-report questionnaires and a structured interview. The final analytic sample consisted of 569 participants. The sample was 40.4% women and 59.6% men and 79.6% Caucasian and 20.4% African American (Kubzansky et al., 2009).

Participants' social environment was measured using the family socioeconomic status (SES). Family SES was obtained by an index adapted from the Bureau of the Census. This measure is a continuous scale ranging from 0 (low) to 97.0 (high). It is a composite index derived from the education and occupation of the head of the household along with household income. Child health was measured from birth to age 7 by mothers, medical records, and by physical examination by study pediatricians. Early personality attributes were assessed first at age 7. The authors noted that few well-developed measures of personality were available in 1966 when the first participants were 7 years old. Behavioral assessments were conducted by trained psychologists on 15 behaviors. Three derived measures from the interviews were attention, distress proneness, and behavioral inhibition. The internal consistency of these measures ranged from 0.70 to 0.81. Self-rated health in adulthood was assessed by having each participant rate their general health in the past 12 months on a scale of 1 to 4 (poor to excellent). Information on adult illness was collected via self-report questionnaire on nine conditions that represented a range of illnesses that can be considered serious. Participants that answered "yes" to any of the questions were asked to identify their age at first diagnosis (Kubzansky et al., 2009).

The study found that two childhood personality attributes were significantly associated with adult self-rated health. Those with high attention at age 7 reported significantly better adult health ( $b = 0.12$ ,  $p < .05$ ,  $f^2 = 0.05$ ) while those with higher levels of childhood distress were more likely to report worse health ( $b = -0.15$ ;  $< .05$ ,  $f^2 = 0.04$ ). Aside from personality attributes, only gender was strongly associated with adult self-rated health, with women being significantly more likely than men to report worse health. Distress proneness was found to be significant ( $p < .01$ ) between men and women with distress proneness being strongly associated with self-related

health among women ( $b = -0.56, p < .01, f^2 = 0.10$ ) but not among men ( $b = -0.05, p = .46, f^2 = 0.01$ ) (Kubzansky et al., 2009).

Childhood personality attributes were also compared to number of adult illnesses. Individuals with high attention at age 7 reported significantly fewer illnesses as adults ( $b = -0.09, p < .01, f^2 = 0.06$ ) and those with higher levels of childhood distress proneness reportedly more adult illnesses ( $b = 0.07; p < .10, f^2 = 0.05$ ). Again, only gender was strongly associated with number of adult illness, with women reporting significantly more illnesses. A stratified analysis controlling for other covariates showed consistently stronger associations between early personality characteristics and adult illness among women (Kubzansky et al., 2009).

The study lends support to the relationship between childhood personality and adult health status across two different measures of adult health. The findings suggest that higher levels of attention at age 7 and low levels of distress proneness were significantly more likely to produce reports of better general health and fewer illnesses approximately 30 years later. The results also demonstrated a gender interaction with the magnitude of the effects of early personality attributes on adult health being significantly greater for women (Kubzansky et al., 2009).

The Kubzansky et al. (2009) study has several strengths. This includes its long-term follow up period, a large and diverse community sample, and multiple sources of data. The study is however limited by several factors. The biggest one being that there was no standardized child personality measure employed in the study. This brings concerns of potential for poor interrater reliability in the assessment of childhood personality differences. Secondly, the scope of personality facets assessed was limited. The three personality variables identified in the study do match with three of the Five Factor traits (distress proneness=neuroticism,

attention=conscientiousness, and behavioral inhibition=low extraversion), but do not account for agreeableness and openness to experiences. The lack of a full range of facets may have limited explanatory power when looking at different configurations of the personality variables.

Additionally, there was no way to take into account genetic factors that might contribute to both personality and adult health. Finally, it could be possible that more negatively oriented individuals (high distress proneness) would report poorer health outcomes regardless of their true health status.

Muris et al. (2009) studied the relationships between behavioral inhibitions, Big Five personality factors and anxiety disorder symptoms in non-clinical children ages 9-12. Muris, et al. investigated to what extent neuroticism, extraversion and other personality traits account for unique variance in behavioral inhibition, and whether behavioral inhibition accounts for unique variance in anxiety disorder symptoms after controlling for Big Five personality traits. The study took place in the Netherlands and included 226 children (109 boys and 117 girls). Parents or caretakers also provided data for the study (155 mothers, 16 fathers, 39 both parents, and 16 caretakers). The mean age of the sample of children was 10.54 years ( $SD = 1.05$ , range 9-12 years).

The children were administered the Behavioral Inhibition Questionnaire (BIQ; Bishop, Spence, & McDonald, 2003), which is a 30 item measure used for assessing behavioral inhibition in various domains such as social novelty, situational novelty, and physical challenges. The reliability of the BIQ was not reported, but referred to as satisfactory. Children were also administered the Big Five Questionnaire for Children (BFQ-C; Barbaranelli, Caprara, Rabasca, & Pastorelli, 2003), which is a 65 item questionnaire for measuring the five basic factors of personality in children and adolescents. The authors did not provide psychometric data for the

BFQ-C, but contend that it has clear support in several other studies. The final measure administered was the Revised Screen for Child Anxiety Related Emotional Disorders (SCARED-R; Muris, Merckelbach, Schmidt, & Mayer, 1999), which measures symptoms of the entire spectrum of anxiety disorders according to the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2000). The SCARED-R is a 69-item measure that assesses for separation anxiety disorder, generalized anxiety disorder, panic disorder, obsessive-compulsive disorder, traumatic stress disorder, social phobia and specific phobia. Reliability and validity were reported as adequate though the psychometric data was not reported. The parents or caretakers completed identical questionnaires, except that instructions and items are rephrased to in terms of the caregiver's perspective.

The results of the correlational analysis indicated that behavioral inhibition was negatively associated with extraversion, agreeableness, and intellect/openness ( $r$ s between  $-.27$  and  $-.66$ ) and small but positive links were observed with neuroticism ( $r$ s being  $.20$  and  $.18$  for child and parent report). A larger correlation was found between behavioral inhibition and anxiety disorder symptoms on the SCARED-R ( $r$ s of  $.49$  and  $.48$  for child and parent report respectively). Neuroticism was also positively correlated with anxiety disorder symptoms ( $r$ s of  $.54$  and  $.38$  for child and parent report respectively), and small but significant negative correlations were observed between extraversion, agreeableness, and intellect/openness (only parent report) and such symptoms.

The unique contributions of Big Five personality factors and behavioral inhibitions as measured by the BIQ yielded several findings through a regression analysis. Extraversion was the strongest predictor of an inhibited temperament; with lower levels of extraversion associated with higher levels of behavioral inhibition ( $\beta = -.62$ ). Neuroticism was also found to make a small

but unique contribution to behavioral inhibition ( $\beta$  .21). The regression model also found that conscientiousness was positively linked to behavioral inhibition ( $\beta$  .19), which was not consistent with the results of the correlational analysis that showed non-significant, negative correlations between this personality factor and behavioral inhibition scores on the BIQ. Overall, personality factors accounted for 49% to 52% (child and parent report respectively) of the variance in behavioral inhibition scores.

A hierarchical regression analysis was conducted where children's anxiety disorder symptoms scores were predicted from sex (step one), Big Five personality factors (step two) and behavioral inhibition (step three). The results indicated that 37% (parent report) and 47% (child report) of the variance in SCARED-R scores could be explained by the predictor variables. Girls reported higher anxiety levels than boys, neuroticism (higher levels) and extraversion (lower levels) accounted for unique proportions of variance in SCARED-R scores, and behavioral inhibition was found to explain an additional significant proportion of variance in SCARED-R scores.

The research supports the contention that low levels of extraversion from the Big Five personality model characterize behavioral inhibition. The authors are careful to point out that behavioral inhibition does not simply reflect low extraversion, but that these children (introverts) are likely to enjoy time spent on their own and find less reward in meeting large groups of people. Being introverted does not necessarily mean that they are avoidant of social situations out of tension or fear. This may be partially accounted for by the small but significant contribution of neuroticism to behavioral inhibition, as this personality factor can account for a negative motive of shy or withdrawn behavior in inhibited children. Additionally, neuroticism

was a clear correlate of children's anxiety disorder symptoms. Both behavioral inhibition and neuroticism appear to play some unique role in the development of childhood anxiety.

The Muris et al. (2009) study has limitations that impact interpretation of the results. The study only assessed non-clinical children, thereby limiting the generalizability to clinical populations. It is possible that a clinical population would have yielded different personality, behavioral inhibition, and anxiety symptom relationships than the group under investigation did. The study is also limited by its population limited racial scope. The group was comprised of predominantly Dutch descent (85%) children. Findings across other ethnic, racial and cultural groups may differ from the results obtained in this study.

Brown, Mangelsdorf, Agathen, and Ho (2008) studied young children to examine whether they are capable of meaningfully reporting about their own emotions and personalities. The second goal of the study was to explore how children's self concepts map onto mothers' perceptions of child personality. One hundred and fourteen children participated in the study. All except two of the mothers participated, reducing the total number of mother-child pairs to 112. The average child age was five years, six months. There were 59 girls and 53 boys and the group was described as predominantly European American. The sample was mostly middle class, with an average annual family income of \$45,000. Fifty-eight percent of the mothers and 92 percent of the fathers were employed; 72 percent of the mothers had attended or graduated from college with 22 percent having earned an advanced degree. The average age of the mothers was 34. Over two thirds of the participants were already part of a longitudinal study that had begun when their children were four years old. The additional participants were recruited solely for the purposes of the present study. Both samples were reportedly matched on demographic data.

The children's self-view questionnaire (CSVQ; Eder, 1990, 1992) was used to assess the children's psychological self-view or self-concept. The CSVQ has 62 questions incorporated as contrasting statements made by two puppets. A videotape version of the CSVQ where children participate in a game entitled 'Who am I?' was used in this study. Children are asked to choose which statement made by the puppets they agree with. A research assistant recorded answers and children were allowed a snack or stickers to help them maintain their interest. The CSVQ measured nine self-concept dimensions to include; achievement, aggression, alienation, harm-avoidance, social closeness, social potency, stress reaction, traditionalism, and well-being. The California Child Q Set (CCQ; Block & Block, 1980) was used as the maternal report measure. This measure is commonly used with mothers as a way to assess child personality from the adult perspective. The CCQ has well confirmed reliability and validity per Brown et al. (2008), and has been used in multiple studies of child personality. The CCQ version in this study consisted of 100 statements describing various aspects of young children's behavior. The mothers were asked to place each of these cards into one of nine piles on a continuum of most like my child to least like my child.

The first analysis attempted to establish a reliable and conceptually meaningful factor structure for the CSVQ. The confirmatory factor analysis based on the original factor structure of the CSVQ yielded an acceptable goodness-of-fit for the dataset (root mean squared residual = .21). However, the internal reliability on individual scales was low, with Cronbach's alphas ranging from .13 to .53, with an average of .36. The original nine lower order CSVQ dimensions yielded an adequate goodness-of-fit (root mean squared residual = .18). Though again, there was low reliability for this structure, as Cronbach's alphas ranged for -.02 to .57 with a mean of .38. The exploratory factor analysis resulted in a three-factor solution with an acceptable goodness of



fit (root mean squared residual = .16). The three factor solution found that timidity, agreeableness and negative affect provided the most parsimonious and appropriate conceptualization of the structure of five year old's self concepts (Brown et al., 2008).

The second analysis addressed the associations between mother's reports of child personality and children's self-concepts. The three CSVQ factors were significantly correlated with a number of the big five personality dimensions that were derived from the CCQ. Children who reported being highly timid were judged by their mothers as being high on neuroticism ( $r = .26, p < .01$ ). Children that rated themselves as highly agreeable were also seen as agreeable by their mothers ( $r = .38, p < .001$ ). Children that reported negative affect were negatively related to maternal reports of conscientiousness ( $r = .26, p < .01$ ), and positively related to mothers' reports of neuroticism ( $r = .30, p = .001$ ).

A regression analysis was conducted to further explore the unique and cumulative effects of mother reported personality dimensions on the prediction of children's reported self-concepts. The mother's reports of child personality were entered as independent variables and children's self concepts were selected as dependent variables. The five personality variables together accounted for 17 percent of the variance in children's self reports of timidity ( $F = 4.36, p = .001$ ). Maternal reports of low extraversion and low openness to experience were both significant predictors of children's reports of timidity. Sixteen percent of the variance in agreeableness self-concept reports in children was explained by maternal reports of the big five personality dimensions ( $F = 4.00, p < .01$ ). High child agreeableness by mothers was the only significant predictor of child reported agreeableness. Thirteen percent of the variance in children's negative affect was explained by mother's reports of all child personality dimensions together ( $F = 3.21, p$

= .01). After controlling for all dimensions, high mother reported neuroticism remained a significant predictor of children's negative affect self concept (Brown et al., 2008).

The Brown et al. (2008) study provides evidence that young children are able to provide valuable information about their own personalities through self-concept measures. These self-concept measures appear to reflect a coherent three-factor structure of children's personalities that is meaningfully related to mother's reports of child personality. The CSVQ did not adhere to the same three-factor structure in the original work (see Eder, 1990), though the three factors identified were more congruent with the Multidimensional Personality Questionnaire (MPQ; Patrick, Curtin, & Tellegen, 2002) adult personality measure for which the CSVQ was originally derived. The associations between mother and child personality endorsement were in general agreement providing a conceptual link between the emergences of personality patterns. The findings also have implications for the study of personality development across the lifespan, by continuing to extend common measures of personality from childhood to adulthood.

The Brown et al. (2008) study is limited in several ways. The CSVQ requires additional confirmatory factor analysis to determine how well the new three factors replicate in other samples. The use of two different measures may have inaccurately captured the level of mother-child agreement in personality endorsement. The study was non-experimental and therefore no causal link between maternal perceptions of children's personality and children's self concepts may be definitively drawn. The study is also limited by the scope of self-reports that do not capture the full spectrum of a child's social experience. Furthermore, this was a relatively homogenous sample of Caucasian middle class individuals, thereby limiting the generalizability. Additionally, clinical utility of personality endorsement and structure is limited as the participants were from a non-clinical population.

Del Barrio et al, (2006) investigated the factor structure of the Big Five Questionnaire for Children (BFQ-C; Barbaranelli, Carpara, Rabasca, & Pastorelli, 2003) to determine its factor structure invariance by means of self-report across gender and age groups in a sample of children. Specifically, the authors wanted to determine if a five-factor structure is suitable across age and gender groups, determine if the factor loading is invariant across these groups, and to explore the theoretical constructs between defined groups.

The sample consisted of 852 Spanish-speaking children from a non-clinical population, ranging in age from 8 to 15 years (mean of 11.86 and  $SD = 2.03$ ). Participants were selected through a simple random sample of various state and state subsidized schools in different Spanish cities. The final sample was comprised of 487 boys and 337 girls. The mean ages were 12.01 ( $SD = 1.85$ ) for girls and 11.07 ( $SD = 2.17$ ) for boys. The participants were administered the BFQ-C, which measures the personality constructs of Emotional Instability, Extraversion, Openness, Conscientiousness, and Agreeableness. The BFQ-C has 65 items with five possible responses from 5 to 1: 5, *almost never*; 4, *often*; 3, *sometimes*; 2, *rarely*; 1, *hardly ever*. Higher value responses indicate a higher degree for each personality dimension. The psychometrics for the BFQ-C has been reported in a Spanish sample (Carrasco, Holgado, & Del Barrio, 2005) is within acceptable limits. The reported internal consistencies using Cronbach's alpha were .88 for Conscientiousness, .79 for Extraversion, .84 for Openness, .78 for Emotional Instability, and .80 for Agreeableness. The test-retest reliability over a week period ranged from .62 to .85.

The study found that that same five factor structure could not be found across age groups when taking into account the  $\chi^2$  exclusively,  $\chi^2 = 9124.78$  ( $p = .00$ ;  $df = 2927$ ), GFI = 0.92, CFI = 0.96, ECVI = 11.36, and RMSEA = 0.071. The gender variable the values were  $\chi^2 = 9615.09$  ( $p = .00$ ;  $df = 2932$ ), with GFI = 0.92, CFI = 0.94, ECVI = 12.33, and RMSEA = 0.074.

However, the descriptive fit indices do provide support for invariance of the participants' responses with a five-factor structure both across age and gender. Although it cannot be necessarily concluded that there is a common structure based on the data. The second hypothesis was confirmed as all pattern coefficients were constrained to be invariant across age and gender. The third hypothesis was only partially confirmed. In regards to age, all models showed significant increases on the  $X^2$  test, except for factor variance of Emotional Instability (RDR = 0) and the factor covariances of Conscientiousness/Openness and Openness/Emotional Instability. This indicates that theoretical constructs are not equivalent for age. In regards to gender, the increase in value of the  $X^2$  test was not significant ( $X^2 = 20.59$ ;  $df = 5$ ;  $p = .15$ ). This supports the assertion that there is a similar relationship between theoretical constructs across gender groups.

Del Barrio et al, (2006) provide partial support for five-factor invariance structure for children of different age and gender through a self-report questionnaire. This suggests that children in this age range are able to use no fewer than five trait constructs to describe their personality. The study also supported the invariant factor structure of the BFQ-C with polychoric correlations across gender and age groups. The study did not find the hypothesized invariance for theoretical constructs across age, which weakens the argument for a five-factor model for children. The study is limited by its use of a single self-report measure to describe personality, without benefit of a secondary confirmation from another source such as a parent report, or a similar measure through child report. This study is also limited in generalizability due to its specific focus on Spanish children; which may not replicate to children from other countries. This study also focused on a non-clinical population, which limits the application of findings to clinical populations of children.

Sodano and Tracey (2006) attempted to extend the available instrumentation for children's personality through the development of the Child and Adolescent Interpersonal Survey (CAIS). The CAIS was created to be a self-report rating scale of global interpersonal traits similar to the Interpersonal Adjective Scale (IAS; Wiggins, 1995), which is a well-established measure of global interpersonal traits in adults composed of single word trait descriptions. The CAIS was proposed to follow the same theoretical assumptions and research support for the Interpersonal Circumplex Model (IPC; Wiggins, 1979, 1982, 1995). Sodano and Tracey (2006) examined validity in five ways. First, the items and scales were characterized using two interpersonal dimensions of Dominance and Nurturance. Secondly, the scales were expected to demonstrate a circular structure similar to those of adult samples. Third, the structure was expected to not differ significantly across grade and gender in the child sample. Fourth, a predictable pattern of covariation between IPC and Five Factor traits were expected. Lastly, the content of the CAIS was compared to an established instrument in an adult sample.

The participants were drawn from fourth and sixth grade students as well as college level students. The child sample was composed of 213 students from three suburban elementary schools in the southwest United States. The sample consisted of 113 boys and 100 girls with ages ranging from 9 to 13 ( $M = 10.7$ ,  $SD = 1.08$ ). Child participants racially self-identified according to the following categories: 0.5% Asian/Asian American, 8.5% Black/African American, 68.9% Hispanic/Latin American, 6.6% Native American, 14.6% White/European American, and 0.9% other (chose not to provide information). The adult sample consisted of 194 undergraduate students from classes in a college of education at a large southwest state university. Participants' class standing was 21.6% freshmen, 34.6% sophomore, 28.9% junior, 14.4% senior, and 0.5% graduate. Females comprised 80.4% of the sample and males 19.6%. The ages ranged from 17-

50 ( $M = 20$ ,  $SD = 3.19$ ), with 84% of the ages falling between 18 and 22. Participants racially self-identified as 1.5% Asian/Asian American, 3.5% Black/African American, 10.7% Hispanic/Latin American, 0.5% Native American, 82.8% White/European American, and 1% identified as other.

The CAIS was developed for the study. The development of the measure largely followed the substantive or construct approach. The framework for the CAIS was based on the IPC domains. Matching children's language for items was a key consideration in the development of the scale. Trait descriptions of cartoon characters were used as the language to generate items per octant. Then the items were presented to fourth and fifth grade teachers for feedback regarding appropriateness for children with respect to content, reading level, and understanding. The research team to ensure representativeness for each octant then again reviewed the items. A group of 35 fourth grade students were given portions of the possible item pool and asked to rate themselves using a 5-point Likert-type scale ranging from 1 (*never*), 2 (*a little*), 3 (*some*), 4 (*a lot*), to 5 (*always*). Researchers followed along as the children completed the scale and items that were found to be misunderstood or difficult to comprehend were discarded. The preliminary version of the CAIS consisted of 67 items: 64 brief interpersonal trait descriptions generated to represent the eight octants of the IPC, plus 3 validity check items to check attention.

The IAS (Wiggins, 1995) was administered to the adult participants. The IAS consists of 64 adjectives rated on an 8-point continuum ranging from 1 (*extremely inaccurate*) to 8 (*extremely accurate*). The IAS internal consistency estimates reported by Wiggins (1995) range from .73 to .86. The internal consistency estimates from this study ranged from .71 to .87. Adult participants were administered the CAIS and the IAS and a demographic questionnaire.

A condensed version of the Big Five Questionnaire for children BFQ-C (Barbaranelli, et al, 2003) was administered to the child participants. The BFQ-C is a self-report measure of children's personality traits based on the Five Factor Model and consists of five scales designed to measure the five factors of Emotional Instability (Neuroticism), Extraversion, Intellect/Openness, Conscientiousness, and Agreeableness. The original BFQ-C consists of 65 items rated on a 5-point continuum ranging from 1 (*never*) to 5 (*always*). The BFQ-C has convergent validity support with the Childhood Behavioral Checklist (CBCL; Achenbach & Edelbrock, 1983) on several scales. The shorter version of the BFQ-C was comprised of 5 items from each scale of the original scale. The internal consistency estimates for the condensed scales in the study were Extraversion, .56; Agreeableness, .72; Conscientiousness, .67; Neuroticism, .56; and Openness, .54. The authors note that these internal consistency estimates are not high, but that they are within the range reported by other studies of FFM in children via self report which utilize two to three times as many items per scale as the BFQ-C condensed scale created for this study. Child participants were administered the measures in class by a researcher. The measures included a brief demographic questionnaire, the CAIS, and the BFQ-C.

The CAIS was subjected to a principal components analysis. Three components were expected; a general component and two substantive components. Based on interpretability, parsimony and the scree test the researchers selected a three-component solution as the best representation of the data. A plot of the items in the space created by the first two components revealed a circular pattern, and individual items clustered around the octants where they were predicted to fall. Over 70% of the final items fell within their theoretically prescribed octants. Remaining items that deviated from their theoretical octant placement made substantial contribution to their respective scales and was retained. The structural evaluation of the CAIS

was confirmed through the correspondence index procedure. The correspondence index can vary from -1.00 to +1.00, with -1.00 indicating that all predictions of the model were violated and +1.00 indicates that there is perfect agreement between model and data. A correspondence index score of 0.00 indicates chance, in that 50% of predictions were met and a correspondence index score of .50 indicates that 75% of predictions were met. The correspondence index score for the CAIS was .89, indicating strong support for the circular structure. The correspondence index across age groups (fourth and sixth graders) and gender were also strong: .84 to .91, indicating that the circular structure was well supported in the child sample.

Convergent and discriminant validity of the CAIS tested against the BFQ-C. A significance cutoff of  $p < .001$  was adopted to lessen the chances of committing a Type I error. There were significant correlations in the expected direction for several scales on the CAIS and BFQ-C. However, not all were significant though they were in the expected direction of correlation. There were three scales of the BFQ-C that did not demonstrate the lack of relation expected. The structural and convergent validity with the adult sample was also evaluated. The circular order was significant ( $p < .001$ ) with correspondence index of .84, demonstrating a good fit of the circular model to the data. The test of difference in fit of the circular model to the adult and child data sets was not significant ( $p > .05$ ), indicating that there was no difference in fit of the circular model between samples. There were moderate to large correlations between the CAIS and IAS ( $r = .36$  to  $.68$ ), demonstrating convergence. Convergent validity was further supported by principal components analysis of the CAIS and IAS scales, where they were found to be highly similar, with the same circular ordering.

Sodano and Tracey's (2006) CAIS was successful in replicating the circular structure of the IPC in their scale. This gives support for the use of the IPC model as an appropriate measure



in children and adolescents. The validity of the CAIS is supported by the construct approach as it corresponded well to its theoretical model. This was also confirmed in the exploratory principal components analysis and confirmatory randomized tests of circular structure. There were problems at the item level correspondence of the CAIS to the IPC model as well as lower internal consistency on three octant scales. Sodano and Tracey note that more work is needed to establish convergent and discriminant validity for the CAIS. This study extends the use of trait theory approach to personality measurement in children with fair results. They authors provide evidence of the circular structure of the IPC, which is a well-established adult model of personality. The study also provides support for the consistency of the circular model across age.

The findings of the Sodano and Tracey (2006) study are limited by several factors. The study relied only on child self report for personality measurement, which may be subject to bias and not accurately represent personality of participants. The sample of children was predominantly Hispanic/Latin American, and therefore may not generalize to different ethnic/cultural groups. The authors did not discuss the impact of the potential problems with reading comprehension of the CAIS or BFQ-C as the majority of the child sample was noted to be Hispanic/Latin American in origin and have a higher prevalence of having English as a second language.

Hampson, Andrews, Barckley, and Peterson (2006) investigated the continuity of personality construct in the Oregon Youth Substance Use Project (OYSUP), which is a cohort-sequential study focused on the development from early childhood to adolescence (Andrews, Tildesley, Hops, Duncan, & Severson, 2003). The authors evaluated the relationship between personality constructs derived from behavior ratings obtained in five successive assessments across middle childhood and early adolescence, and ratings on markers traits for the Five Factor

model at the fifth assessment. The study addressed the reliability of teacher measurement of the constructs of sociability and hostility and whether these constructs were stable over time. Sociability and hostility were also examined cross sectionally and longitudinally to see if these traits could predict the Big Five traits measured at the fifth assessment.

The OYSUP sample was composed of 1075 children from 15 elementary schools in one school district in western Oregon. At the first time of measurement an average of 215 students in each of the first through fifth grades participated. There were equal numbers of boys and girls (50.3% female;  $N = 528$ ), and the average age was 9.0 years ( $SD = 1.45$ ). The sample was 86% Caucasian, 7% Hispanic, 1% African American, and 2% each of Asian/Pacific Islander, American Indian, and Alaskan Native. The schools were located in a predominantly working class community and 71% of mothers and 66% of fathers had some post-high school education. Forty percent of the sample was eligible for free or reduced lunch, which is a common indicator of low family income. Attrition was reported to be the highest between the fourth and fifth assessment (10%), which was separated by two years.

Teachers rated their students on several behavior scales. The measures included the short version of the Walker McConnell test of children's social skills (Walker & McConnell, 1995); the Harter social acceptance subscale of the self-perception profile for children (Harter, 1985); the Achenbach withdrawn subscale of the Teacher Report Form (Achenbach, 1991); and the Crick aggression scales (Crick, 1996). A scale was developed by the authors to measure sociability and hostility from these behavior ratings. An exploratory factor analysis from all of the items from the scales at time one yielded a two-factor solution accounting for 52.3% of the variance. Confirmatory factor analysis demonstrated acceptable fit for the measurement model,  $\chi^2(143, N = 1049) = 417.97$ , CFI = .98, root mean square error of approximation (RSMEA) =

.043 (90% CI = .038, .048). At time-five teachers rated each child on each of the Big Five dimensions using a 5-point scale: 1 = false, 2 = somewhat false, 3 = neither true nor false, 4 = moderately true, 5 = very true. Teacher's familiarity with students was also assessed on a scale of 1 to 5 (1 = not well at all, 5 = very well).

Children's scores on the sociability and hostility scales were converted to *z* scores and then used to determine rank order stability over all possible time intervals by correlating each time of assessment with every other. The correlations were all significant and indicate considerable rank order stability, with higher correlations across short intervals and correlations for sociability being slightly higher than those for hostility. The measurement model was derived through an exploratory factor analysis for the entire sample at time-five that indicated the best Five Factor orthogonal solution. This model accounted for 75% of the variance after dropping seven traits that loaded highly on more than one factor. Confirmatory factor analysis were conducted to test the fit of the measurement model on the remaining traits. The fit of the model for the entire sample at time-five was adequate,  $\chi^2 (98, N = 783) = 503.50, p < .001, CFI = .961, RMSEA = .073$  (90% CI = .066-.079).

The latent constructs of sociability and hostility from time-one to time-five were related to the Big Five traits using structural equation modeling. The constructs of sociability and hostility as measured by teacher ratings demonstrated continuity across five successive assessments over a 6-year period. The mean rank order stability over the five-year period for sociability was found to be .50 and .43 for hostility. The largest associations for sociability were extraversion (.92), then agreeableness (.57). The largest association for hostility was with emotional stability (-.61) followed by agreeableness (-.47) and conscientiousness (-.47). Hostility was least strongly associated with extraversion (.14).

The Hampson et al. (2006) study found that sociability and hostility demonstrated the same pattern of relations to the Five Factor model in both cross sectional and prospective analysis. The findings contribute to the body of research indicating continuity and stability of children's personality traits across time. The findings also support the position that sociability and hostility may be viewed as precursors to the Big Five dimensions. The findings also support the use of teacher behavioral ratings as having screening value for at risk youth.

The Hampson et al. (2006) study is limited by its use of teacher only report in measuring personality. Child and teacher comparisons of behavior ratings may have provided contrary evidence of child personality stability over time. Additionally, the final measurement model on the exploratory factor analysis was marginal at best as the factors were highly correlated. Caution should be used to interpret the findings in light of this model weakness.

Markey, Markey, Ericksen, and Tinsley (2006) studied children's risk behavior patterns as they relate to personality factors. The authors examined personality from a Five Factor perspective as a predictor of vulnerability to participate in risky behaviors. The sample consisted of 94 children in the fourth and fifth grade that was ethnically and socioeconomically diverse to the United States population in the southwest (53.7% European American and 46.3% Mexican American). The mean age of the sample was 10.07 years for fourth graders and 10.87 years for fifth graders. Forty-three percent of the sample was female and fifty seven percent male.

Trained coders observed the youth as they completed a series of tasks during a laboratory visit. They participants were rated using the Riverside Behavioral Q-Sort (RBQ; Funder, Furr, & Colvin, 2000), a 63-item measure originally created and validated for coding the behaviors of adults as they interact with unrelated partners. The wording was modified for use in this sample. Two judges described the child's behavior by sorting the cards into a forced choice, quasi-

normal distribution. The average inter-rater reliability of the single RBQ items was .55, similar to that of the adult version of the RBQ. In order to compute the inter-rater agreement for a particular child's behavioral pattern the two rater scores were correlated. The mean reliability of the children's behavioral patterns scores in this study was .86, indicating a moderately high agreement.

The RBQ was quantified in terms of the Five Factor model using the research by Eaton and Funder (2000). One year later, children in the study completed the risk behavior assessment which measures participation in health compromising or risky behaviors such as smoking, alcohol consumption, marijuana use and kissing (conceptualized as a "gateway" to sexual activity). In the current sample 44% of children reported participating in at least one of the risk behaviors; 9% had smoked a cigarette, 22% had tried alcohol, 4% had smoked marijuana, and 21% had kissed a non-related member of the opposite sex.

A two-step approach was employed to determine the extent to which the behavioral pattern of the children who participated in risky behavior was similar to the hypothesized patterns of neurotic, extraverted, open, agreeable, or conscientious individuals. Pearson correlations between the RBQ scores and the risky behaviors participated in were computed. In the second step, the fit of these observed patterns of behavior to the hypothesized behavioral patterns of each FFM trait were evaluated by computing *r*-alerting coefficients for boys and girls.

The study identified behavioral patterns associated with risk to be related to particular facets of the Five-Factor model of personality. Girls risk behaviors related most to traits of neuroticism (*r*-alerting .56,  $p < .001$ ), introversion (low extraversion, *r*-alerting -.36,  $p < .004$ ), disagreeableness (low agreeableness *r*-alerting -.52  $p < .001$ ),

and low conscientiousness ( $r$ -alerting  $-.27$   $p < .031$ ). Whereas, boys risk behaviors were related mostly to extraversion ( $r$ -alerting  $.37$   $p < .003$ ) and disagreeableness ( $r$ -alerting  $-.32$   $p < .011$ ). This data suggest that behaviors may be described as a manifestation of personality traits and that there are clusters of risk behaviors as well as health promoting behaviors that can be predicted by personality type. A distinct finding of the study was that higher extraversion in boys related to more risky behaviors; which is consistent with prior studies. Girls, however, were found to have more risky behavior when they behaved more introverted.

The Markey et al. (2006) study is limited in some capacities and would benefit from replication and a larger sample size as well as continued longitudinal reviews. Additionally, having the children self rate their personality, which has been supported as having validity (Brown et al., 2008) could improve the study design. The predictive strength of behavioral observations and the related personality structure to future health promoting or risk behaviors is an important finding for the study. The study also lends support to further investigate knowledge of children's personality as a means to change patterns that may otherwise result in engagement in health compromising behaviors.

Hampson and Goldberg (2006) found support for the relationship between Big Five personality traits expressed during childhood as assessed by school teachers and their stability across time. The original child cohort included 2,404 elementary school children comprising six samples obtained between 1959 and 1967. The participants consisted of a mixture of community members and a laboratory group ranging from first to sixth grade. The larger community member group was analyzed to measure childhood-to-adulthood personality trait stability and the laboratory group was used to estimate the stability of teacher assessments during childhood only. The participants were rated during childhood by schoolteachers and then assessed 40 years later

by self-reports. Children were rated in six different groups; some receiving as many as three separate ratings across time in the childhood cohort. The measure of child personality varied across groups, though largely consisted of one-word descriptions or short phrases in which they were rated on. Teachers were instructed to rank their students from highest to lowest on each attribute, similar to a Q-sort method except that individuals, rather than attributes were ranked.

The average length of time between childhood teacher assessment and adult participation was 40 years. Approximately 400 men and 400 women participated in the follow up through completing a series of mailed questionnaires and taking part in an extensive battery of physical, medical, personality and cognitive measures. The first questionnaire was a 16-page survey of demographic variables and health-related behaviors (e.g. smoking, drinking, diet, and exercise). The questionnaire also included 44 items from the Big Five Inventory (BFI; John & Srivastava, 1999), that were rated on a 5-point response scale, ranging from 1 (*very inaccurate*) to 5 (*very accurate*) as self descriptors. A second questionnaire was administered between 2 and 4 years after the first. This questionnaire focused only on personality characteristics. The questionnaire included a re-administration of the 44-item BFI plus two items in the same format that assessed self-perceived physical attractiveness. The second measure was comprised of 84 items; the 40 personality trait adjectives from Saucier's (1994) Mini-Markers (SMM), which are a subset from Goldberg's (1992) 100 unipolar markers of the Big Five factor structure, and 42 of the 49 childhood variables used by teachers to rate children.

The short term retest stability of the childhood teacher assessments over the 1, 3, and 4-year intervals indicated that agreeableness and extraversion conformed to the predicted pattern of a linear decrease in stability over time, whereas the other three factors showed higher stability at over 4 years than over 3. The stability varied with some correlations being as low as .22 and as

high as .55. The adult retest stability indicated that extraversion and openness were somewhat higher than for the other three factors. The magnitude of test-retest correlations was much higher than the short-term stability of childhood assessments. The lowest coefficient alpha found was .70 and the highest was .79, indicating more stability of ratings in adulthood.

The 40-year stability correlations for each adult criterion were highest for Extraversion (.29) and Conscientiousness (.25). The stability correlations within both childhood and adulthood were noted to be higher than the stability correlations from the interval of childhood to adulthood. To obtain significant correlations between these two time periods is an important finding. The study also found that not all traits are equally consistent from childhood to adulthood. Neuroticism and Agreeableness did not display longitudinal stability over a long time period, and Openness was somewhere in the middle. Neuroticism may be viewed as more “state-like” and susceptible to change, and is a common target for therapeutic endeavors. However, it is also important to note that this trait is the least visible to outside observers.

Hampson and Goldberg’s (2006) study is supported by earlier work by Friedman, Tucker, Tomlinson-Keasy, Schwartz, Wingard, and Criqui (1993), that followed a cohort from the Terman Life-Cycle Study beginning in 1921. The Friedman et al. (1993) study found that conscientiousness was predictive of greater longevity, indicating that such traits are enduring and predictive of future behaviors. Though the Hampson and Goldberg (2006) study did find significance in trait stability over time, the findings are limited by some methodological concerns. First, the measures given to the community samples varied thereby limiting the comparability of traits measured. Similarly, the measures answered by self-report in adulthood were different as well. Though the personality trait measures captured much of the same data, not having a consistent instrument over time may have impacted the results. However, in the



broad view of major personality trait theory, the researchers did evidence the stability of two major facets across time.

Abe (2005) conducted a longitudinal study to examine the predictive validity of the FFM with preschool aged children as measured by maternal ratings of personality and to identify if any continuity in personality characteristics exists. The participants were 59 mother-child dyads that were predominantly middle socioeconomic class and Caucasian.

At the first age interval (3.5 years) the mothers rated the child's personality using the California Child Q-set (Block & Block, 1980). This instrument consists of 100 statements printed on individual cards describing various affective, cognitive and behavioral characteristics of a child. The rater must sort the cards into nine categories with a fixed distribution. The alpha reliabilities for the seven personality dimensions in this study ranged from .58 to .70. At age five, 45 of the original cohort participated in the second measures in which the youth were measured on a variety of monitored play procedures to measure prosocial play, free play, and toy pick up. These events were videotaped and rated by trained raters. The interrater reliability was measured through kappa coefficients and ranged from 1.0 for proximity seeking to .84 for negative affect.

The final measure occurred when youth reached the mean age of 12 (SD = 1.02). Youth completed Harter's self perception profile for children-revised (Harter, 1985) and the Nowicki-Strickland Locus of Control Scale (N-SLCS; Nowicki & Strickland, 1973) and the mother completed Connor's parent rating scales (CPRS-48; Connors, 1990). Harter's Self-Perception Scale is used to measure children's self-concepts in five areas (Scholastic Competence, Social Acceptance, Athletic Ability, Physical Appearance, and Behavioral Conduct) as well as their global perception of their worth. Alpha reliabilities in this study ranged from .90 for Social Acceptance to .80 for Scholastic Competence (mean = .86). The N-SLCS is a 40-item instrument

designed to measure the extent to which a child believes that reinforcement comes to them by chance or fate (external locus of control) or because of their own behavior (internal locus of control). The alpha reliability in this study was .58. The CPRS-48 is a 48-item instrument used to assess behavior problems of a child in five behavioral areas: Conduct Problems, Learning Problems, Psychosomatic Problems, Impulsivity, and Anxiety. The alpha reliability for the CPRS-48 in this study ranged from .81 for Conduct Problems to .67 for Learning Problems (mean = .73).

The results of the analysis indicated that there was significant predictive validity of personality traits of preschool age children through early adolescence. The analysis revealed that Agreeableness and Conscientiousness were differentially correlated with maternal ratings of learning problems and psychosomatic problems as well as with self ratings of scholastic competence and behavioral conduct,  $t_s = 2.54, 2.28, 2.95,$  and  $2.13$  respectively,  $p_s < .05$ . Additionally, the study found particular traits in childhood to be associated with different behavioral outcomes in early adolescence. Agreeableness and conscientiousness were associated with improved self-regulation and internal locus of control (.30 and .44 respectively,  $p < .05$ ) and conscientiousness itself was predictive of greater academic performance (.41,  $p < .01$ ). Neuroticism was found to be associated with measures of anxiety (.38,  $p < .01$ ) and extraversion was associated with difficulty inhibiting behaviors at age 5 and 12 (-.26,  $p < .07$ ).

The Abe (2005) study supports the predictive stability of personality from pre-school age to early adolescence. The findings of the study are however limited due to a low sample size and marginal reliabilities on some of the personality scales administered. The Abe (2005) study provides evidence to the theory of personality development and stability over a shorter course of time when youth are generally believed to be in a fluid state of development. Evidence of longer-

term stability of personality traits is necessary to further develop this model of a more stable personality trait-trajectory.

Hagekull and Bohlin (2003) investigated the prospective relations between infant temperament and attachment and middle childhood personality based on the Five Factor Model of personality. The researchers predicted that sociability and activity would be positively associated with extraversion/surgency, openness and agreeableness. They also predicted that negative emotionality would be positively correlated with school age neuroticism and negatively related to extraversion/surgency and openness. Negative emotionality was also predicted to be expressed in observations of attachment security and insecurity (Hagekull & Bohlin, 2003).

The study examined data on 85 children who were part of larger sample of 123 middle class families participating in a longitudinal study in Sweden. The attrition group was not significantly different from the group that remained in the study  $t(121) = 1.55, ns$ . There were also no differences between attrition group and remaining group in regard to predictor variables for this study,  $t(121)$  range 0.34-0.83,  $p$  range 0.41 -0.73. The children were followed from 6 weeks old to 9 years old. The infant's mean age was 15.5 months,  $SD = .067$  months) at time of first measurement. The participants were first studied in the Strange Situation (see Ainsworth, Blehar, Waters, & Wall, 1978) task. Participants were further classified as either secure, avoidant, ambivalent, or unclassifiable based on a trained judge's rating. At 20 months the participants were measured on the Colorado Childhood Temperament Inventory (CCTI; Rowe & Plomin, 1977), which measured emotionality, activity, and sociability. The alpha reliabilities for these scales ranged from .075 to .078. Mother and father rated their children on this scale and their scale rating correlated at .29 (activity), .48 (sociability), and .62 (emotionality), all at  $p < 0.01$ . Personality was measured at age 8 ( $M = 8.6$  years,  $SD = 2.9$  months) by mother ratings on a

FFM questionnaire. Teachers also filled out the questionnaire on the participants six months later.

The study yielded several findings. In terms of sex differences it was found that girls were more conscientious than boys,  $t(91) = 2.21, p < 0.05$ . Planned contrasts between the four groups (secure, avoidant insecure, and ambivalent insecure, and unclassified infants) were performed. The two insecure groups were combined to form one insecure attachment group. The secure group was significantly different from the insecure group, Wilk's Lambda = 0.84,  $F(5, 85) = 3.34, p < 0.01$ . The unclassifiable children did not differ from the secure children, Wilk's Lambda = 0.98,  $F(5, 85) = 0.32$ , nor the insecure children, Wilk's Lambda = 0.94,  $F(5, 85) = 1.00$ . The unclassifiable children were excluded from the rest of the analysis due to the uncertainty of attachment status. The Five Factor Model relationships to temperament were significant for Extraversion/Surgency only (0.35,  $p < 0.05$ ). There was no difference found in the three temperament dimensions and membership in either secure or insecure attachment groups, Wilk's Lambda,  $F(3, 81) = 0.57, p = 0.63$ . Secure attachment was found to significantly predict the neuroticism in early adolescence  $t = 2.11, p < 0.05$ .

The study found evidence that temperament as rated by parents and attachment security was related to extraversion/surgency in middle childhood. Though their results are tentative, it is important to note that early roots of personality may be revealed in constructs such as temperament and attachment. The study is limited by some methodological concerns. First, infant temperament was measured in two separate ways at 15 and 20 months. The study also had a relatively small number of participants who were representative of a homogeneous population. The authors did provide different sources of information for measuring attributes and provided

longitudinal data; further strengthening the design. Evidence of primary personality facets (extraversion) is demonstrated to have longevity and be predictive of future behaviors.

Jensen-Campbell, Gleason, Adams and Malcolm (2003) researched the contribution of personality to interpersonal conflict management processes in children. The authors predicted that the Big Five trait-agreeableness would be associated with self-reported conflict resolution endorsement, better self-control and coping behaviors, and be associated with better adjustment as rated by parents and teachers. A second study followed in which the authors addressed limitations of studying agreeableness as a basic unit of analysis, and took into account the links among the participant, partner and situation.

The participants in study 1 consisted of 276 5<sup>th</sup> ( $n = 181$ ) and 6<sup>th</sup> ( $n = 95$ ) grade children (136 males, 140 females). The ethnic composition was 69.5% European American, 11.6% Hispanic American, 6.9% African American, 5.8% Asian American, .4% other, and 5.8% did not respond. The participants were drawn from one public state university school, three public schools, and two private parochial schools. Parents and teachers were asked to assess the children's adjustment. A total of 190 parents (69%) participated in the study. A teacher that knew the student well ( $n = 18$ ) also completed measures about the child. Each teacher completed surveys on approximately 15 children each.

The participants in study 1 completed the Big-Five Inventory (BFI; John, Donahue, & Kentle, 1991), which is used to measure the five dimensions of personality. Each item is answered on a scale from 1 (*disagree strongly*) to 5 (*agree strongly*). Internal consistencies for self-ratings were .50 (extraversion), .72 (agreeableness), .72 (conscientiousness), .69 (neuroticism), and .60 (openness). The Styles of Conflict Resolution questionnaire, which was developed for this study, provides a list of possible resolution tactics that may be employed

during a conflict. It is a 63-item questionnaire that asks individuals to rate the appropriateness of each conflict tactic from 1 (Never okay to do in a conflict) to 9 (Always okay to do in a conflict). The categories that emerged were negotiation, manipulation, submission, physical force, trying to make the other person feel guilty, disengagement, and third party mediation. The average Cronbach's alpha was .73 and ranged from .58 (submission) to .89 (negotiation). An adapted version of the Adolescent Coping Questionnaire (Shoda, Mischel, & Peake, 1990) was used to assess cognitive and coping competencies and self control skills. The questionnaire consisted of four subscales that measured constructive conflict resolution tactics (alphas = .97, .91), general self control (alphas = .90, .84), and anger control (alphas = .98, .94).

A regression analysis was conducted to determine if agreeableness is uniquely related to conflict resolution tactics in childhood. As hypothesized, agreeableness was uniquely and positively related with constructive conflict resolutions (i.e., negotiation) ( $sr = .23, p < .01$ ). Participants who were higher in agreeableness also endorsed submission, disengagement, and third-party intervention more than did children lower on agreeableness, although the magnitude of the relation was small ( $sr = .17, .13, .11, p < .05$ , respectively). Participants higher in agreeableness endorsed manipulation, guilt, and physical force less than did participants lower on agreeableness ( $sr = -.25, -.33, -.22, p < .01$ ). Participants rated higher in agreeableness were also consistently found to receive teacher and parent endorsement of positive coping tactics. Higher agreeableness was found to have a significant relationship to teacher reports of positive resolution tactics ( $t = 2.70, p < .01$ ), anger regulation ( $t = 2.69, p < .01$ ), and coping ( $t = 2.02, p < .05$ ). Higher agreeableness was also found to have significant relationship to parent reports of positive resolution tactics ( $t = 2.03, p < .05$ ), and general self regulation ( $t = 2.12, p < .05$ ).

Study 1 found that the personality characteristic of agreeableness predicted more harmonious constructive conflicts and improved interpersonal relationships than those children with low agreeableness. Teachers also endorsed better interpersonal adjustment for those youth who had higher agreeableness self-ratings. It is noted that teacher and parent ratings of adjustment were small in this study. The use of independent raters (teachers and parents) lends strength to the study design. There were some limitations in regards to small relations between parent and teacher reports of interpersonal adjustment. The lower reliabilities on the Styles of Conflict Resolution questionnaire are problematic for the study.

Study 2 participants consisted of 234 5<sup>th</sup> ( $n = 181$ ) and 6<sup>th</sup> (83) grade children who also participated in study 1. Only children who had extreme scores on agreeableness (i.e., in the upper and lower third of the distribution) were observed by judges ( $n = 122$ ). The participants were placed into extreme pairs for the study. The subset consisted of 68 girls and 54 boys. The students completed Goldberg's (1992) markers for Conscientiousness and Agreeableness. Cronbach's alphas were .89, .82 for agreeableness and conscientiousness, respectively. The study also indicated that children with low agreeableness reported using more coercion in actual conflicts and believed that destructive tactics like physical force are more acceptable. The participants participated in the conflict task game, which is an age appropriate hybrid game that was modified to control for children's experience with the game. The game took less than 10 minutes to teach and had questions specifically designed for 10-12 year olds. Each participant was taught one of two different sets of rules for playing the game. The two sets of rules produced conflicts when the participants played the game. Participants were measured on perception of conflict by completing a 20-item questionnaire about the game and the classmate with whom they played. The participants rated their amount of enjoyment, perceived agreement, like for

partner, amount of perceived disagreement, anger, power assertion, submission, negotiation, perceived tension, and perceived harmony on a 9 point Likert scale.

There was a significant multivariate main effect for participant agreeableness,  $F(10, 105) = 2.85, p < .01$ . There was no evidence of a main effect for partner agreeableness or an interaction effect,  $F_s(10, 105) = 1.35, 1.19, ns$ . Participants higher in agreeableness reported more harmony while playing the game than those with lower agreeableness,  $F(1, 114) = 3.28, p = .07$ . Participants whose partners were higher in agreeableness reported more harmony than did participants whose partners were lower in agreeableness  $F(1, 114) = 3.98, p < .05$ . There was also a significant agreeableness person effect for perceived tension,  $F(1, 114) = 13.34, p < .001$ . Participants with lower agreeableness reported significantly more disagreements while playing the game than those with high agreeableness  $F(1, 114) = 0.04, p < .01$ . Self reported anger at classmates by high agreeableness participants was significantly less than that of lower agreeableness participants  $F(1, 114) = 4.36, p < .05$ . Participants with higher agreeableness enjoyed the game more and liked their partners more than participants lower on agreeableness  $F_s(1, 114) = 4.36, 6.32, ps < .04$ . High agreeableness was not found to relate to use of more constructive tactics and fewer destructive tactics as hypothesized by the authors,  $F(1, 114) = 2.49, ns$ .

Study 2 provided further support for agreeableness effects when examined with the partner's agreeableness level. There were consistent perceptions and conflict behaviors regardless of the partner's agreeableness level and dyad configuration. Study 2 also provided a replication of agreeableness-conflict link from study 1. Though agreeableness was found to positively relate to the use of more constructive tactics and fewer destructive tactics, the finding was not significant. It is also important to note that the cognitive, social and developmental



factors were not accounted for in the participant pool. There could be potential for a skewed sample in terms of reading ability, developmental delays, and cognitive ability that could have affected the results. Overall, the Jenson-Campbell et al. (2003) study provided support for predictive validity of the personality trait agreeableness, to outcomes during interpersonal conflicts and adjustment in children.

Based on the review of the literature there is ample evidence for further investigation of emerging personality patterns in children on several levels. The literature supports the ability of children to provide meaningful self-ratings of personality that are consistent with adult reports (Brown, et al., 2008). Personality measures for children have demonstrated relationship to the theoretical constructs used to commonly measure adult personality such as the Five-Factor Model (Del Barrio et al., 2006; Sodano and Tracey, 2006). There is evidence that personality is relatively stable across time and can be traced back to childhood (Abe, 2005; Hagekull & Bohlin, 2003; Hampson and Goldberg, 2006; Hampson, et al., 2006; Kubzansky, 2009). Personality in children has also been found to be predictive of behavioral expression (Jensen-Campbell, et al., 2003; Kubzansky, 2009; Markey, et al., 2006; Muris, et al., 2009). These findings suggest that personality does play an important role in childhood development and can be predictive of future outcomes.

### **Sexuality in Children**

A multiplicity of biological and psychosocial factors determines a child's sexual development, gender role, sexual identity, patterns of sexual arousal, sexual cognitions, and sexual socialization (American Academy of Child and Adolescent Psychiatry, 2000). There has been a broad range of sexual behaviors observed in normal children but further research is needed to expand the knowledge base about what is normative about sexual behavior in children

(Friedrich, Fisher, Broughton, Houston, Shafran, 1998). The development of sexual modesty and embarrassment from childhood to adolescence creates difficulty in reliably and accurately obtaining information on sexual behavior in children and adolescents (Barbaree & Marshall, 2006). Research by Money and Ehrhardt (1972), and Friedrich, Grambsch, Broughton, Kuiper, and Beilke (1991) suggests that as children get older overt sexual behavior decreases presumably due to a desire to conceal their sexual behavior in order to conform to societal rules of modesty and manners. Societies restraining influence on childhood sexuality is seen in the message to children to avoid sexual stimulation, inhibit sexual impulses, prohibit erotic play, and to reduce or forbid sexual self-stimulation (The American Academy of Child and Adolescent Psychiatry, 2000).

It is known however, that children's sexuality begins to configure shortly after birth and becomes patterned based upon early sensitizing experiences. In the first year of life, children may discover the pleasure of self-stimulation. By ages three to four children may begin to engage in sexual play with peers (The American Academy of Child and Adolescent Psychiatry, 2000). A myriad of sexual behaviors such as penile erections, touching and rubbing one's genitals, exhibitionistic behaviors, sexual exploration games, and voyeurism have been described in normal children from ages two to six (Friedrich, et al, 1998).

Barbaree and Marshall (2006) indicate that where research into normative sexual behavior in children and adolescents is sparse, research into deviant sexual behaviors has been widespread. Deviant sexual behaviors often come to the attention of various parties such as child protection services, courts, and schools. Oftentimes clinical practitioners are called upon to provide evaluation and intervention (Barbaree & Marshall, 2006).

Consequently, a large body of literature exists that addresses the problem of sexual deviance. Due to our scientific knowledge having such a large base of research that is mostly reliant upon clinical cases it is likely to suffer from an external validity bias (Rind, Tromovich, & Bauserman, 2001). Sandnabba, Santtila, Wannas, and Krook, (2003) also note that due to limited knowledge of usual sexual behavior patterns in children that the possibility exists that adults will either under or over react to problematic sexual behaviors. This may account for minimizing problematic sexual behavior as normal exploration or pathologizing typical behaviors as deviant.

A continuum of sexual behaviors proposed by Johnson (2002) provides some classification of sexual behaviors in children. Johnson (2002) describes four groups to include children who engage in natural and healthy sexual behavior, sexually reactive behaviors, extensive mutual sexual behaviors, and those who molest other children. Children who engage in natural and healthy sexual behaviors typically do so as an information gathering process that is mutual, and involves children in similar age, size, and developmental status. This sexual behavior is balanced with curiosity about other aspects of their lives and will generally cease when limits are set (Johnson, 2002).

Sexually reactive children are noted to engage in self-stimulating behaviors and or sexual behaviors with other children and sometimes adults. This type of sexual behavior is generally in response to environmental cues or reminiscent of previous abuse or painful memories (Johnson, 2002). These children's sexual behaviors are used to cope with overwhelming feelings of which they cannot make sense, and may engage in compulsive sexual behaviors for tension reduction. These children do not coerce others into sexual behaviors but are acting out in their confusion on others in an attempt to reduce anxiety. These children do not intend to harm others and have a

hard time understanding their own or others' rights to privacy or physical space integrity (Johnson, 2002).

Children who engage in extensive, mutual sexual behaviors are often characterized as distrustful, hurt, or abandoned by adults. These children after relate best to other children, and in the absence of close supportive relationships with adults, they use their sexual behaviors to connect with other children. Extensive sexual behaviors are believed to relieve distress associated with their psychic pain. This group does not coerce other children into sexual behaviors, but find other lonely children who will engage in sexual behaviors with them. A large proportion of these children have been sexually and emotionally abused and neglected. These children were previously sexually reactive children (Johnson, 2002).

Children who molest are noted to have frequent and pervasive patterns of sexual behavior problems. Intense sexual thinking and confusion is a hallmark of their thinking and behaviors. Sex and aggression are linked in the thoughts and actions of these children. Generally, these children use coercion to gain compliance in their victims. Bribery, manipulation, or emotional or physical coercion are typical methods of coercing victims. Physical force is generally unnecessary in children who molest as they choose victims who are particularly vulnerable. These children exhibit more impulsivity and aggressiveness with their sexual behaviors. These children generally have problems in many other areas of their lives (Johnson, 2002).

### **Children with sexual behavior problems**

According to the Association for the Treatment of Sexual Abusers (ATSA, 2006) task force report, children with sexual behavior problems are defined as “children 12 and younger who initiate behaviors involving sexual body parts (i.e. genitals, anus, buttocks, or breasts) that are developmentally inappropriate or potentially harmful to themselves or others” (p. 3).

Silovsky and Bonner, 2003 state that although the term sexual is used, the intentions and motivations for these behaviors are not necessarily related to sexual gratification. They may be related to curiosity, anxiety, imitation, attention seeking, self-calming, or other reasons (Silovsky & Bonner, 2003). Sexually abusive behaviors are further defined when the behavior occurs without consent, without equality, or as a result of coercion (The American Academy of Child and Adolescent Psychiatry, 2000).

The sexually abusive behavior between children is typically characterized by themes of secrecy, dominance, coercion, threat, and force. Children with sexual behavior problems engage in sexual behaviors that are advanced beyond those expected for the age of the child and may include oral and vaginal intercourse and forcible penetration of the anus or vagina with fingers or other objects (Araji, 1997; Gil & Johnson, 1993). Silovsky and Niec (2002) define sexual behaviors as problematic in children when it occurs at a greater frequency or at a much earlier age than would be developmentally expected, interferes with the child's development, occurs with the use of coercion or other force, is associated with emotional distress in either the child with the sexual behavior problem or the victim, and reoccurs in secrecy after intervention by caregivers.

### **Typology of children with sexual behavior problems**

The American Academy of Child and Adolescent Psychiatry (2000) states that recognizing that children and adolescents sexually abuse others requires that we begin to develop empirically based methods of assessment and intervention. The Association for the Treatment of Sexual Abusers (ATSA) (2006) task force report on children with sexual behavior problems states that this group of children is diverse in the types of sexual behaviors performed and also in personal demographics, familial factors, socio-economic status, history of maltreatment, and

mental health status. According to Chaffin, Letourneau, & Silovsky, (2002) no distinct profile exist for children with sexual behavior problems nor is there a clear pattern of demographic, psychological, or social factors that distinguish these children from other groups of children. ATSA (2006) stated in their summary that attempts have been made to construct subtypes of this group, but that to date the findings may indicate that there are no qualitatively different subtypes, but rather only ranges of overall severity and intensity of sexual behavior problems. Research to provide clinically distinct subtypes have yielded empirical clusters with subtypes, though substantial overlap may indicate that there may not be distinct taxonomic subgroups (ATSA, 2006).

### **The Hall, Mathews, and Pearce typology**

Hall, et al. (2002) developed a preliminary typology for sexually abused children with histories of sexual acting out. The authors in this study focused on children ages three to seven referred to one of two outpatient clinics for treatment related to child sexual abuse issues. This research adopted an ecological perspective in examining variables associated with child and family history and functioning. The research took an exploratory approach to variable selection as opposed to a theory-driven system.

The participants consisted of 100 sexually abused children ages 3 to 7 ( $M = 59$  months;  $SD = 13.4$  months). There were 37 male and 63 female participants. Participants were drawn consecutively from most recent closed treatment files of two child abuse treatment programs in Toronto ( $n = 60$ ) and Calgary ( $n = 40$ ). For inclusion in the study the cases had to have been in active treatment for sexual abuse (not “assessment only” or early dropout cases), and the child’s sexual victimization had been validated as true. Nearly half of the children lived with their mothers in a single parent home and 15% of the Toronto sample and 28% of the Calgary sample

lived with both parents. Nearly half (49%) were from lower income families that received some form of public assistance. The remaining 51% were self-reported as middle income and a few upper income families. Most of the cases were White of European origin in both sites, though the Toronto group also included 18% Black, 5% Asian, 7% Native Canadian and 2% Hispanic families. Sexual abuse experiences ranged from single episodes to long-term abuse over the course of several years. The perpetrators of the abuse included biological parents (45%), other primary caregivers (31%), other individuals known to the child (43%), strangers (7%), and those with unknown identity (10%).

The researchers developed a structured scanner-readable 14-page coding form to collect data from clinical records. The tool contains 357 items grouped into 12 areas. The areas of study were derived through a review of the literature, a survey of 30 child sexual abuse experts, and detailed interviews with one third of the experts. The 12 areas were representative of information typically found in mental health assessments as well as demographic information, child and family maltreatment histories, sexual issues, and treatment outcome. The sum of items was calculated to create a total score, with higher scores indicating more problematic conditions or behavior. The clinical supervisor at each site coded the clinical data due to resource and ethical issues. Calculation of interrater reliability was not possible due to confidentiality policies at both institutions. However, a partial check for consistency of coding decisions was done by having 5% of the Toronto records rated twice by the same rater several months apart and the result was a 95% agreement (Hall, et al., 2002).

The types identified were derived from statistically and clinically significant differences in key areas child and family functioning. First, participants were categorized into one of three primary groups based on their presenting sexual behavior problem. The identified types included,

primary group I, developmentally expected (i.e. children with no problematic interpersonal sexual behaviors), primary group II, developmentally problematic self-focused (i.e. children with no problematic interpersonal sexual behavior, only self focused), and primary group III, children with interpersonal sexual behavior problems. The three groups were compared on the 12 indices and demographic data. Because the project was exploratory in nature an alpha was set at  $p = .05$  to reduce risk of a Type II error. However, due to the number of analysis involved the researchers used a Bonferroni correction to reduce Type I error (revised  $p \leq .0002$ ). Statistical significance between groups was detected using ANOVA ( $p \leq .0002$ ) on 6 of 12 indexes: Child Maltreatment History, Child's Sexual Abuse Experience, Child Sexual Behavior, Child Behavior, Caregiver/History/Functioning, and Family Sexual Environment.

Subgroups of children with interpersonal sexual behavior problems (Primary group III) were derived using a Hierarchical Cluster Analysis (average linkage between groups method). The researchers entered 7 of the 12 indexes into a case-wise analysis: Child Maltreatment History, Child's Sexual Abuse Experience, Child Behavior, Parenting/Parent-Child Relationship, Family Functioning, Family Sexual Environment, and Quality and Stability of Housing/Household. The variables were first converted into Z-scores before entered into the cluster analysis. A three-cluster solution was chosen, as it appeared to have the greatest clinical utility. The three clusters were not statistically significantly different on child age or gender. For each index cluster, Cluster 1 children had the lowest scores and Cluster 3 children had the highest (Hall, et al., 2002).

The mean index scores indicated differences in the major areas of functioning though the development of clinically useful typologies required further inspection of the groups and clusters on an array of individual variables. The researchers compared Primary Groups I and II and the



three identified clusters of Primary Group III on 40 variables. There was a linear relationship found between groups I, II, and the clusters of group III regarding the most problematic characteristics, with Primary Group I being the least problematic and cluster 3 being the most problematic. The groups were renamed into a five-group type for ease of reference. The three core areas that best differentiate between the five types were found to be the child's own sexual abuse experience (sexual arousal, self-stimulation, level of participation in the abuse, and sadistic behavior by the perpetrator), social modeling and practice of sexual behavior (witness to abuse, child to child sexual activity, child's role in that activity), and familial variable such as sexual attitudes, violence and criminality, maltreatment history and appropriate parent-child role (Hall, et al., 2002).

Type I (developmentally expected) children were described as having developmentally expected sexual behaviors. These children were not aroused during their sexual victimization and generally have adequate parenting in the home. The families do not display sexualized behaviors or interactions and there is little family violence or criminality. Type I children's treatment outcome is believed to be good (Hall et al., 2002).

Type II (Interpersonal, unplanned) children are involved in unplanned, interpersonal sexual behavior that is developmentally problematic. Their sexual acting out is characterized as spontaneous and episodic. These children tended to be actively involved in their sexual victimization, but were not aroused. Parental supervision is good and the families show no problematic sexual attitudes or interactions. The family tends to set limits with problematic sexual behavior and there is little history of criminality or punitive parenting. Type II children's treatment outcome is believed to be excellent (Hall et al., 2002).

Type III (Self-focused) children engage in self-focused and developmentally problematic sexual behavior. This group exhibits frequent and compulsive masturbation, as well as sexual preoccupation. These children are not active during their sexual victimization, though their abuse leads to more sexual arousal. The family is regarded as having poor supervision, engaging in parentification, though there is no harsh or punitive parenting. These families exhibit problematic sexual attitudes, though no physical violations. Family violence is prevalent, but little criminality is noted. Type III children's treatment outcome is considered problematic (Hall et al., 2002).

Type IV (Interpersonal, planned, noncoercive) children exhibit planned and interpersonal sexual acting out. These children engage in extensive adult-type sexual acts that are planned, but lack coercion. Sexualized behaviors include problematic levels of masturbation. Their victimization involved participation and has led to arousal. More of these children have multiple perpetrators. These families show impaired functioning but some willingness to seek help. The parent-child relationship marked with emotional and instrumental role reversal. There is a history of maltreatment and family violence in the home, but little criminality. There is a mixture of sexualized patterns and interactions in the home and the families tried to have difficulty setting limits on problematic sexual behaviors. Treatment outcome is guarded for their victimization issues and problematic for their interpersonal and self-focused acting out (Hall et al., 2002).

Type V (Interpersonal, planned, coercive) children exhibit planned, coercive interpersonal sexual behavior. These children engage in adult-type interpersonal sexual behavior that is generally coercive in nature and resistant to limit setting. This group shows high levels of problematic masturbation, sexual preoccupation and sexualized gestures. These children have a

high degree of participation in their sexual victimization, and a high degree of sexual arousal. There is a high prevalence of multiple perpetrators in this group. Parental supervision is very inadequate and there is easy access to children within and outside of the family. Role reversal between parent and child is both emotional and instrumental. There are also problematic attitudes and sexualized interactions amongst the families, including the pairing of sex and violence. Maltreatment, family violence, and criminality are pervasive. Type V children have a poor treatment outcome (Hall et al., 2002).

The results of Hall et al. (2002) research support the clinical observation that sexually abused children differ in their sexual acting out and level of family functioning. This supports the assertion that varying types of clinical interventions are necessary to address each subgroup (Hall et al, 2002). This further bolsters the efficacy for the development of typological research in this population. The study by Hall et al. (2002) is limited in that the children in this sample were referred and enrolled in treatment for their own sexual abuse, not due to their sexual acting out. The findings may not apply to all children with sexual behavior problems, in particular, those who have no history of sexual victimization. It is noted however that research and clinical literature support the belief that the majority of young children with sexual behavior problems have a history of sexual victimization (Silovsky & Niec, 2002). The age group under investigation in this study reflected the younger end of the spectrum of children with sexual behavior problems, which may lend its utility only those in this age group. This research also lacked a standardized instrument as a source of its data, and relied upon an instrument developed for the purposes of this study. Thus, reliability and validity of the instrument is unknown.

### **The Bonner, Walker, and Berliner typology**

Bonner, et al. (1999) conducted a study to assess and treat a broad range of children age 6-12 with sexual behavior problems to compare the efficacy of two treatment approaches and develop a typology of the participants. The study yielded a three-group typology of children with sexual behavior problems through a logical analysis of referral behavior.

The study included 283 children ages 6-12 with and without sexual behavior problems and their parents or caregivers. In order to participate in the treatment program the child must have been referred for inappropriate sexual behavior, be between 6 and 12 years of age, and be fluent in English. Exclusionary criteria included having a global intelligence quotient less than 68, or having significant psychological or behavioral problems that would inhibit their ability to function in a group setting. Thirty children were excluded from the study due to not meeting the criteria for inclusion. The remaining 253 children were comprised of 201 children with sexual behavior problems and 52 children with no known history of sexual behavior problems (comparison group). The children were recruited from two sites; one in Oklahoma and the other in Washington. The participants' race matched their county populations. The group was 76.6% Caucasian, 12% African American, 5% Native American, 5% Hispanic, Pacific Islander, or Asian and 3% did not answer the item (Bonner, et al., 1999).

The participants and their parents completed a battery of questionnaires and standardized tests to assess for affective and behavioral problems, cognitive ability, sexual behavior problems and family functioning. The children were administered the Kaufman Brief Intelligence Test (K-BIT; Kaufman & Kaufman, 1990) to assess for general intelligence. The Child Assessment Scale (CAS; Hodges, Stern, Cytryn, & McKnew, 1982) is a 226 item structured interview developed to provide a standardized diagnosis based on the DSM-III-R. The PTSD Symptom Scale, Interview

Form (Dancu, Riggs, Rothbaum, & Foa, 1991) is a 17 item self-report measure used to obtain or rule out a diagnosis of PTSD based on the DSM III-R diagnostic criteria for PTSD. The Rorschach Inkblot Test (Rorschach, 1942) is a standardized projective measure designed to explore an individual's personality by their response to a set of varying stimuli. The Draw a Person (DAP) assessment was presented to the children participating in the study. The pictures were judged on two criteria: presence of sexual parts and immaturity of drawings (Bonner, et al., 1999).

Sexual behavior was assessed through the Child Sexual Behavior Inventory, Version 2 (CSBI-2; Friedrich, Beilke, & Purcell, 1989). The CSBI-2 is a 35-item instrument completed by a parent or caregiver to measure the presence and intensity of a variety of sexual behaviors in children ages 2-12. Behavior problems and social competence was measured on the Child Behavior Checklist-Parent Form (CBCL; Achenbach, 1991). The CBCL has 134 items and measures factors such as depression, somatic complaints, hyperactivity, sexual behavior, aggressiveness, and delinquent behavior. Affective problems were measured using the Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1985). Self-concept was assessed using the Self-Perception Profile for Children (SPPC; Harter, 1985). This 36 item structured alternative format is normed for 8-13 year old children and measures competence and self-adequacy and has subscales for scholastic competence, social acceptance, athletic competence, physical appearance, behavioral conduct, and global self-worth. The Pictorial Scale of Perceived Competence and Social Acceptance measured self-concept for children less than 8 years for Young Children (PSPC; Harter & Pike, 1983). Family functioning was assessed with the Child Version of the Family Environment Scale (CVFES-C; Pino, Simmons, & Slowksi, 1984). The CVFES is a 30-item instrument that assesses the child's perception of family

cohesion, expressiveness, conflict, independence, achievement, intellectual-cultural orientation, active-recreational orientation, moral-religious emphasis, organization and control.

Parent/caregiver evaluation was measured on the Brief Symptom Inventory (BSI, Derogatis, 1991). This is a 53-item self-report measure of primary symptoms dimensions and three global indices of stress. The Parenting Stress Index (PSI; Abidin, 1983) is a 25 item self-report scale that measures degree of contentment the parent has with the child. Family functioning was assessed using the Family Environment Scale Form R (FES-R; Moos & Moos, 1981). The FES-R is a 90-item true-false assessment that measures social environment attributes of various kinds of families and the perception of family members about their family. Parents/caregivers were also asked to complete a demographics questionnaire to obtain employment status, substance abuse and use, adult and child abuse histories, as well as behaviors of the child before and after the incident(s) of sexual misbehavior (Bonner, et al., 1999).

The planned data analysis strategy was to develop clinically useful subcategories of children with sexual behavior problems through a cluster analysis. The researchers used SPSS Cluster procedure to derive clusters from the data of 201 children. The cluster analysis however yielded no stable clusters with clinical relevance or utility (Bonner et al., 1999). The authors suggested that the failure to obtain useful clusters on standardized measures was due to the absence of a suitable scale for assessing the behavior under investigation. The Bonner et al., (1999) method of classification was based on clinical impression of manifest behavior present in the referral information given at the time each participant entered the project. This study was unable to find stable clusters based on the other objective measures of personality and psychosocial functioning, thus only relied on a clinically derived subtype. Two of the three principal investigators served as expert judges and independently sorted the actual cases in the

sample into the three predetermined categories. The judges had initial agreement rate of 88%. The judges then met to discuss those cases in which there was disagreement. The criteria were then clarified as to what constituted minimal versus full contact. There was 98% agreement when these cases were again independently rated.

Group I was termed Sexually Inappropriate Children. This group consisted of children who had inappropriate sexual behavior, but no contact with another person. These behaviors included making sexual remarks or gestures, touching or exposing one self, and so forth. These children were rated the lowest on inappropriate and aggressive behavior amongst the expert judges. Group I also had higher sexual preoccupation as measured by the Rorschach than the other two groups. Group I also had the least overt sexual behavior as measured by scores on the CSBI-2 (Friedrich, Beilke, & Purcell, 1989). Group I was found to be somewhat less disturbed and less sexually aggressive in their behavior as opposed to the two other groups. There was noted elevation in sexual preoccupation when compared to the normal children in the study.

Group II was termed Sexually Intrusive Children. This group was noted to have problems with making contact with another person in a sexually inappropriate manner though briefly. Behavioral examples include running up to another child and grabbing the child's genitals then running away, rubbing against another person in a sexually provocative manner, or briefing fondling another person, but stopping when distress is noted. Group II was noted to have higher levels of inappropriate and aggressive sexual behaviors than Group I but less than Group III as measured by the expert judges (Bonner et al., 1999).

Group III was termed Sexually Aggressive Children. These children had histories of significant or prolonged contact resulting in completion of a sexual act such as oral sex, vaginal or anal penetration, mutual masturbation, or other similar behaviors. The majority of children in-

group III was found to be implicitly or explicitly coercive or aggressive in their acts. Group III children were found to have the highest levels of inappropriate and aggressive behaviors as rated by the expert judges. Group III children had a somewhat lower level of sexual victimization (48%) than Group I (57%) or Group II (58%) (Bonner et al., 1999).

The typology devised by Bonner et al, (1999) was not empirically validated though does offer face validity and clinical utility. There were few significant differences on the assessment instruments used in this study, however the expert judge ratings were significantly different for ratings of inappropriate and aggressiveness between the three groups. The study had a moderately sized population to study providing support for further generalizability. The typology is limited by the use of clinical opinion only categorization and points to the need for more empirical investigation in typology of children with sexual behavior problems.

#### **The Pithers, Gray, Busconi, and Houchens typology**

Pithers et al. (1998) analyzed children with sexual behavior problems in order to define subtypes. The authors conducted a cluster analysis on demographic, maltreatment, and psychometric data gathered from 127 children with sexual behavior problems. Participants were selected if they fell within the 10% threshold of sexual behaviors uncommon among children according to the Child Sexual Behavior Inventory (Friedrich et al., 1992), were unresponsive to supervision and discipline, had the equivalent of an adult criminal offense, the sexual behavior was pervasive across times and situations, or diverse; consisting of a variety of inappropriate sexual behaviors (Pithers et al., 1998).

Participants received an intake interview that assessed for maltreatment history, psychiatric symptomatology, and history of sexual behavior problems and were provided with a battery of other assessments. The participants were administered the Child Behavior Checklist



(CBCL; Achenbach, 1991) which is a 112 item behavioral rating scale completed by parents of children 4-18 years old and measures externalizing and internalizing problems. The teacher report form of the CBCL was also completed for this study. The Child Sexual Behavior Inventory-Third Edition (CSBI-3; Friedrich, 1997) is a 38-item instrument completed by a parent who rates the frequency of their child's variety of sexual behaviors. The Eyeberg Child Behavior Inventory (ECBI; Eyeberg & Ross, 1978) was used to measure the frequency and intensity of problem behaviors. The scale consists of 36 items that parent's rate on 7 scales. The Children's Action Tendency Scale (CATS; Deluty, 1979) was provided to assess for aggressiveness and submissiveness. The Child State-Trait Anxiety Inventory (STAI-C; Spielberger) is a 40-item questionnaire that was used to measure the child's current anxiety and level of ongoing anxiety. The participants were also rated on the level of aggression of their sexual behavior problems by an expert clinician. The clinician conducted a blind review of the information related to their referral for treatment. The reviewer rated their aggression on a 7 point Likert scale, with higher scores indicating higher aggression. Scores of 4 or higher indicated use of a high degree of aggression during the sexual acting out.

A cluster analysis was performed on several measures of behavioral and interpersonal problems, sexual problems, and anxiety problems. Variables were selected for inclusion based on the assumption that three distinct subtypes of children with sexual behavior problems exist (i.e. highly maltreated and traumatized, conduct disordered and delinquent, and non-disordered). The variables entered into the model included the number of people that had physically or sexually abused the child, the age of onset of the child's sexual misbehaviors, the number of sexual acts involving penetration committed by the child, the clinician's rating of aggression assessed in the child's sexual misbehaviors, the child's gender, T-score on the CBCL Aggressive

Behavior Scale, T-score on the CBCL Sex Problems subscale, T-score on the CBCL Delinquency subscale, CSBI-3 Score, presence of absence of conduct disorder diagnosis, presence of absence of PTSD diagnosis, presence or absence of Oppositional Defiant Disorder diagnosis, and total number of psychiatric diagnoses. Scores were all converted to Z-scores before being entered into the cluster analysis. Hierarchical cluster analysis using Ward's method was conducted. This procedure first summed the squared Euclidean distances between each case, and then clustered the means. Once stable clusters were developed, differences between the clusters were explored using MANOVA and ANOVA procedures (Pithers et al., 1998).

The MANOVA was performed to evaluate if the five clusters differed significantly on variables of interest. The variables subject to MANOVA included age, age at first maltreatment, age of onset of sexual behavior problem, latency in years between experience of maltreatment and onset of problematic sexual behavior, CBCL syndrome scores, Emotional Management (CATS subscales; STAI-C scales), sexual behavior characteristics (CSBI total score, clinician's rating of sexual aggression, number of victims, numbers of sexual acts involving penetration, use of objects, self-stimulation, public self-stimulation, self-injury, theft of intimate apparel, public statements, or use of a weapon to gain victim submission), psychiatric disorders, gender, maltreatment history, and academic services. The MANOVA indicated a significant systematic difference between the five clusters, Wilk's Lambda .0005;  $F(4, 98) = 3.23, p. < .0001$ . Univariate ANOVAs and bivariate analysis were performed to further explore differences within clusters (Pithers et al., 1998).

Based on statistically significant differences between the five clusters, each was assigned a tentative title: Cluster 1-Non disordered (N=23); Cluster 2-Abuse Reactive (N=25); Cluster 3-Highly Traumatized (N=22); Cluster 4-Rule Breakers (N=35); and Cluster 5-Sexually

Aggressive (N=22). The Non-disordered group are described as being overrepresented by females, having the fewest number of psychiatric disorders, the fewest number of victims, little use of force when sexually acting out, and having a mixed history of maltreatment (Pithers et al., 1998).

The Abuse Reactive group is described as being overrepresented with males, and having a high number of psychiatric diagnoses and the highest level of oppositional defiant disorder. Attention deficit problems are common, high level of maltreatment and sexual victimization, and the shortest latency from own abuse to sexually abusing others occurs within this group. The Abuse Reactive group also has the highest number of victimization of others, may penetrate their victims, but rarely uses aggression (Pithers et al., 1998).

The Highly Traumatized group is described as having proportionate gender representation, the highest number of psychiatric diagnosis, highest percentage of posttraumatic stress disorder diagnoses, and extensive histories of child maltreatment, highest number of sexual abusers to the child, and highest number of physical abusers to child. There is no penetration of the victims and relatively young at the first time they were victimized (Pithers et al., 1998).

The Rule Breaker group is described as being overrepresented by females, having mixed psychiatric diagnoses, attention deficits, oppositional defiance, and conduct disorders are present. There is a mixed history of child maltreatment, including moderate incidents of physical abuse. These children have the longest time between their own abuse and the onset of sexually acting out. Aggression is used to gain the victim's submission, and penetration of the victim is rare (Pithers et al., 1998).

The Sexually Aggressive group is described as being overrepresented by males and having the highest percentage of conduct disorder. There is also a high prevalence of attention

deficits, have the fewest sexual perpetrators to the child, and seldom acknowledges their own maltreatment. These children are the oldest at the onset of their sexual problems and commit the most penetrative acts of sexual abuse. The use of aggression is common in this group (Pithers et al, 1998).

The typology proposed by Pithers et al. (1998) differ among a considerable number of dimensions such as diagnosis, maltreatment history, onset of sexual behavior problems, and levels of sexually aggressive behaviors. The authors do caution the reader that this typology is only a first effort and would need to be replicated with a larger and more diverse sample of children. The study provided evidence of subtypes of children with sexual behavior problems derived through empirical measures. The Pither's et al. (2002) findings did not report the internal reliability estimates of the measures used in the study nor provide more detailed demographic data on its participants, thus making it difficult to examine the reliability of measures used or generalizability of the sample to a larger population.

### **Implications for typology of children with sexual behavior problems**

Based on the results of these three studies, it does appear that there are possible groupings in the population of children with sexual behavior problems. Each study, however has been limited by age groups examined, lack of relevant measures for sexual acting out, and reliance on clinical impressions for delineation of the severity of sexual acting out. The current research has described the population partially in terms of observed subjective manifest behaviors and characteristics as well as some objective measures of psychosocial deficits to include personal, family and environmental functioning.

At this time, there has been no published study examining possible typologies of children with sexual behavior problems from a personality-based perspective. Personality patterns are

believed to be the cumulative product of biological and environmental experiences that narrow and crystallize as we age and develop. The emergence of particular personality patterns in childhood may provide us with new information to assist in understanding the trajectory of childhood development. Personality measures in typological development may provide helpful information to clinical practice by measuring emotional, interpersonal, and motivational styles that are relevant to an array of disorders and providing supplemental information that maybe useful in selecting treatment and anticipating the potential course of therapy (McCrae, 1991). An exploration of the emerging personality patterns in children with sexual behavior problems may provide additional information in which to view and understand this population. Thereby improving treatment and prevention programming, our understanding of potential developmental pathways to offending, and to improve our current state of knowledge of sexual abuser classification.

### **Millon's Biosocial Model of Personality**

Millon's (1969) model uses three pairs of polarities to produce the eight basic personality types in his theory driven personality patterns. The passive-dependent pattern is described as the submissive personality, or the dependent personality disorder. This individual lacks both initiative and autonomy. This individual seeks relationships where they may lean on others for affection, security, and leadership (Millon & Davis, 1996).

The active-dependent pattern is described as the gregarious pattern or histrionic personality disorder. This individual appears to be comfortable socially, though there is an intense fear of autonomy and need for social approval and attention. The need for affection to be replenished constantly and from every source of contact is another significant marker of this personality pattern (Millon & Davis, 1996).

Passive-independent individuals are referred to as having narcissistic personality disorder. There is a noted sense of over-valued self worth and maintain an air of arrogance and self-assurance. These individuals are very willing and benignly exploit others to their own advantage (Millon & Davis, 1996). The active-ambivalent pattern is called the aggressive personality or antisocial personality disorder. This personality is marked by a learned mistrust of others and a desire for autonomy and retribution for past injustices. These individuals are often striving for power and rejecting of others and feel justified because of their negative valence of the world as unreliable. Autonomy and hostility are the primary tools to defend against deceit and betrayal (Millon & Davis, 1996).

Passive-ambivalent individuals or conforming personality or the compulsive disorder is rooted on the conflict between hostility towards others and a fear of social disapproval. This individual is believed to resolve this ambivalence by suppressing resentment and over-conforming at least on the surface. Behind this façade of restraint is intense anger and oppositional feelings that emerge through their controls (Millon & Davis, 1996). The active-ambivalent pattern is referred to as the negativistic personality or passive-aggressive disorder. These individuals are often involved in endless situations of disappointment as they vacillate between deference and conformity. They display erratic patterns of explosive anger or stubbornness peppered with moments of guilt and shame. The passive-aggressive has difficulty resolving conflicts and the ambivalence intrudes in daily life (Millon & Davis, 1996).

The passive-detached pattern is called the asocial or schizoid disorder. Affection and emotional feelings are minimal. The individual is often a passive observer who is detached from the rewards and affections, as well as the demands of personal relationships (Millon & Davis, 1996). Active-detached patterns of individual behavior are referred to as the avoidant personality

disorder. This pattern is marked with a fear and mistrust of others in which the individual is in constant vigil. Active withdrawal protects this individual from others, and maintains their interpersonal distance. Denial of feelings often covers up their desires to relate to others (Millon & Davis, 1996).

### **Millon's nine principles of personality disorders**

Disorders of the personality are linked to personality traits (McCrae & Costa, 1992). The lists of disorders in the DSM IV-TR however, were not based on traditional theories of personality, nor widely used models of personality structure. Not all individuals with the same personality diagnosis should be seen as having the same problem. Individuals hold varying degrees of endurance and pervasiveness in their behaviors (Millon, 1990). It is also noted that the consistency and stability in each individual plays an important role in the manifestation of personality (Millon, 1990). Lifelong personality traits underlie the context for understanding distinct forms of psychopathology (Millon & Davis, 1996).

Millon outlined nine principles regarding personality disorders. The first principle states that personality disorders are not diseases (Millon, & Davis, 1996). When personality is viewed this way it provides a foundation for the individual to have the capacity to function in a mentally healthy or ill way. The second principle is that personality disorders are internally differentiated functional and structural systems and not internally homogenous entities (Millon & Davis, 1996). This principle highlights the belief that personalities are multiple complex mechanisms with varying goals in place that underlie them. The third principle posits that personality disorders are dynamic systems not static lifeless entities (Millon & Davis, 1996). Personalities are able to perpetuate itself by maintaining integrity against both internal and external threats and stressors. This ability to make adjustments is a dynamic process. The fourth

principle states that personality consists of multiple units at multiple data levels. For personality to be understood it must be operationalized at some level of data. The levels and unit of data chosen lead to conceptualizations and conclusions about the theory of personality.

The fifth principle indicates that personality exists on a continuum, whereby no sharp division is possible between normality and pathology (Millon & Davis, 1996). Normality and abnormality are considered social constructions. Personality pathology is resultant of the same force that produces normal functioning (Millon & Davis, 1996). Principle six states that personality pathogenesis is not linear, but sequentially interactive and multiply dispersed throughout the entire system (Millon & Davis, 1996). The personality system is characterized by interdependencies among its elements. There are direct and indirect effects from the various systems, and changes in the system functioning are best viewed as changes in the causal field of personality (Millon & Davis, 1996). The seventh principle states that criteria by which to assess personality pathology should be logically coordinated with the systems model itself (Millon & Davis, 1996). Judgments about personality pathology should be articulated based on the overarching paradigm in which the decisions are made. The eighth principle states that personality disorders may be assessed, but not definitively diagnosed (Millon & Davis, 1996). This statement is consistent with the multi-axial model of diagnosis and is much more optimistic. The ninth principle states that personality disorders require strategically planned and combinatorial modes of tactical intervention (Millon & Davis, 1996). Millon and Davis (1996) argue that because personality disorders are by nature intertwining and multifaceted, that interventions should also have the same flexibility in selection.



### **Millon's evolutionary and ecological model of personality**

Millon reformulated his original Biosocial Model (1969) into an Evolutionary Model of personality (1990). Millon's goal was to simplify and order previously disparate personologic features under an evolutionary theory. Four domains in which he assesses the evolutionary and ecological principles are labeled as existence, adaptation, replication, and abstraction. Existence is concerned with the evolutionary mechanisms of life enhancement and life preservation. Life enhancement addresses how individuals orient towards enhancing survival and improvement in the quality of life. Life preservation is concerned with orienting individuals away from behaviors or environments that decrease the quality of life or endangers existence itself. At the human level of functioning Millon (1990) refers to the polarity of pleasure-pain as best encapsulating the principle of existence. Adaptation refers to the exchanges of energy and information with the environment in order to maintain existence. Millon (1990) indicates that adaptation may be framed in the polarity of passive versus active orientations. The passive orientation refers to a tendency to accommodate to one's environment, whereas the active orientation indicates the tendency to modify or intervene in one's surroundings. From the evolutionary perspective, these modes account for how one is able to endure or continue to survive in the environment. Replication refers to the evolutionary goal of self-propagation or other nurturing. The self-focused polarity predisposes the individual towards self-reproduction, where they may present as egotistic, insensitive or socially uncaring. The other polarity is disposed towards protecting and sustaining kin or progeny and is seen as socially affiliative, intimate or caring (Millon, 1990). Abstraction is the final domain proposed by Millon (1990). Abstraction is referred to as the reflective mind or capacity to transcend the immediate and concrete. Millon (1990) views abstraction as the most recent phase of evolution's procession.

Millon (1990) derives his personality disorders from the balances of the pleasure-pain, active-passive, and self-other polarities. From this evolutionary model Millon (1990) proposed ten personality disorders and three pathological personality disorders at the most severe dysfunctional levels. The schizoid personality type are deficient on experiencing pleasure and pain, neither strive for neither reward nor avoid seek to avoid punishment, and are a passive observer detached from the demands of human relationship. Avoidant personalities have diminished ability to experience pleasure, but have a high sensitivity and responsiveness to psychic pain. Life is seen as having few rewards and much anguish. The avoidance is actively detached in this personality cannot rely on the self or others for reinforcement. The self-defeating personality is inclined to prefer pain as an experience and passively accepted. The self-defeating personality relates to others in a self-sacrificing manner and allows others to exploit or take advantage of them (Millon, 1990).

The sadistic personality seeks to create painful events and experiences them as pleasurable. This individual takes an active role in controlling and abusing others for their pleasure. Dependent personalities are imbalanced in a manner that they turn themselves almost exclusively to others as a means of experiencing pleasure and avoiding pain. The Histrionic personality is also focused overly focused on others but does so with an active manipulation to maximize attention and favors and avoid social disinterest and disapproval. They may appear confident and independent, but genuine autonomy is a feared state. Narcissistic personalities are strongly self-oriented to maximize pleasure and minimize pain. They experience primary pleasure simply by passively being or attending to themselves (Millon, 1990). Antisocial personalities are active independently oriented personalities. This type is self oriented but actively self generates rewards through duplicitous or illegal behaviors. The passive-aggressive

personality demonstrates an unbalanced orientation towards being either overly other or self focused in a vacillating capacity. They may display self-deprecation for failing to meet the expectation of others or express stubborn negativism for having to submit to the wishes of others rather than their own (Millon, 1990).

The obsessive-compulsive personality has a conflicted pattern on the self-other dimension as well. This creates hostility towards others and a fear of social disapproval. The disparity between their own urges and the behaviors they must display to avoid condemnation often lead to rigid psychological controls and physical tensions (Millon, 1990). Millon's (1990) model also identifies three additional pathological personality disorders that differ than the first ten patterns. These are differentiated by notable deficits in social competence and frequent psychotic episodes. These types have been described as more intense variants of the basic ten personality disorders. The schizotypal personality consists of a cognitively dysfunctional and maladaptively detached orientation in the polarity theory. There is minimal pleasure experienced and difficulty differentiating between the self and other strategies. Active and passive modes of adaptation are also in conflict. The active or passive polarity can create an anxious wariness and hypersensitivity or an emotional flattening of affect (Millon, 1990).

Borderline personalities display conflict on all polarities; pleasure and pain, active and passive, and self and other. Borderline personalities are unable to take a consistent balanced position among the polar extremes and fluctuate from one end to another. Their dysregulation is most readily seen in their lability of moods. The paranoid personality is vigilantly mistrustful and defensive against anticipated criticism and deception. This type has high sensitivity to pain and is strongly oriented to the self-polarity. This mix of pain sensitivity and self assertion perpetuate

their pathology and is displayed in a tendency to exasperate anger in others with their fear of losing control and resistance of external influence (Millon, 1990).

### **Review of the Millon Preadolescent Clinical Inventory**

The M-PACI (Millon et al., 2005) is a comprehensive multidimensional self-report inventory. The M-PACI is based on the Millon (1969) biosocial model of personality that was later reformulated as an evolutionary model (Millon, 1990). The M-PACI is relatively new and there are currently no published studies using this instrument. The M-PACI was chosen for this study because it provided a unique assessment of personality. The M-PACI is differentiated from other multidimensional self-report inventories with its scales that are designed to measure emerging personality patterns, whereas other scales measure single constructs or symptoms alone. The inventory also differs from other assessment tools in that it is based on a comprehensive theory of personality. Other existing personality measures for preadolescents are noted to be atheoretical and normed on non-clinical populations. The M-PACI was normed on a clinical population and reflects the view that psychological problems are often grounded in early expression of forming personality traits (Millon et al., 2005).

The instrument is a 97 item true-false assessment that is written on a third grade level. The M-PACI is designed to identify a child's Emerging Personality Patterns and Current Clinical Signs at the time of evaluation. The Emerging Personality Patterns are: Submissive, Confident, Conforming (Passive) Outgoing, Unruly, Inhibited (Active) and Unstable. Six of the Emerging Personality Patterns represent the six basic styles from Millon's (1990) model. The seventh, "Unstable," measures a potentially more serious personality pattern. The Current Clinical Signs measured include Anxiety/Fears, Attention Deficits, Obsessions/Compulsions, Conduct Problems, Disruptive Behaviors, Depressive Moods, and Reality Distortions. The M-PACI also

has two response validity indicators, the Invalidity Scale and Response Negativity Scale. These scales were designed to detect untruthful responding (Millon, et al., 2005).

The Millon (1969, 1990) model provided the foundation for substantive validity. The inventory was initially developed to measure 18 target constructs. The provisional scales were developed after several rounds of item writing and the original inventory was comprised of 135 items that was called the M-PACI Research Form. Research data was solicited from approximately 350 sites that used the Millon Adolescent Clinical Inventory (MACI). Participating sites received the informed consent to be signed by the parent or guardian, the M-PACI Research Form, a Clinician's Research Form, and a supplemental self-report test. The final version of the M-PACI was developed from 292 participants from 53 sites. The norm group was nearly 70% male and approximately 79.5% Caucasian, 8.8% African American, 8.2% Hispanic, 1.2% American Indian, 0.6% Asian American, and 1.8% other (Millon, et al., 2005).

The primary method of validation for the M-PACI was by correlating base rate scores on the 14 profile scales with clinician ratings of the constructs measured by those scales. Convergent validity coefficients were strong overall with a mean of .38 and a median of .39 across the 14 scales. The two lowest scales, Obsessions/Compulsions (.19) and Reality Distortions (.23) scores were attributed to few research participants in the data set. Additional validity data was obtained by correlating M-PACI base rate scores with scores from the Behavior Assessment System for Children: Self-Report Personality Form C (BASC SRP-C), the Children's Depression Inventory (CDI), and the Revised Children's Manifest Anxiety Scale (RCMAS). The M-PACI Obsession/Compulsions scale correlated at .75 with the RCMAS. The M-PACI base rate scores were correlated at .65 with the raw scores of the CDI. The correlations of the M-PACI with the BASC SRP-C were found to be in the expected direction for all but two

of the 16 scales on the BASC SRP-C. Depressive Moods on the M-PACI was correlated at .55 with the BASC SRP-C Depression scale. The Obsessions/Compulsions scale on the M-PACI was correlated at .65 with the Anxiety scale on the BASC SRP-C. Reality distortions on the M-PACI were correlated at .73 on the Atypicality scale for the BASC SRP-C. The Unstable scale on the M-PACI correlated at .59 with Social Stress on the BASC SRP-C. Social Stress on the BASC SRP-C correlated at -.51 with the Confident scale on the M-PACI and .45 with the Inhibited scale and .58 with Reality Distortions of the M-PACI. The M-PACI scales of Confident, Unstable, and Attention Deficits correlated at a magnitude of above .50 with the Sense of Inadequacy scale on the BASC SRP-C. The BASC SRP-C Interpersonal Relations scale was correlated at .51 with the M-PACI Outgoing scale. The Self Esteem scale on the BASC SRP-C correlated at .52 with the M-PACI Confident scale (Millon, et al., 2005).

Reliability for the M-PACI was obtained based on the 100 participants in the cross-validation subsample. Each scale has seven to twelve items each in an attempt to keep the assessment relatively short. The alpha internal consistencies for Emerging Personality Patterns are as follows: Confident (.67), Outgoing (.65), Conforming (.67), Submissive (.66), Inhibited (.65), Unruly (.84), and Unstable (.81). The alpha internal consistencies for Current Clinical Signs are as follows: Anxiety/Fears (.67), Attention Deficits (.74), Obsessions/Compulsions (.63), Conduct Problems (.79), Disruptive Behaviors (.79), Depressive Moods (.72), and Reality Distortions (.76). Correlations with the BASC SRP-C Attitude to School and Attitude to Teachers scales were .35 or greater for the M-PACI scales of Conforming (negatively), Unruly, Attention Deficits, Conduct Problems, and Disruptive Behavior scales. Additionally, these five scales were correlated with the BASC SRP-C School Maladjustment composite at .40 and greater. Relations with Parents scale of the BASC SRP-C correlated highest with the M-PACI

scales were Conforming (.44) and Conduct Problems (-.44). The Clinical Maladjustment composite and the Emotional Symptom Index each had correlations of .50 or higher with the M-PACI Confident (negative correlations) scale. Unstable, Obsessions/Compulsions, and Reality Distortions on the M-PACI correlated .52 with the Emotional Symptoms Index on the BASC SRP-C. The BASC SRP-C Personal Adjustment correlated at .61 with the M-PACI Confident and -.52 with the Unstable scale (Millon, et al., 2005).

### **Summary**

Personality is a construct that has been conceptualized many ways throughout the history of man. It is seen as a common structure with various manifestations that is believed to motivate and differentiate us. Specific subpopulations among us are often examined to determine the etiological underpinnings of their behavioral manifestations. Children with sexual behavior problems are one such population. They have been examined from clinical perspectives and through various empirical measures, though none of the current classifications provide a comprehensive view of the population.

One neglected area of classification in this group is from a personality perspective. Providing a typology for children who sexually abuse from a theoretical model can offer several advantages. The typology based on a theory will have heuristic conceptual schemas that are consistent with established knowledge. From theory, propositions concerning pathological conditions can be both deduced and understood. This provides the opportunity for a classification of disorders, which then may be measured by empirically, grounded instruments based on the theories propositions. This allows for interventions or techniques of therapy designed in accord with the theory to address and treat the conditions (Millon, 1990).

Improving the state of knowledge with children with sexual behavior problems is the primary aim of this study. The development of a typology based on Emerging Personality Patterns is believed to offer an important contribution to understanding and effectively treating children who sexually abuse.



## **CHAPTER 3: METHODOLOGY**

### **Research Design**

The investigator used an ex post facto design with test of hypotheses. The research hypothesis was derived through logical and empirical data findings. The ex post facto design is necessary as the group under investigation is being analyzed as a naturally occurring group without manipulation and the aim is to understand after the fact, what are the potential contributing personality factors to sexual abuse (Heppner, Kivlighan, & Wampold, 1999). The ex post facto design is particularly useful to identify a small set of variables from a large set of variables related to the dependent variable for future experimental manipulation. Additionally, ex post facto designs are particularly suited towards research that has a strong theoretical grounding (Heppner, Kivlighan, & Wampold, 1999). This study is grounded in the Millon (1990) model of personality and is designed to predict based on the tenets of the model. The design is limited in that there is no control of confounding variables; causality cannot be established due to lack of manipulation of independent variables, random assignment is not possible, and there is risk of improper interpretation due to the lack of manipulation in the design (Heppner, Kivlighan, & Wampold, 1999).

### **Derivation of the Research Hypothesis**

Approaching a taxonomic system of classification from a grounded theoretical perspective of personality may provide a more rich model for understanding children who sexually abuse on both etiological and treatment dimensions. The aim of the study is to determine how personality predicts severity of sexual perpetration. The predictor variable in this study is the emerging personality pattern of each participant. Personality as measured in this study is non manipulable and will only be measured using the M-PACI (Millon et al., 2005).

Participants' highest score on the M-PACI (Millon et al., 2005) emerging personality patterns scales were trichotomized into an active, passive, or unstable category. The criterion variable being measured is the severity of sexual perpetration committed by each participant. The number of sexual offenses, level of coercion used to perpetrate offenses, and level of contact used during the sexual offense will be the measure of severity of sexual perpetration. The research question and specific research hypotheses were subsequently generated.

Research Question 1: Can emerging personality patterns as measured by the M-PACI predict the severity of sexual maladjustment in preadolescent sexual abusers?

SRH1: There will be statistically significant differences in global level of sexual aggression (number of offenses, level of sexually intrusive contact, and level of coercion) between preadolescents with active, passive, and unstable emerging personality patterns.

Personality patterns are believed to be the result of a complex interplay of various domains to include the environment (Millon & Davis, 1996). The emerging personality patterns in preadolescents by nature are more malleable and may be more reactive to external influences in their environment (Tringone, Millon, & Kamp, 2007). The emerging personality patterns as measured by the M-PACI (Millon et al., 2005) (active, passive, and unstable) can provide data regarding how personality may be shaped based on environmental influences. The criterion variables being measured included the experiences of child maltreatment, family environmental factors, developmental history, and protective factors. The following research question and specific research hypotheses were generated.

Research Question 2: Are emerging personality patterns as measured by the M-PACI related to environmental experiences in preadolescent sexual abusers?

SRH2.1: There will be statistically significant differences in the number of maltreatment history indicators between preadolescents with active, passive, and unstable emerging personality patterns.

SRH2.2: There will be statistically significant differences in the number of family environment factors between preadolescents with active, passive, and unstable emerging personality patterns.

SRH2.3: There will be statistically significant differences in number of developmental history indicators between preadolescents with active, passive, and unstable emerging personality patterns.

SRH2.4: There will be statistically significant differences in the number of protective factor indicators between preadolescents with active, passive, and unstable emerging personality patterns.

Personality patterns provide a critical backdrop for understanding clinical signs. Kamp and Tringone (2008) state that clinical syndromes can be seen as an extension of an underlying personality vulnerability or as a possible biologically driven condition within the context of the developing personality style. The emerging personality patterns as measured by the M-PACI (Millon et al., 2005) (active, passive, and unstable) may provide information regarding the relationship between personality patterns and clinical symptoms. The criterion variables being measured included the Current Clinical Signs scale of the M-PACI, the behavioral history indicators, and DSM-IV TR diagnosis.

Research Question 3: Can emerging personality patterns as measured by the M-PACI predict the clinical symptomology in preadolescent sexual abusers?

SRH3.1: There will be statistically significant differences in number of behavioral history indicators between preadolescents with active, passive, and unstable emerging personality patterns.

SRH3.2: There will be statistically significant differences in the number Current Clinical Signs as measured by the M-PACI between preadolescents with active, passive, and unstable emerging personality patterns.

### **Participants**

Participants in the study were males and females ages 9-12 that were identified as having perpetrated sexual abuse. The participants were recruited from community based inpatient and outpatient treatment providers that assessed and/or treated preadolescents with sexual behavior problems. Participants provided written assent and written parent/guardian consent was also required for inclusion in the study (Appendix A). Participants were administered the Millon Pre-Adolescent Clinical Inventory (M-PACI, Millon et al., 2005) and had a clinical and demographic information sheet completed on them by a trained coder (Appendix B). Participants were excluded from the study if their M-PACI profile was invalid based on the invalidity scale score, the participant did not fully complete the M-PACI, or the participant or their family chose to withdraw participation. Participating sites included one inpatient treatment program located in the Northeast United States, one inpatient program in the Midwest United States, and one outpatient treatment program located in the Midwest United States.

### **Sampling Procedure**

Purposive criterion sampling was used in the study. This methodology is used when selecting cases deemed most informative and provide a focus on depth of information (Teddlie & Tashakkori, 2008). Sites that provide assessment and/or treatment for preadolescent (ages 9-12)

sexual abusers were contacted for participation in the study (Appendix C). The researcher sent information packets outlining the purpose of the study, the scope of participation required by the prospective client and treatment provider, and intended benefits for the participant and treatment provider. Participating sites were provided number coded M-PACI profile forms with instructions on proctoring the assessment tool as well as a matching number coded demographics information sheet to complete on each participant. Self-addressed stamped envelopes were provided to each participating site to return materials to the researcher. Participating sites were also given to option to have the researcher collect the data for the demographics profile from chart reviews. The researcher maintained confidentiality of information obtained and no identifying information was recorded. Participants were chosen based on obtaining written informed consent from the guardian and assent from the youth to take part in the study. In exchange for participation in the study, the participants' site received a copy of the personality assessment profile report (M-PACI) to aid in evaluation and treatment planning.

### **Instrument**

The Millon Pre-Adolescent Clinical Inventory (Millon et al., 2005) was selected to measure personality patterns in this study. What makes the M-PACI different from the current assessments for children is that it is one of few that attempts to describe personality patterns in children. The M-PACI is also the only personality assessment for children that are based on a comprehensive theory of personality. The M-PACI is designed for 9-12 year old children and can be administered multiple times to gauge progress or re-evaluate issues during treatment. The instrument is a 97 item true-false assessment that is written on a third grade level. The M-PACI is designed to identify a child's Emerging Personality Patterns and Current Clinical Signs at the time of evaluation. The Emerging Personality Patterns are: Submissive, Confident, Conforming

(Passive) Outgoing, Unruly, Inhibited (Active) and Unstable. Six of the Emerging Personality Patterns represent the six basic styles from Millon's (1990) model. The seventh, "Unstable," measures a potentially more serious personality pattern. The Current Clinical Signs measured include Anxiety/Fears, Attention Deficits, Obsessions/Compulsions, Conduct Problems, Disruptive Behaviors, Depressive Moods, and Reality Distortions. The M-PACI also has two response validity indicators, the Invalidity Scale and Response Negativity Scale. These scales were designed to detect untruthful responding (Millon et al., 2005).

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Assessment System for Children: Self-Report Personality Form C (BASC SRP-C), the Children's Depression Inventory (CDI), and the Revised Children's Manifest Anxiety Scale (RCMAS). The M-PACI Obsession/Compulsions scale correlated at .75 with the RCMAS. The M-PACI base rate scores were correlated at .65 with the raw scores of the CDI. The correlations of the M-PACI with the BASC SRP-C were found to be in the expected direction for all but two of the 16 scales on the BASC SRP-C. Depressive Moods on the M-PACI was correlated at .55 with the BASC SRP-C Depression scale. The Obsessions/Compulsions scale on the M-PACI was correlated at .65 with the Anxiety scale on the BASC SRP-C. Reality distortions on the M-PACI were correlated at .73 on the Atypicality scale for the BASC SRP-C. The Unstable scale on the M-PACI correlated at .59 with Social Stress on the BASC SRP-C. Social Stress on the BASC SRP-C correlated at -.51 with the Confident scale on the M-PACI and .45 with the Inhibited scale and .58 with Reality Distortions of the M-PACI. The M-PACI scales of Confident, Unstable, and Attention Deficits correlated at a magnitude of above .50 with the Sense of Inadequacy scale on the BASC SRP-C. The BASC SRP-C Interpersonal Relations scale was correlated at .51 with the M-PACI Outgoing scale. The Self Esteem scale on the BASC SRP-C correlated at .52 with the M-PACI Confident scale (Millon, et. al., 2005)

Reliability for the M-PACI was obtained based on the 100 participants in the cross-validation subsample. Each scale has seven to twelve items each in an attempt to keep the assessment relatively short. The alpha internal consistencies for Emerging Personality Patterns are as follows: Confident (.67), Outgoing (.65), Conforming (.67), Submissive (.66), Inhibited (.65), Unruly (.84), and Unstable (.81). The alpha internal consistencies for Current Clinical Signs are as follows: Anxiety/Fears (.67), Attention Deficits (.74), Obsessions/Compulsions (.63), Conduct Problems (.79), Disruptive Behaviors (.79), Depressive Moods (.72), and Reality

Distortions (.76). Correlations with the BASC SRP-C Attitude to School and Attitude to Teachers scales were .35 or greater for the M-PACI scales of Conforming (negatively), Unruly, Attention Deficits, Conduct Problems, and Disruptive Behavior scales. Additionally, these five scales were correlated with the BASC SRP-C School Maladjustment composite at .40 and greater. Relations with Parents scale of the BASC SRP-C correlated highest with the M-PACI scales were Conforming (.44) and Conduct Problems (-.44). The Clinical Maladjustment composite and the Emotional Symptom Index each had correlations of .50 or higher with the M-PACI Confident (negative correlations) scale. Unstable, Obsessions/Compulsions, and Reality Distortions on the M-PACI correlated .52 with the Emotional Symptoms Index on the BASC SRP-C. The BASC SRP-C Personal Adjustment correlated at .61 with the M-PACI Confident and -.52 with the Unstable scale (Millon et al., 2005).

The second tool used in data collection was a demographic variable and historical background questionnaire (Appendix B). This questionnaire was created for the purpose of this study and does not hold any psychometric properties. The questionnaire is designed to be completed by an individual familiar with the participant's social history and sexually abusive behaviors. For the purpose of this study, a mental health professional working with the participants was identified as the most appropriate rater. The first section covers basic demographic variables like age, sex, and racial/ethnic background. No identifying information is obtained on the form and a coding system is used to further protect participant information. The second section of the form is designed to obtain information on various life events and behaviors exhibited by the participants. Participants are screened for a history of maltreatment as measured by the presence of known sexual victimization, physical abuse, or neglect. Family environment risk factors were also obtained to add additional context to the participants' information. The



participants are rated on the presence of the following variables; familial economic stress, parental rights terminated, history of child protective services cases on the family, parent/guardian have a criminal history, parent/guardian have a substance abuse history, participant resides in a violent community, poor/ineffective parenting practices, social services placements (foster care), secondary family placement (lived with non parent family member), single parent/caregiver home, martial discord in home, and parent has a history of abuse as a child. Developmental history indicators were also recorded to identify potential longer term problems. These items consisted of a below average IQ (<84), social skills deficits, poor self care (hygiene), communication delays, receiving special education services, and toileting delays (including enuresis).

Behavioral problems were also recorded to measure clinically significant variables on behavioral functioning. These items included lying/deception, physical aggression, anxiety/excessive worry, shy or inhibited/inadequate, atypicality (hears voices, bizarre thoughts, hallucinations), hyperactivity/impulsivity, depression/moodiness, and delinquency (peer group, truancy, stealing). The form also sought to identify the presence of protective factors. These included a nurturing parent/child relationship, positive academic achievement, positive community connections (church, sports teams, etc.), child has problem solving skills, parents are resilient and can cope with daily stressors while caring for offspring, child has prosocial friendships, child has social competence, and the family has concrete support such as food, money, people to turn to if needed. The next data collected was the participants Diagnostic and Statistical Manual IV TR diagnosis.

The final data obtained on the demographics form was an assessment of the participants' sexual behavior problem history. If participants had multiple victims, a separate sheet was

completed for each identified person. The data obtained on this form includes victim characteristics such as age of the victim, relationship of the victim to participant (family member they reside with, casual acquaintance, stranger, family member not residing with, peer/friend non relative, or other. Next, the presence of victim vulnerabilities were identified. These included differences in physical stature, intellectual vulnerabilities, or a role vulnerability (participant misused assigned authority). The level of sexually intrusive behavior was divided into a three tier system. Level 1 offenses were non-contact in nature and included behaviors such as exposure of self in a sexual manner, solicitation of a victim to pose nude, or exposing the victim to sexual activity or media. Level II offenses were contact offenses that included fondling of the victim in a personal area, making the victim fondle the participant's genitals, or fondling the victim in the genital area. Level III offenses were penetrative offenses that included oral sex-victim to participant, oral sex participant to victim, digital or object penetration, and penile penetration, participant to victim. Lastly, the offense was rated on level of coercion. This was identified into either deception tactics such as games, tricks, bribes or other enticements and the use of physical force, threat of force, or use of weapons.

### **Variable List**

Variables used during the data analysis were coded in the following manner. The primary predictor (independent) variables are the Emerging Personality Patterns as derived from the M-PACI. The highest score on the seven Emerging Personality Patterns determined the predictor group placement. High point scores on Outgoing, Unruly, and Inhibited were grouped as "active" personality patterns and placed into group 1. High point score on Submissive, Confident, and Conforming personality patterns were grouped as "passive" personality patterns and placed into group 2. High point scores on Unstable were placed into the "unstable"

personality pattern and placed into group 3. The current clinical signs scale of the M-PACI was coded as follows were recorded as base rate scores and coded into seven groups: Anxiety/Fears (1), Attention Deficits (2), Obsessions/Compulsions (3), Conduct Problems (4), Disruptive Behaviors (5), Depressive Moods (6), and Reality Distortions (7).

Global sexual aggression scores were computed based on the sum of the number of sexual offenses committed, level of coercion used to commit the offense, and level of sexually intrusive contact. Level of coercion was scored in as 1 point for “Deception” strategies only and 2 points for “Physical” force strategies. Level of sexually intrusive contact was scored on a three point scale with non contact offenses such as exposure of self, solicited victim to pose nude, exposed victim to sexual activity/media receiving 1 point, contact acts such as fondled victim in personal area, made victim fondle offenders genitals, fondled victim in genital area receiving 2 points, and penetration offenses such as oral sex, victim to perpetrator, oral sex perpetrator to victim, digital or object penetration, and penile, perpetrator to victim receiving 3 points.

The family environment factors were summed to produce a total score on this criterion variable. Presence of individual factors were assigned a one point value for a minimum score of 0 maximum score of 8. The items included were familial economic stress, poor or ineffective parenting, parental rights terminated, parent/guardian criminal history, history of child protective services case on the family, secondary family placement, social services placement, parent/guardian substance abuse, single parent/caregiver home, resides in violent community, marital discord at home, and parent has history of abuse as a child.

Protective factors scores were derived by summing the scores for each factor that was present. Each item received a one point value for a minimum score of 0 and a maximum score of 8. The following items measured this variable: a nurturing parent-child relationship nurturing

parent/child relationship, positive academic achievement, positive community connections, child has social competence, parental resilience, pro-social friendships, family has concrete support, and child has problem solving skills.

The developmental history indicators criterion variable score was obtained by summing the total number of present indicators. Each item received a one point value for a minimum score of 0 and a maximum score of 6. The items used to measure this variable were a history of delayed toilet training, social skills deficits, poor self-care, communication delays, receiving special education services, and intelligence quotient 84 or below.

Behavioral history indicators score was determined by summing the total number of present indicators. Each present indicator received one point for a minimum score of 0 and a maximum score of 8. The items used to measure this variable were presence or history of lying/deception, physical aggression, impulsivity-hyperactivity, delinquency, anxious/excessive worrying, shy or inhibited/ feels inadequate, depressiveness/moody, and atypicality (hears voices, bizarre thoughts, hallucinations).

### **Data Collection**

Each participating site received a data collection kit with informed consent form and numerically coded forms for the Millon Preadolescent Clinical Inventory (M-PACI, Millon et al., 2005) and demographic data sheet. A separate log was created for each site track the name of the participating youth to their respective number code. The M-PACI was administered to males and females ages 9-12 over an eight month period. The M-PACI form was number coded to a corresponding demographic data sheet. The instrument was administered individually at the respective sites. A mental health professional or paraprofessional administered the instrument to participants. Basic proctoring skills such as reading the printed directions and monitoring the

participant were needed to administer the instrument. Each administration takes approximately 20 minutes to complete. A corresponding number coded demographic sheet was also completed on each participant. A mental health professional or the investigator completed the demographic sheet when permission was granted. The response forms for the M-PACI and demographic form were then collected or mailed back the principle investigator for scoring and interpretation. The primary investigator scored the assessments using the M-PACI hand score kit and provided a profile report to the participating sites. The sites then matched the completed profile reports code number to the participants name for internal use.

### **Statistical Treatment**

The data was analyzed using the Multivariate Analysis of Variance (MANOVA) procedure. The primary personality type derived from the Millon Preadolescent Clinical Inventory formed the predictor variable groups or independent variable. Three distinct groups emerge from the M-PACI profile; passive (submissive, confident, and conforming), active (outgoing, unruly, and inhibited), and the unstable profile. Because the study is investigating group differences by varying personality pattern multiple dependent variables, the MANOVA procedure is appropriate to determine the extent to which variation on the criterion variables are associated with variation in the predictor variable (Kirk, 1995). The criterion variables in the study include ratings on global sexual aggression, number of offenses, rating level of sexually intrusive contact, maltreatment experiences, number of family environmental factors, number of developmental history factors, number of protective factors, number of behavioral history indicators, Current Clinical Signs as measured by the M-PACI. The MANOVA procedure compares criterion variables vector group means by analyzing comparisons of variance among the means in these groups. The measure of association for multivariate statistics is Wilk's

Lambda. The value of Wilk's Lambda can range from 0 to 1 and is interpreted in the opposite way that you interpret an  $R^2$ . Smaller values near zero indicate a relatively strong relationship between the predictor variable and the multiple criterion variables as a group. Additional analysis using Hotelling's  $T^2$  was used to determine which pairwise contrasts vary at a statistically significant level. Because the study is exploratory in nature and there are multiple dependent variables that warrant a  $p$  value adjustment, a two-tailed test of significance and a  $p$  level of .10 were utilized (Heppner, Kivlighan, & Wampold 1999). Criterion variables were also examined for clinical significance during post hoc analysis.

### **Limitations**

The sample under investigation is limited to children 9 to 12 years old from participating inpatient and outpatient therapy programs assessing and/or treating children with sexual behavior problems. The sample selected was also limited to those participants who were eligible for the study in the time frame in which the data was being collected. Therefore, there are limitations to generalizability of the results to the population. The sample was selected based on child and parental informed consent to participate, thereby limiting the sample to those who voluntarily chose to participate, which may have resulted in a self-selection bias. The ex post facto design presents limitations due to the role of chance in the findings, lack of manipulation of the independent variable, and lack of random assignment (Heppner, Kivlighan, & Wampold, 1999). The Millon Pre-Adolescent Clinical Inventory (M-PACI, Millon et al., 2005) is a self-report personality and clinical syndromes measure which is limited by its validity and reliability estimates as well as participants cooperation in taking the assessment. The M-PACI is also limited by the participants' ability to read at a third grade level. Client and family historical variables, offense history related variables, and diagnosis may not accurately reflect factual

information or be open to interpretability and individual coder error and bias. Incomplete information packets and invalid M-PACI profiles that cannot be interpreted also limit the study.

## **Summary**

The study was designed to build on the existing empirical literature regarding typology of preadolescent sexual abusers. The three present typologies (Bonner, Walker, & Berliner, 1999; Hall, Mathews, & Pearce, 2002; Pithers, Gray, Busconi, & Houchens, 1998) have provided some useful descriptive information about the population, though no one typology can provide a completely comprehensive framework for assessing children with sexual behavior problems (Rasmussen, 2004).

None of these typologies however, has utilized a personality derived and theory driven grouping to hypothesize etiological and intervention considerations. The emergence of particular personality patterns in childhood may provide us with new information to assist in understanding the trajectory of childhood development. Personality development begins in childhood and has been shown to have stability into adolescence and adulthood (Del Barrio, Carrasco, & Holgado, 2006; Hagekull and Bohlin, 2003; Tackett, 2006). An exploration of the emerging personality patterns in children with sexual behavior problems may provide additional information in which to view and understand this population. By developing a typology grounded in a theory driven personality system we may provide a more clear and explicit understanding of children with sexual behavior problems. This would allow for the development of a comprehensive framework in which to contextualize the emergence of sexually abusive behaviors and propose treatment interventions specific to personality types in a manner in which the current taxonomic models are limited.

## CHAPTER FOUR: RESULTS

### Data Analysis

Data derived from this study were analyzed using Statistical Analysis Software (SAS; SAS Institute Inc., 2002-2003). Descriptive statistics were used to provide specific participant demographic information including *N* size, percentages, means and standard deviations. Inferential statistics were used to make estimates about the population. Analysis included Multivariate Analysis of Variance (MANOVA), Post hoc Hotelling's  $T^2$ , calculation of the effect size for the dependent variables, computation of Chronbach's alpha for the M-PACI, and correlation statistics for M-PACI scales.

### Demographics

A sample of 31 individuals participated in this study. The average age of the sample was 11.09 years ( $SD = 1.10$ , range 9-12 years). The sample was divided into one of three groups based on their M-PACI Emerging Personality Pattern high point score. Participants in the Active personality group ( $n = 16$ ) had an average age of 11.12 ( $SD = 1.14$ , range 9-12 years). Participants in the Passive personality group ( $n = 8$ ) had an average age of 10.75 years ( $SD = 1.03$ , range 9-12 years). Participants in the Unstable personality group ( $n = 7$ ) had an average age of 11.42 years ( $SD = 1.13$ , range 9-12 years). The sample was comprised of 28 males and 3 females. Of the three groups, the Active personality group was the only one that had female participants (3 of the 16).

The racial composition of the sample was 84% Caucasian ( $n = 26$ ), 10% Hispanic ( $n = 3$ ), 3% African American ( $n = 1$ ), and 3% Other/Biracial ( $n = 1$ ). The Active personality group was 75% Caucasian ( $n = 12$ ), 13% Hispanic ( $n = 2$ ), 6% African American ( $n = 1$ ), and 6%



Other/Biracial ( $n = 1$ ). The Passive Personality group was 87% Caucasian ( $n = 7$ ) and 13% Hispanic ( $n = 1$ ). The Unstable personality group was 100% Caucasian ( $n = 7$ ).

The participants were drawn from three participating sites. Forty-five percent of the sample ( $n = 14$ ) was recruited from two inpatient sites. Fifty-five percent of the sample ( $n = 17$ ) was recruited from one outpatient site. Within each of the three groups the breakdown of inpatient and outpatient participants is as follows. The Active personality group was comprised of 43% inpatients ( $n = 7$ ) and 57% outpatients ( $n = 9$ ). The Passive personality group was comprised of 12% inpatients ( $n = 1$ ) and 88% outpatients ( $n = 7$ ). The Unstable personality group was comprised of 86% inpatients ( $n = 6$ ) and 14% outpatients ( $n = 1$ ). A summary of participant demographics is shown in table 4.1.

*Table 4.1*

*Participant Demographics*

	Total Sample	Active	Passive	Unstable
Sex				
Male	28	13	8	7
Female	3	3	0	0
Age				
9	5	3	1	1
10	2	0	2	0
11	9	5	3	1
12	15	8	2	5
Mean Age	11.09	11.12	10.75	11.42
SD	1.10	1.14	1.03	1.13
Race/Ethnicity				
Caucasian	26	12	7	7
Hispanic	3	2	1	0
African American	1	1	0	0

	Total Sample	Active	Passive	Unstable
Other/Biracial	1	1	0	0
Inpatient	14	7	1	6
Outpatient	17	9	7	1

### Results of Testing the Research Hypotheses

Three general research questions and seven specific research hypotheses were proposed for this study. The results of testing the research hypotheses will provide empirical data regarding the role of personality on these areas of functioning represented in the seven specific research hypotheses or dependent variables.

Research Question 1: Can emerging personality patterns as measured by the M-PACI predict the severity of sexual maladjustment in preadolescent sexual abusers?

- SRH1: There will be statistically significant differences in global level of sexual aggression (number of offenses, level of sexually intrusive contact, and level of coercion) between preadolescents with active, passive, and unstable emerging personality patterns.

Research Question 2: Are emerging personality patterns as measured by the M-PACI related to environmental experiences in preadolescent sexual abusers?

- SRH2.1: There will be statistically significant differences in the number of maltreatment history indicators between preadolescents with active, passive, and unstable emerging personality patterns.
- SRH2.2: There will be statistically significant differences in the number of family environment factors between preadolescents with active, passive, and unstable emerging personality patterns.

- SRH2.3: There will be statistically significant differences in number of developmental history indicators between preadolescents with active, passive, and unstable emerging personality patterns.
- SRH2.4: There will be statistically significant differences in the number of protective factors indicators between preadolescents with active, passive, and unstable emerging personality patterns.

Research Question 3: Can emerging personality patterns as measured by the M-PACI predict the clinical symptomology in preadolescent sexual abusers?

- SRH3.1: There will be statistically significant differences in number of behavioral history indicators between preadolescents with active, passive, and unstable emerging personality patterns.
- SRH3.2: There will be statistically significant differences in number of Current Clinical Signs as measured by the M-PACI between preadolescents with active, passive, and unstable emerging personality patterns.

To answer the general research questions and their specific research hypotheses, a three group MANOVA was conducted. Participants were placed into one of three groups based on their Emerging Personality Pattern score on the Millon Preadolescent Clinical Inventory (M-PACI). Internal consistency achieved for the M-PACI was assessed through Chronbach's alpha. The internal consistency for the entire test was .83 and all 14 scales of the test had alpha scores of at least .79. The seven dependent variables examined in this study were selected for their theoretical correlation to each other. MANOVA is appropriate to use when you have several correlated dependent variables (Stevens, 2002). The intercorrelations between the dependent variables are found in table 4.2.

Table 4.2

*Intercorrelations Among the Dependent Variables*

Variable	GSA	MAL	FAM	DEV	PROT	BEH	CLINSIGN	Chronbach's $\alpha$
GSA	1.00	.19	.48	.05	-.19	.33	.21	.57
MAL	.19	1.00	.36	.29	-.09	.40	.63	.48
FAM	.48	.36	1.00	.18	.10	.53	.24	.46
DEV	.05	.29	.18	1.00	-.60	.38	.46	.60
PROT	-.19	-.09	.10	-.60	1.00	-.23	-.40	.76
BEH	.33	.40	.53	.38	-.23	1.00	.45	.47
CLINSIGN	.21	.63	.24	.46	-.40	.45	1.00	.51

Note. GSA= global sexual aggression, MAL= maltreatment history, FAM=family environment factors, DEV=developmental history indicators, PROT=protective factors, BEH=behavioral history indicators, CLINSIGN=current clinical signs

Assumptions of multivariate normality were tested prior to conducting the MANOVA.

The model assumptions were determined to be consistent with multivariate normality given the small data set. It has also been noted the MANOVA test statistic is robust to violations of normality (Stevens, 2002).

**Multivariate main effect**

The MANOVA was conducted to examine the group differences on the seven dependent variables. The results of the MANOVA showed a significant multivariate effect for type of Emerging Personality Pattern (Active, Passive, and Unstable), Wilk's Lambda = .17,  $F(2, 28) = 4.31$ ,  $p = .0001$ . Next, Hotelling's  $T^2$  analyses were performed to contrast each group and

determine which mean vectors were significantly different. A Bonferroni-corrected alpha of .014 was selected in the analysis to reduce Type I error inflation.

### **Active versus passive personality group**

The Hotelling's  $T^2$  analysis with the Active personality pattern group and Passive personality pattern group revealed two significant results out of the seven dependent variables. The dependent variable of global sexual aggression score was not significant  $F(1, 22) = 5.48, p = .028$ . The eta-squared was .20 indicating a medium effect size. The dependent variable of maltreatment history was significant  $F(1, 22) = 6.99, p < .014$ . The eta-squared was .24 indicating a medium effect size. The dependent variable of family environment factors was not significant  $F(1, 22) = 4.46, p = .046$ . The eta-squared was .17 indicating a medium effect size. The dependent variable of developmental history indicators was not significant  $F(1, 22) = 0.41, p = .52$ . The eta-squared was .02 indicating a small effect size. The dependent variable of protective factors was not significant  $F(1, 22) = 3.62, p = .070$ . The eta-squared was .14 indicating a medium effect size. The dependent variable of behavioral history indicators was not significant  $F(1, 22) = 1.07, p = .311$ . The eta-squared was .05 indicating a small effect size. The dependent variable of current clinical signs was significant  $F(1, 22) = 15.18, p < .0008$ . The eta-squared was .41 indicating a large effect size. Table 4.3 provides a summary of the means, standard deviations, Hotelling's  $T^2$  results, and eta squared for the Active and Passive personality pattern group.

Table 4.3

Means, Standard Deviations, and Hotelling's  $T^2$  Results for the Active and Passive Groups

Variable Group	Mean (SD)	df	F value	p	eta-squared
GSA					
Active	18.94 (14.70)	1, 22	5.48	.028	.20
Passive	6.50 (3.16)				
MAL					
Active	1.38 (1.15)	1, 22	6.99	.014**	.24
Passive	0.25 (.46)				
FAM					
Active	4.62 (2.06)	1, 22	4.46	.046	.17
Passive	2.87 (1.55)				
DEV					
Active	2.63 (2.48)	1, 22	.41	.52	.02
Passive	2.0 (1.69)				
PROT					
Active	1.87 (1.58)	1, 22	3.62	.070	.14
Passive	3.12 (1.36)				
BEH					
Active	4.50 (1.79)	1, 22	1.07	.311	.05
Passive	3.75 (1.39)				
CLINSIGN					
Active	4.62 (2.19)	1, 22	15.18	.0008**	.41
Passive	1.38 (1.19)				

Note. GSA= global sexual aggression, MAL= maltreatment history, FAM=family environment factors, DEV=developmental history indicators, PROT=protective factors, BEH=behavioral history indicators, CLINSIGN=current clinical signs. \*\*Significant at Bonferroni corrected alpha of .014.

### Active versus unstable personality group

The Hotelling's  $T^2$  analysis with the Active personality pattern group and Unstable personality pattern group revealed no significant results from the seven dependent variables. The dependent variable of global sexual aggression score was not significant  $F(1, 21) = 1.89, p = .183$ . The eta-squared was .08 indicating a small effect size. The dependent variable of maltreatment history was not significant  $F(1, 21) = 0.51, p = .483$ . The eta-squared was .02 indicating a small effect size. The dependent variable of family environment factors was not significant  $F(1, 21) = 0.25, p = .621$ . The eta-squared was .01 indicating a small effect size. The dependent variable of developmental history indicators was not significant  $F(1, 21) = 2.76, p = .111$ . The eta-squared was .12 indicating a medium effect size. The dependent variable of protective factors was not significant  $F(1, 21) = 0.54, p = .469$ . The eta-squared was .03 indicating a small effect size. The dependent variable of behavioral history indicators was not significant  $F(1, 21) = .01, p = .926$ . The eta-squared was .0. The dependent variable of current clinical signs was not significant  $F(1, 21) = 1.12, p < .301$ . The eta-squared was .06 indicating a small effect size. Table 4.4 provides a summary of the means, standard deviations, Hotelling's  $T^2$  results, and eta squared for the Active and Unstable personality pattern groups.

Table 4.4

*Means, Standard Deviations, and Hotelling's  $T^2$  Results for the Active and Unstable Groups*

Variable Group	Mean (SD)	df	$F$ value	$p$	eta-squared
GSA					
Active	18.94 (14.70)	1, 21	1.89	.183	.08
Unstable	10.86 (6.87)				

Variable Group	Mean (SD)	df	<i>F</i> value	<i>p</i>	eta-squared
MAL					
Active	1.38 (1.15)	1, 21	0.51	.483	.02
Unstable	1.71 (.76)				
FAM					
Active	4.62 (2.06)	1, 21	0.25	.621	.01
Unstable	4.14 (2.27)				
DEV					
Active	2.63 (2.48)	1, 21	2.76	.111	.12
Unstable	1.0 (1.0)				
PROT					
Active	1.87 (1.58)	1, 21	0.54	.469	.03
Unstable	2.57 (2.29)				
BEH					
Active	4.50 (1.79)	1, 21	.01	.926	.00
Unstable	4.57 (1.40)				
CLINSIGN					
Active	4.62 (2.19)	1, 21	1.12	.301	.05
Unstable	5.57 (1.27)				

Note. GSA= global sexual aggression, MAL= maltreatment history, FAM=family environment factors, DEV=developmental history indicators, PROT=protective factors, BEH=behavioral history indicators, CLINSIGN=current clinical signs.

### **Passive versus unstable personality group**

The Hotelling's  $T^2$  analysis with the Passive personality pattern group and Unstable personality pattern group revealed two significant results out of the seven dependent variables. The dependent variable of global sexual aggression score was not significant  $F(1, 13) = 2.61, p = .130$ . The eta-squared was .17 indicating a medium effect size. The dependent variable of maltreatment history was significant  $F(1, 13) = 21.11, p < .0005$ . The eta-squared was .62 indicating a large effect size. The dependent variable of family environment factors was not



significant  $F(1, 13) = 1.63, p = .223$ . The eta-squared was .11 indicating a medium effect size. The dependent variable of developmental history indicators was not significant  $F(1, 13) = 1.87, p = .195$ . The eta-squared was .13 indicating a medium effect size. The dependent variable of protective factors was not significant  $F(1, 13) = 0.22, p = .64$ . The eta-squared was .02 indicating a small effect size. The dependent variable of behavioral history indicators was not significant  $F(1, 13) = 1.30, p = .275$ . The eta-squared was .09 indicating a small effect size. The dependent variable of current clinical signs was significant  $F(1, 13) = 43.63, p < .0001$ . The eta-squared was .77 indicating a large effect size. Table 4.5 provides a summary of the means, standard deviations, Hotelling's  $T^2$  results, and eta squared for the Passive and Unstable personality pattern groups.

*Table 4.5*

*Means, Standard Deviations, and Hotelling's  $T^2$  Results for the Passive and Unstable Groups*

Variable Group	Mean (SD)	df	<i>F</i> value	<i>p</i>	eta-squared
GSA					
Passive	6.50 (3.16)	1, 13	2.61	.130	.17
Unstable	10.86 (6.87)				
MAL					
Passive	0.25 (.46)	1, 13	21.11	.0005**	.62
Unstable	1.71 (.76)				
FAM					
Passive	2.87 (1.55)	1, 13	1.63	.223	.11
Unstable	4.14 (2.27)				
DEV					
Passive	2.0 (1.69)	1, 13	1.87	.195	.13
Unstable	1.0 (1.0)				

Variable Group	Mean (SD)	df	<i>F</i> value	<i>p</i>	eta-squared
PROT					
Passive	3.12 (1.36)	1, 13	0.22	.64	.02
Unstable	2.57 (2.29)				
BEH					
Passive	3.75 (1.39)	1, 13	1.30	.275	.09
Unstable	4.57 (1.40)				
CLINSIGN					
Passive	1.38 (1.19)	1, 13	43.63	.0001**	.77
Unstable	5.57 (1.27)				

Note. GSA= global sexual aggression, MAL= maltreatment history, FAM=family environment factors, DEV=developmental history indicators, PROT=protective factors, BEH=behavioral history indicators, CLINSIGN=current clinical signs. \*\*Significant at Bonferroni corrected alpha of .014.

### Summary

This investigation examined the role of personality patterns in expressed sexual aggression, environmental experiences, and clinical symptomology in male and female preadolescents between the ages of 9 and 12. Thirty-one participants were divided into one of three groups based on their dominant Emerging Personality Pattern score on the Millon Preadolescent Clinical Inventory (M-PACI). These groups were identified as predominantly Active, Passive, or Unstable personality patterns. These predictor variable groups were analyzed by MANOVA against seven dependent variables.

The Passive personality pattern group was found to be significantly different on the criterion variables when compared to the Active and Unstable. The Passive group showed fewer experiences of maltreatment and had fewer significant elevations on Current Clinical Signs as measured by the M-PACI when compared to both the Active and Unstable personality pattern

groups. The Active and Unstable personality pattern groups did not differ significantly on any variable.

## CHAPTER FIVE: DISCUSSION

This chapter provides a restatement of the topic of investigation followed by a discussion of the results, implications, limitations, and suggestions for further research. The general and specific research hypotheses are interpreted and a discussion of the results and their relevance is explored. The chapter concludes with a discussion of the limitations of the research as well as the implications of the present study. Finally, directions for further research based on the outcomes of this study are presented.

Preadolescents with sexual behavior problems are the least studied population in the sexual abuser literature. There are few empirical investigations that provide insight into this population and each study is limited in scope. The purpose of this study was to investigate the relationship between emerging personality patterns as defined by the Millon Preadolescent Clinical Inventory (M-PACI) and sexually abusive behaviors in a sample of preadolescents, ages 9 to 12. The M-PACI provided a theoretical framework to ground the typology of preadolescent sexual abusers. Thirty-one preadolescents with sexual behavior problems participated in this study. Participants were recruited from two inpatient treatment programs for children and adolescents with sexual behavior problems and one outpatient counseling clinic. Participants completed the M-PACI and a demographics form was completed by the participants' treatment provider. Participants' score on the M-PACI placed them into one of three Emerging Personality Pattern groups, Active, Passive, or Unstable. The three groups were then compared using multivariate analysis of variance (MANOVA) on demographic and clinical variables, and the additional clinical scales of the M-PACI.

## **Conclusion**

The results of the study found that preadolescents with Active and Unstable personality types self-reported significantly more clinical symptoms as measured by the Current Clinical Signs Scales on the M-PACI than did the Passive personality pattern participants. Additionally, the Active and Unstable personality pattern groups had significantly more experiences of child maltreatment (sexual abuse, physical abuse, neglect) than Passive personality pattern group did. The Active and Unstable personality pattern groups were not statistically different from each other on any of the dependent variables in this study.

## **General Research Question 1 and Specific Research Hypothesis 1**

Can emerging personality patterns as measured by the M-PACI predict the severity of sexual maladjustment in preadolescent sexual abusers? The specific research hypothesis stated that there would be significant differences in the severity of sexual aggression between Active, Passive, and Unstable personality pattern groups. To measure this, a global index of sexual aggression was formed based on clinically salient factors, which were identified in the Specific Research Hypothesis 1.

- SRH1: There will be statistically significant differences in global level of sexual aggression (number of offenses, level of sexually intrusive contact, and level of coercion) between preadolescents with active, passive, and unstable emerging personality patterns.

A multivariate analysis of variance was conducted to determine if groups differed in a statistically significant manner on this index. While a significant multivariate effect was observed, Wilk's Lambda = .17,  $F(2, 28) = 4.31$ ,  $p = .0001$ , the follow up Hotelling's  $T^2$  tests did not find this dependent variable to be significantly different between any of the group contrasts at the Bonferroni corrected alpha level of .014. Results for the Active versus Passive

emerging personality patterns groups were  $F(1, 22) = 5.48, p = .028$ , eta-squared .20, Active versus Unstable emerging personality patterns groups were  $F(1, 21) = 1.89, p = .183$ , eta-squared .08, and Passive versus Unstable emerging personality patterns groups were  $F(1, 13) = 2.61, p = .130$ , eta-squared .17. Results of testing the hypotheses failed to find statistical support, therefore SRH1 failed to reject the null hypotheses ( $H_0$ ). Personality patterns as measured by the M-PACI do not predict the severity of sexual maladjustment in preadolescent sexual abusers.

The mean global sexual aggression rating for the Active group (18.94) was more than twice the mean for the Passive group (6.50). This was not statistically significant at the Bonferroni corrected level of .014, which is much more difficult to meet than the traditional .05 level. The low number of participants created problem with power, as did the different group sizes. The difference appears clinically meaningful, despite not being statistically supported in this study. Inspection of the group demographic variables indicates that individuals with Active personality types are three times more likely to be placed in an inpatient treatment program versus the Passive personality types. This is consistent with the practice of providing more intense levels of service for children with more significant histories of offending.

### **General Research Question 2 and Specific Research Hypotheses 2.1 - 2.4**

Are emerging personality patterns as measured by the M-PACI related to environmental experiences in preadolescent sexual abusers? Overall, it was hypothesized that there would be differences in aspects of environmental experiences such as episodes of maltreatment, family environment risk factors and developmental history indicators between participants with Active, Passive, and Unstable emerging personality patterns. A multivariate analysis of variance was conducted to determine if groups differed in a statistically significant manner on these dependent variables. A significant multivariate effect was observed, Wilk's Lambda = .17,  $F(2, 28) = 4.31$ ,

$p = .0001$  indicating differences between groups. Post hoc analyses using Hotelling's  $T^2$  was used to contrast the three predictor variable groups on the dependent variables subsumed under this research question. Emerging personality patterns relationship with environmental experiences was found to have mixed results.

- SRH2.1: There will be statistically significant differences in the number of maltreatment history indicators between preadolescents with active, passive, and unstable emerging personality patterns.

The follow up Hotelling's  $T^2$  tests found this dependent variable to be significantly different between two of the group contrasts at the Bonferroni corrected alpha level of .014. Active versus Passive emerging personality patterns groups was significant  $F(1, 22) = 6.99, p < .014, \eta^2 = .24$ . Active versus Unstable emerging personality patterns groups was not significant  $F(1, 21) = 0.51, p = .483, \eta^2 = .02$ . Passive versus Unstable emerging personality patterns groups was significant  $F(1, 13) = 21.11, p < .0005, \eta^2 = .62$ . The findings on this dependent variable supported the hypothesis that maltreatment experiences would be significantly different between the groups. The Active and Unstable groups were shown to have experienced statistically significantly more maltreatment than those in the Passive personality group. However, no difference in the number of maltreatment experiences was observed between Active and Unstable personality groups. The results suggest personality and number of maltreatment experiences are related. The results are consistent with the Hall et al., (2002) typology where the more behaviorally problematic groups had higher levels of childhood maltreatment. The Unstable personality pattern group closely resembles, Pithers et al., (1998) Highly Traumatized preadolescent sexual abuser group, which is noted to have the most extensive histories of child maltreatment within their typology.

- SRH2.2: There will be statistically significant differences in the number of family environment factors between preadolescents with active, passive, and unstable emerging personality patterns.

The follow up Hotelling's  $T^2$  tests did not find this dependent variable to be significantly different between any of the group contrasts at the Bonferroni corrected alpha level of .014.

Active versus Passive emerging personality patterns groups was not significant  $F(1, 22) = 4.46$ ,  $p = .046$ , eta-squared .17. Active versus Unstable emerging personality patterns groups was not significant  $F(1, 21) = 0.25$   $p = .621$ , eta-squared .01. Passive versus Unstable emerging personality patterns groups was not significant  $F(1, 13) = 1.63$ ,  $p = .223$ , eta-squared .11 Results of testing the hypotheses failed to find statistical support, therefore SRH2.2 failed to reject the null hypotheses ( $H_0$ ). Among the group contrasts, the only set that approached statistical significance was between Active and Passive personality pattern groups. The mean score for the Active group was 4.62 and 2.87 for the Passive group. Small sample size and unequal groups were problematic in the study. Family factors measured in this scale address parental instability and consistent with the Hall et al., (2002) study, the greater the family dysfunction the more overt the sexual acting out and other behavioral problems were. This is consistent with the Active personality types, who are most likely to exhibit unruly and outwardly disruptive behaviors (Millon, et al., 2005).

- SRH2.3: There will be statistically significant differences in number of developmental history indicators between preadolescents with active, passive, and unstable emerging personality patterns.

The follow up Hotelling's  $T^2$  tests did not find this dependent variable to be significantly different between any of the group contrasts at the Bonferroni corrected alpha level of .014.



Active versus Passive emerging personality patterns groups was not significant  $F(1, 22) = 0.41$ ,  $p = .52$ , eta-squared .02. Active versus Unstable emerging personality patterns groups was not significant  $F(1, 21) = 2.76$ ,  $p = .111$ , eta-squared .12. Passive versus Unstable emerging personality pattern groups was not significant  $F(1, 13) = 1.63$ ,  $p = .223$ , eta-squared was .11. Results of testing the hypotheses failed to find statistical support, therefore SRH2.3 failed to reject the null hypotheses ( $H_0$ ). There was no difference between groups on the number of developmental deficits present.

- SRH2.4: There will be statistically significant differences in the number of protective factors indicators between preadolescents with active, passive, and unstable emerging personality patterns.

The follow up Hotelling's  $T^2$  tests did not find this dependent variable to be significantly different between any of the group contrasts at the Bonferroni corrected alpha level of .014. Active versus Passive emerging personality patterns groups was not significant  $F(1, 22) = 3.62$ ,  $p = .070$ , eta-squared .14. Active versus Unstable emerging personality patterns groups was not significant  $F(1, 21) = 0.54$ ,  $p = .469$ , eta-squared .03. Passive versus Unstable emerging personality patterns groups was not significant  $F(1, 13) = 0.22$   $p = .64$  eta-squared .02. Results of testing the hypotheses failed to find statistical support, therefore SRH2.4 failed to reject the null hypotheses ( $H_0$ ). The findings suggest that the number of positive personal and environmental factors or protective factors were not different between the groups.

### **General Research Question 3 and Specific Research Hypotheses 3.1 and 3.2**

Can emerging personality patterns as measured by the M-PACI predict the clinical symptomology in preadolescent sexual abusers? This research question examined differences in the number of expressed symptoms of behavioral problems or behavioral history indicators and

the number of clinical symptom elevations accrued by each participant based on their M-PACI Current Clinical Signs scale scores between participants with Active, Passive, and Unstable emerging personality patterns. A multivariate analysis of variance was conducted to determine if groups differed in a statistically significant manner on these dependent variables. A significant multivariate effect was observed, Wilk's Lambda = .17,  $F(2, 28) = 4.31$ ,  $p = .0001$  indicating differences between groups. Post hoc analyses using Hotelling's  $T^2$  was used to contrast the three predictor variable groups on the dependent variables subsumed under this research question. Emerging personality patterns relationship with clinical symptomatology was found to have mixed results.

- SRH3.1: There will be statistically significant differences in number of behavioral history indicators between preadolescents with active, passive, and unstable emerging personality patterns.

The follow up Hotelling's  $T^2$  tests did not find this dependent variable to be significantly different between any of the group contrasts at the Bonferroni corrected alpha level of .014. Active versus Passive emerging personality patterns was not significant  $F(1, 22) = 1.07$ ,  $p = .311$ , eta-squared .05. Active versus Unstable emerging personality patterns groups was not significant  $F(1, 21) = .01$ ,  $p = .926$ , eta-squared .0. Passive versus Unstable emerging personality patterns groups was not significant  $F(1, 13) = 1.30$ ,  $p = .275$ , eta-squared .09. Results of testing the hypotheses failed to find statistical support, therefore SRH3.1 failed to reject the null hypotheses ( $H_0$ ). The finding suggests that the number of behavioral problems identified were not different between the groups.

- SRH3.2: There will be statistically significant differences in number of Current Clinical Signs as measured by the M-PACI between preadolescents with active, passive, and unstable emerging personality patterns.

The follow up Hotelling's  $T^2$  tests did find this dependent variable to be significantly different on two of the group contrasts at the Bonferroni corrected alpha level of .014. Active versus Passive emerging personality patterns was significant  $F(1, 22) = 15.18, p < .0008, \eta^2 = .41$ . Active versus Unstable emerging personality patterns groups was not significant  $F(1, 21) = 1.12, p = .301, \eta^2 = .06$ . Passive versus Unstable emerging personality patterns groups was significant  $F(1, 13) = 43.63, p < .0001, \eta^2 = .77$ . Results of testing the hypotheses found statistical support to reject the null hypotheses ( $H_0$ ). Participants with Active and Unstable Emerging Personality Patterns had significantly more clinically elevated Current Clinical Symptoms than those participants in the Passive Emerging Personality Patterns group. This finding suggests increased psychological maladjustment for the Active and Unstable groups.

This finding is consistent with Muris et al., (2009) where children with higher extraversion (active) had lower levels of behavioral inhibition. Behaviorally uninhibited individuals are more likely to have more symptoms of aggression and conduct problems. Similarly, Markey et al, (2006) found that higher extraversion boys engaged in more risky behaviors, which is consistent with conduct problems and oppositional behaviors often not found in inhibited or passive personality types. Jenson-Campbell et al., (2003) found that children who were rated higher in agreeableness had less coercive tactics in conflict resolution than children who had lower agreeableness. High agreeableness individuals are theoretically more similar to Passive personality types (submissive, conforming, and confident in the M-PACI). Low

agreeableness individuals are theoretically more similar to the Active and Unstable personality types (unruly, outgoing, and inhibited on the M-PACI).

The results are also consistent with the Pithers et al., (1998) findings where the Abuse Reactive group and Highly Traumatized group of sexual abusers were found to have the highest number of psychiatric symptoms. The Unstable emerging personality pattern group is described by Millon et al. (2004) as the most distressed personality pattern with high vulnerability to psychological problems and most closely resembles the types proposed by Pithers et al. (1998). Lastly, upon review of the demographic variables between groups, the Active group was three times more likely than the Passive group to be placed in an inpatient treatment program and the Unstable group was nearly six times as likely as the Passive group to be placed inpatient. The Current Clinical signs scale dependent variable conformed well to clinical expectations of greater psychiatric symptomatology requiring more intensive levels of care.

### **Implications**

This section provides implications based on the results of this investigation. The empirical literature establishes three typological models for preadolescents with histories of sexually abusive behaviors. The results vary to the extent to which these models provide empirically and clinically useful data. None of the current models uses personality as a theoretical anchor for which to extend its findings. Personality has been determined to be an important variable in which to identify characteristics, predict behavior, and propose intervention.

### **General and Specific Research Hypotheses**

The results of this investigation provide initial evidence of a new dimension to typological classification. The study sought to identify how Emerging Personality Patterns as

measured by the Millon Preadolescent Clinical Inventory (M-PACI) were related to a set of demographic and clinical variables relevant to the population under investigation. The M-PACI profile produces seven distinct emerging personality patterns. Each of these patterns conforms to one of three modes of adaptation. These are identified as the Active style, which is characterized by an alertness, vigilance, liveliness, vigor, forcefulness, with stimulus seeking energy and drive (Millon 1990). The Passive style are noted to be inert, lack ambition or persistence, have a tendency to acquiesce, and manifest few overt strategies to gain their ends (Millon 1990). The Unstable style is conceptualized as a highly distressed pattern with conflict in the Active and Passive polarities with persistent psychic pain and inability to cope effectively with life demands (Millon, et. al., 2005).

The results found significant differences between preadolescents with Active versus Passive personalities and with those with Unstable versus Passive personalities. The data provides empirical evidence of differences in the linear combination of dependent variables on the predictor group variables. This indicates that personality was a useful variable in which to classify the participants and that the structure of personality has some predictive relationship to the dependent variables used in this study.

The overall multivariate effect found significant differences between the groups. Follow up post hoc testing was done using a conservative Bonferroni-corrected alpha of .014. There were two significant differences found between the Active versus Passive groups as well as the Unstable versus Passive groups. The results indicated no detectible difference between Active versus Unstable groups. Both the Active and Unstable groups had significantly higher instances of being maltreated during development than the Passive group did. The elevation of trauma events attributes to disruption to the internal frame of reference may be a precursor to the

development of these specific personality patterns. Persons with these personality patterns are noted to be more forceful and vigilant and likely to have more overt signs of maladaptive functioning such as aggression or poor impulse control. Those with Passive personalities had significantly fewer episodes of childhood maltreatment. The Passive types are noted to be more accommodating and cooperative, and less likely to have overt behavioral problems. This may serve as a protective element by not disrupting the homeostasis in their living environment and not drawing attention to oneself therefore avoiding potential harm. When Active or Unstable personalities are identified, attention to maltreatment history screening and evaluation is advised in order to identify potential correlates to the Emerging Personality Pattern.

The second significant finding in the data was that Active and Unstable personality pattern participants demonstrated significantly more Current Clinical Signs on the M-PACI than did the Passive group. The finding indicates higher levels of clinical symptomology for the Active and Unstable groups, distinguishing them from the Passive group. This finding is supported in the demographic data where the majority of the participants in the Unstable group and nearly half of the participants in the Active personality pattern group were at an inpatient treatment program when they completed the M-PACI. The reverse was true for the Passive group, where the majority of these participants were outpatients. The levels of clinical dysfunction were concordant with the child's level of clinical intervention. This data suggests that Active and Unstable personality types are more likely to be treated at a higher level of care due to their additional dysfunctions outside of the identified sexual behavior problems. The Active and Unstable personality patterns could serve as a potential marker for intensity of services needed.

The global sexual aggression scale was not found to be statistically significant for any of the group contrasts. However, clinically important findings emerged. The Active group had a mean global sexual aggression score more than twice that of the Passive group. This is consistent with theoretical considerations that Active personalities are more exploitative, aggressive, and likely to have more signs of outward acting out. The alpha level achieved between groups was .028, which approached the predetermined significance level of .014. It is possible that the Bonferroni corrected alpha was too conservative and a Type II error occurred here. Problems with sample size and group size may have affected this outcome. The effect size for this comparison was medium (.20). This variable is worth closer consideration and caution should be taken with the interpretation.

Using the Millon (1990) model as a basis for the typology provides implications for personality guided treatment approaches. Millon (1999) proposed that specific treatment techniques are selected as approaches to achieve polarity oriented balances. The Active-Passive polarity and Unstable condition were the underlying model for this typology. Modification of pathological polarity imbalances serves a core function in Millon's personality guided therapy approach. The active types proposed in the M-PACI are Outgoing, Unruly, and Inhibited. When working with individuals with active-oriented personalities the aim may be to reduce the active need to control the social environment (Outgoing), increase socially appropriate means of securing rewards (Unruly), or decrease active social detachment (Inhibited). The passive types proposed in the M-PACI are Submissive, Confident, and Conforming. When working with passive types the aim may be to increase active attempts at acquiring mature skills (Submissive), increase active attempts at problem solving (Confident), or reduce ambivalence (Conforming) (Millon, et. al., 2005). The unstable type presents with conflict in its active-passive polarity.

When working with this type stabilizing the polarity imbalances by increasing adaptive coping strategies is often the first step (Millon, 1999). It is clear based on the personality type that specific interventions can be employed to moderate the impact of personality functioning.

The null findings of the study suggest that level of sexual aggression and to a greater extent the family environment, developmental history deficits, protective factors, and history of behavioral problems are not significantly different between Active, Passive, and Unstable emerging personality patterned individuals. The lack of significant findings suggest that the groups were similar in their relative levels of each of the variables and these are not as significant in terms of typological classification. Alternatively, the similar levels of presence of the variables may be indicative of a ceiling effect between groups in that preadolescents with histories of sexual acting out may be homogeneous in these areas, as compared to non offending preadolescents. The small sample size may have also affected the results so a note of caution is extended.

Counselor educators should consider the role that personality plays in expressed behaviors and its developmental trajectory over time. The Millon Preadolescent Clinical Inventory views personality in this age group as “emerging,” and therefore not fixed. The rapid changes in preadolescents in physical, cognitive, emotional domains suggest that there is malleability and that intervention can have a substantial impact. Counselor educators should consider sexually abusive behaviors in the context of developing youth and environmental circumstances and not a fixed label. Counselor educators understanding of the underlying substrate of personality may allow the advantage of providing more individualized counseling approaches. Personality based counseling models for preadolescents with sexual behavior problems offer an informed basis for both the etiology and treatment of the problem behavior.



## **Directions for Further Research and Limitations**

The current study served to formulate evidence for the presence of an unexplored area of typology for preadolescents with sexual behavior problems. The research found that there were significant differences between the groups based on their predominant Emerging Personality Pattern as defined by the Millon Preadolescent Clinical Inventory (M-PACI). Further research on personality classification with this population can further substantiate the importance of the role of personality in preadolescents with sexual behavior problems.

One of the study's limitations is generalizability as the study had a small sample size ( $N=31$ ) with unequal group sizes. The population of preadolescents with sexual behavior problems is believed to be the smallest of all individuals (adolescents and adults) with sexual behavior problems. This makes it challenging to obtain an adequate sample size. Recruitment of enough participants from multiple sites provided a distinct challenge in gaining parental or guardian consent for participation for youth with such significant and sensitive behavioral problem histories. Future investigations would benefit from a larger sample with similar group sizes.

Males were overrepresented (90%) in terms of general gender distribution. However, the gender composition of the sample was concordant with what is typically seen in clinical settings. There were four racial/ethnic groups represented in the sample. Caucasians were overrepresented (84%), Hispanics were slightly underrepresented (10%), African Americans were underrepresented (3%) and other/Biracial were also underrepresented (3%). The sample is limited to those individuals who had obtained parental/guardian consent to participate in the study. Because of the skewed demographic variables and small sample size the results should be interpreted with caution.

Additionally, the sample was limited by geographic location of participants. Participants were recruited from the Midwest and Northeast United States. A more geographically diverse sample would add to the generalizability of the data. The racial demographics of participants in the study also did not conform to current demographics in the United States. There were fewer minority groups represented in the study, which may have influenced the results. The gender demographics (10% female 90% male) were consistent with the breakdowns common to clinical settings, though the inclusion of females in the analysis may skew results. It is suggested that a more representative sample be examined as well as a separate analysis by gender be conducted in future investigations to determine the role of this variable.

Future investigations may include a control group of preadolescents referred for treatment but without a history of sexual behavior problems. This could serve to further understand the differences in functioning and between groups. When considering the results of the study, it would be prudent to further evaluate the maltreatment histories of participants. Evaluation of the abuse types may provide beneficial information on the interaction of trauma type and emerging personality pattern formation.

Another limitation of the study was that the point and time that participants were measured were not recorded. This may have affected the participants' scores on the M-PACI Current Clinical Signs scale. Participants at the beginning of treatment may not have endorsed the same level of clinical signs as participants at the end of a treatment program. Examination of current clinical signs by progress point in treatment may provide additional understanding of how this variable is related to Emerging Personality Patterns.

Finally, future research may benefit from follow up testing on participants to measure the stability of Emerging Personality Patterns and Current Clinical signs on the M-PACI. This

testing would provide additional reliability estimates to the primary investigative tool and could demonstrate the stability of personality patterns over time.

## **Summary**

Preadolescents are the least researched subgroup of the sexual abuser population. This group is estimated to commit 13% to 18% of all substantiated sexual maltreatment (Pithers & Gray, 1998). The existing literature has provided three typological classifications in which to examine clinically significant variables. There are empirical limitations of the existing studies and a relatively unexplored variable in the literature is personality.

The results of this study demonstrate that Active and Unstable Emerging Personality Patterns as measured by the M-PACI predict increased maltreatment histories and Current Clinical Signs when compared to the Passive personality pattern group. Because the typology is grounded in an established theory, the Millon model (1990), systematic treatment interventions may be proposed that are unique to the individual based on their Emerging Personality Pattern.

The limits to generalizability of the study do add caution to the interpretation of the results of this study. Increasing the overall sample size and having a more representative demographic in terms of race, geographic region, and sex would serve to better understand the current findings. However, the data do provide initial empirical support for the importance of preadolescent personality as a valuable variable of clinical utility.

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## Appendix A: Letter to Participants

*Researchers:*

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Dear Parent or Legal Guardian,

I am contacting you to let you know about a research study that your child could take part in. The research is being conducted by Sam Wallace for his doctoral dissertation at the University of Arkansas, Fayetteville.

*Description:* The study is being done to learn more about the emerging personality patterns in children who have had sexual behavior problems. The study hopes to improve our understanding of this population thereby, improving treatment outcomes. Your child will be asked to complete the Millon Preadolescent Clinical Inventory (M-PACI), which is a 97-item True/False personality assessment. Participation will take approximately 15-20 minutes. Demographic data and a psychosocial history questionnaire will also be recorded as part of the study however, no personally identifiable information will be recorded.

*Risks and Benefits:* There are no risks for participating in this research study. The potential benefits of participation are increased understanding of your child's personality patterns by his/her treatment provider, which may improve treatment outcome.

*Voluntary participation:* Your participation in the research is completely voluntary.

*Confidentiality:* No personally identifying information about you or your child will be recorded during the course of this study. The researcher maintains confidentiality of any data recorded.

*Right to Withdraw:* You are free to refuse to participate in the research or to withdraw from this study at any time. There is no penalty for withdrawing your participation.

Please do not hesitate to call us if you have any questions as you read over this Material. I am happy to review any of this with you and answer any questions you may have.



Consent to Participate

I have reviewed the informed consent and give permission for my child to participate in the research study.

\_\_\_\_\_  
Parent/Legal Guardian

\_\_\_\_\_  
Date

\_\_\_\_\_  
Child Signature

\_\_\_\_\_  
Date

*Researchers:*

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Appendix B: Data Collection Tool

**PART I: DEMOGRAPHICS**

Date: \_\_\_\_\_ ID# \_\_\_\_\_

Age: \_\_\_\_\_ Date of Birth: \_\_\_\_\_ Male \_\_\_\_\_ Female \_\_\_\_\_

**Race:**

\_\_\_\_\_ White \_\_\_\_\_ Asian/Pacific Islander

\_\_\_\_\_ Black \_\_\_\_\_ Other/Multiracial \_\_\_\_\_

\_\_\_\_\_ Native American/Alaska Native

**Ethnicity:**

\_\_\_\_\_ Hispanic Origin \_\_\_\_\_ White not of Hispanic Origin

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**PART II: PERSONAL MALTREATMENT HISTORY (check all that apply)**

\_\_\_\_\_ Sexual Abuse Victim Perpetrated on by: # \_\_\_\_\_ male(s) # \_\_\_\_\_ female(s)

\_\_\_\_\_ Physical Abuse Victim

\_\_\_\_\_ Victim of Neglect

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**FAMILY ENVIRONMENT (check all that apply)**

\_\_\_\_\_ Familial economic stress \_\_\_\_\_ Poor/ineffective parenting practices

\_\_\_\_\_ Parental rights terminated \_\_\_\_\_ Social services placement (foster care, emergency shelter, etc.)

\_\_\_\_\_ History of child protective services case on family \_\_\_\_\_ Secondary family placement (lived with non parent family member)

\_\_\_\_\_ Parent/guardian have criminal history \_\_\_\_\_ Single parent/caregiver home

\_\_\_\_\_ Parent/guardian substance abuse history \_\_\_\_\_ Marital discord in the home  
\_\_\_\_\_ Resides in violent community \_\_\_\_\_ Parent has history of abuse as a  
child

**DEVELOPMENTAL HISTORY** (check all that apply)

\_\_\_\_\_ Below average IQ <84 \_\_\_\_\_ Communication delays  
\_\_\_\_\_ Social skills deficits \_\_\_\_\_ Received special education services  
\_\_\_\_\_ Poor self care (hygiene) \_\_\_\_\_ Toileting delays (including enuresis)

**BEHAVIORAL PROBLEM HISTORY** (check all that apply)

\_\_\_\_\_ Lying/deceptive \_\_\_\_\_ Hyperactive/Impulsive  
\_\_\_\_\_ Physically aggressive \_\_\_\_\_ Delinquency (peer group, stealing, truancy)  
\_\_\_\_\_ Anxious/excessive worry \_\_\_\_\_ Depressive/moody  
\_\_\_\_\_ Shy or inhibited/feels inadequate  
\_\_\_\_\_ Atypicality (hears voices, bizarre thoughts)

---

**PROTECTIVE FACTORS** (check all that apply)

\_\_\_\_\_ Nurturing parent/child relationship \_\_\_\_\_ Parental resilience (copes with daily  
stressors while caring for offspring)  
\_\_\_\_\_ Positive academic achievement \_\_\_\_\_ Child has prosocial friendships  
\_\_\_\_\_ Positive community connections (church, sports teams, etc.) \_\_\_\_\_ Child has social competence  
\_\_\_\_\_ Child has problem solving skills \_\_\_\_\_ Family has concrete support (food,  
money, people to turn to if needed)

---

**DSM-IV TR DIAGNOSIS (code numbers optional)**

Axis I

Axis II V71.09

Axis III

Axis IV    Primary support group        Social environment        Educational  
             Occupational                Housing            Legal            Economic  
             Interaction with legal system/crime        Access to health care services  
             Other(s) \_\_\_\_\_

Axis V GAF \_\_\_\_\_

## SEXUAL BEHAVIOR PROBLEM ASSESSMENT

(Complete one sheet for each individual victim)

### Victim Characteristics

Victim Sex: \_\_\_\_\_ Male \_\_\_\_\_ Female \_\_\_\_\_ Age

Participant Age at the of Onset of Abuse \_\_\_\_\_

### Relationship of Victim to Participant (Check only one)

\_\_\_\_\_ Family member- residing with \_\_\_\_\_ Family member - not residing with

\_\_\_\_\_ Casual acquaintance \_\_\_\_\_ Peer/friend-(non relative)

\_\_\_\_\_ Stranger (first or minimal exposure) \_\_\_\_\_ Other (please identify)

### Victim Vulnerabilities (check all that apply)

\_\_\_\_\_ Physical Stature/physical disability \_\_\_\_\_ Intellectual Vulnerability (clear  
difference in functioning)

\_\_\_\_\_ Role Vulnerability (misused assigned authority, baby-sitter, sibling, etc.)

**Levels of Sexually Intrusive Behaviors:** Identify the number of separate episodes for each level of sexually intrusive behaviors. If one episode included multiple levels of sexual intrusiveness (i.e. started off with exposure and ended with penetrative offense), only identify the most severe contact. The sum of should equal the total number of offenses against the victim that is known/alleged.

# \_\_\_\_\_ **Level I: Non-contact offenses** (exposure of self, solicited victim to pose nude, exposed victim to sexual activity/media)

# \_\_\_\_\_ **Level II: Contact offenses** (fondled victim in personal area, made victim fondle offender's genitals, fondled victim in genital area)

# \_\_\_\_\_ **Level III: Penetrative offenses** (oral sex-victim to perpetrator, oral sex-perpetrator to victim, digital or object penetration, and penile penetration-perpetrator to victim)

**Level of Coercion used in Offending:** (check one only) Identify the highest level used to commit any one offense.

\_\_\_\_\_ Deception; games, tricks or bribes or other enticements

\_\_\_\_\_ Use of physical force, threat of force, or use of weapon(s)

## Appendix C: Letter of Agency Participation

7/6/11

Agency Name  
Agency Representative  
Address  
City

To Whom It May Concern:

I am contacting you to obtain written permission to conduct a research study with youth affiliated with your program. The study is designed to investigate the emerging personality patterns in children age nine (9) through twelve (12) with sexual behavior problems. Participants will be asked to complete the Millon Preadolescent Clinical Inventory (M-PACI) which is a 97 item self-report tool is specifically designed to help quickly and accurately identify psychological problems in children ages 9–12. Additionally, a demographic profile and psychosocial/psychosexual checklist are completed for participating youth.

The investigator does not require direct access to any client in your care in order to collect the data. A therapist or case manager can proctor the M-PACI which takes 15-20 minutes to complete. The completed M-PACI responses will then be mailed back to the investigator for scoring and interpretation. A copy of the results and interpretation will be provided to your agency and can be used for treatment planning and clinical information. A therapist can complete the demographic profile and psychosocial/psychosexual checklist. However, if you provide permission, the investigator will gladly collect the data from the client records. The investigator abides by privacy and confidentiality rules set forth by your agency and all applicable federal laws when collecting data. No personally identifying data will be collected during this investigation.

Thank you for your time and consideration.

Cordially,

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