

CORRELATIONS BETWEEN THE CHILD ABUSE POTENTIAL INVENTORY AND  
THE MMPI-2-RF IN A SAMPLE OF COURT-REFERRED PARENTS

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## TABLE OF CONTENTS

	Page
List of Tables.....	v
Abstract.....	vi
Introduction.....	8
Objective.....	10
Literature Review.....	11
Child Abuse.....	11
Definition.....	12
Types of Abuse.....	12
Effects of Abuse.....	15
Indicators.....	18
Risk Factors.....	19
Protective Factors.....	28
Child Abuse Potential Inventory (CAP).....	28
Defining Physical Child Abuse.....	30
Item Construction and Scale Descriptions.....	31
Previous Studies Involving the CAP.....	33
MMPI.....	34
MMPI-2.....	37
MMPI-2 Restructured Clinical (RC) Scales.....	38
MMPI-2 Restructured Format (RF).....	40
Purpose.....	41
Hypotheses.....	42
Method.....	44
Subjects.....	44
Measures.....	44
CAP Inventory.....	44
MMPI-2-RF.....	47
Procedures.....	50
Results.....	51
Descriptive Statistics.....	51
Overall Abuse Scale.....	51
Correlations.....	51
Higher-Order Scales.....	52
Restructured Clinical Scales.....	52
Specific Problems Scales.....	53
Interest Scales.....	55
Personality Psychopathology Five Scales.....	55
Multiple Regression Analysis.....	56
Rigidity, Distress, and Unhappiness.....	57
Correlations.....	57
Higher-Order Scales.....	57
Restructured Clinical Scales.....	58
Specific Problems Scales.....	59
Interest Scales.....	61

Personality Psychopathology Five Scales.....	61
Problems with Child and Self, Problems with Family, Problems from Others....	62
Correlations.....	62
Higher-Order Scales.....	62
Restructured Clinical Scales.....	63
Specific Problems Scales.....	64
Interest Scales.....	67
Personality Psychopathology Five Scales.....	67
Gender Differences.....	68
Females.....	68
Males.....	69
Discussion.....	70
Descriptive Statistics.....	70
CAP Abuse Scale Correlations.....	71
Multiple Regression Analysis.....	72
Rigidity, Distress, Unhappiness.....	73
Problems with Child and Self, Problems with Family, Problems from Others....	74
Gender Differences.....	75
General Limitations.....	77
Sample Composition.....	77
Instrumentation.....	77
Implications and Future Directions.....	78
References.....	79
Appendix A: Means and Standard Deviations for all MMPI-2-RF and CAP Inventory Scales.....	92
Appendix B: Correlation Table for Females.....	93
Appendix C: Correlation Table for Male.....	94

## LIST OF TABLES

Table	Page
1. Males and Females CAP Abuse Scale Cut-Off.....	51
2. Correlations for MMPI-2-RF Higher-Order (H-O) Scales with CAP Abuse Scale.....	52
3. Correlations for MMPI-2-RF Restructured Clinical (RC) Scales with CAP Abuse Scale.....	53
4. Correlations for MMPI-2-RF Specific Problems (SP) Scales with CAP Abuse Scale.....	54
5. Correlations for MMPI-2-RF Interest Scales with CAP Abuse Scale.....	55
6. Correlations for MMPI-2-RF Personality Psychopathology Five (PSY-5) Scales with CAP Abuse Scale.....	55
7. MMPI-2-RF Higher-Order (H-O) Scales Multiple Regression Results.....	56
8. Correlations for MMPI-2-RF Higher-Order (H-O) Scales with CAP Psychological Difficulties Scales.....	57
9. Correlations for MMPI-2-RF Restructured Clinical (RC) Scales with CAP Psychological Difficulties Scales.....	58
10. Correlations for MMPI-2-RF Specific Problems (SP) Scales with CAP Psychological Difficulties Scales.....	60
11. Correlations for MMPI-2-RF Interest Scales with CAP Psychological Difficulties Scales.....	61
12. Correlations for MMPI-2-RF Personality Psychopathology Five (PSY-5) Scales with CAP Psychological Difficulties Scales.....	62
13. Correlations for MMPI-2-RF Higher-Order (H-O) Scales with CAP Interactional Problems Scales.....	63
14. Correlations for MMPI-2-RF Restructured Clinical (RC) Scales with CAP Interactional Problems Scales.....	64
15. Correlations for MMPI-2-RF Specific Problems (SP) Scales with CAP Interactional Problems Scales.....	66
16. Correlations for MMPI-2-RF Interest Scales with CAP Interactional Problems Scales.....	67
17. Correlations for MMPI-2-RF Personality Psychopathology Five (PSY-5) Scales with CAP Interactional Problems Scales.....	68

## ABSTRACT

### CORRELATIONS BETWEEN THE CHILD ABUSE POTENTIAL INVENTORY AND THE MMPI-2-RF IN A SAMPLE OF COURT-REFERRED PARENTS

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This thesis examined the relationship between scores on the Child Abuse Potential Inventory and scores on MMPI-2-RF Scales in a clinical setting. The issue of child abuse, whether that is verbal abuse, emotional abuse, or physical abuse, has been the focus of a significant amount of research in the past. Research shows that there are specific risk factors that could increase the chances that a parent or caregiver will be an abuser. Many tests have sought to measure the potential risk of physical child abuse, with the most prominently used being the Child Abuse Potential Inventory (CAP). The CAP provides an accurate prediction of predispositions to child abuse in the potential abuser. As recently as 1993, new developments in the area of personality inventory were reached with the MMPI-2-RF. The sample included parents and caregivers who were referred for evaluation to the Psychological and Counseling Center of Cartersville, GA and had their children removed from the home by the Georgia Department of Family and Children Services (DFACS). Scores on the MMPI-2-RF Scales were compared to scores on the CAP overall Abuse scale, psychological difficulties subscales, and interactional problems subscales. The MMPI-2-RF Higher-Order scale of Emotional Internalizing Dysfunction (EID) proved to be a significant predictor of potential physical child abuse as measured by the overall CAP Abuse scale. Results show significant correlations with scores on the

CAP Abuse Scale and many of the higher order classifications, the restructured clinical scales, the specific problems scales, and the personality psychopathology five scales of the MMPI-2-RF, primarily those related to emotional distress and internalizing difficulties.

## INTRODUCTION

Child abuse continues to be a major problem in the United States. In fact, up to 25% of children are subject to abuse of some kind, and of that, 7% will suffer serious physical abuse from a parent or caregiver (Walker & Davies, 2010). Each year, over a million child abuse treatment cases are reported (Milner, 1986). Currently there is no established set of individual characteristics associated with maltreating parents or caregivers (USDHHS, 2003). However, there have been identified parent, child, and environmental factors that potentially increase the risk of abuse occurring.

Assessing risk for abuse is a major task for social services agencies, and reliable, valid, practical screening tools are essential in this environment. The Child Abuse Potential Inventory (CAP) is the gold standard (Begle, Dumas, & Hanson, 2010). The CAP Inventory is designed to measure the potential to inflict moderate or severe physical child abuse. The CAP has been used in a variety of settings and shows good general psychometric properties throughout (Walker & Davies, 2010). It is widely used in clinical applications and is used in all 50 states. According to J. S. Milner (personal communication, February, 2011) the CAP Inventory correctly classifies abusers within the 80% to low 90% range in respect to concurrent validity studies. Additionally, predictive validity data indicate that elevated abuse scores in high-risk parents (where participants were tested before interventions) are significantly related to later cases of child physical abuse (J. S. Milner, personal communication, February, 2011). The CAP Inventory consists of a broad Abuse Scale summary score, the focus of most research to date, and six underlying factors: distress, rigidity, unhappiness, problems with child and self, problems with family, and problems from others. It is important to investigate

associations between focused screening instruments, like the CAP, and broader-purpose measures of general psychopathology. The effective use of instruments such as the CAP rely in part on understanding the pattern of convergent and discriminant validity these instruments exhibit in comparison with broad-based general assessment devices. This contributes to a better understanding of the screening measure itself, potentially leading to improvements. More importantly, gaining a deeper understanding of basic characteristics associated with abuse potential can lead to a better understanding of the primary dynamics of abuse, thus informing better identification and intervention approaches.

The primary measure of broad-based psychopathology used by psychologists for the past 50 plus years has been the MMPI. An important recent development has been the introduction of the restructured form of this major test, the MMPI-2-RF (Ben-Porath & Tellegen, 2008), which narrowed the assessment to 338 of the 567-true/false items that were seen on the MMPI-2 and improved the psychometric properties of the instrument. This study looks at all of the scales of the MMPI-2-RF, consisting of: Higher-Order Scales (Emotional Internalizing Dysfunction, Thought Dysfunction, and Behavioral Externalizing Dysfunction), the Restructured Clinical (RC) Scales (Demoralization, Somatic Complaints, Low Positive Emotions, Cynicism, Antisocial Behavior, Ideas of Persecution, Dysfunctional Negative Emotions, Aberrant Experiences, and Hypomanic Activation), the Specific Problem (SP) scales, Interest scales, and the Personality Psychopathology Five (PSY-5) scales. Because the restructuring of the MMPI has resulted in a substantially different test, previous findings regarding the associations between the MMPI and the CAP are less relevant. Examining the CAP from the

perspective of the new MMPI-2-RF can potentially make a meaningful contribution to this area of research.

The primary purpose of the present study is to correlate the CAP scales with the MMPI-2-RF scales in order to gain a better understanding of what characteristics are associated with increased risk for abuse, in a sample of parents/caregivers referred for evaluation by social services. All subjects had their children removed from the home at the time of evaluation. Comparisons between the CAP and the MMPI-2-RF are particularly valuable in the context of this unique clinical sample.

## LITERATURE REVIEW

In the following sections, background literature will be presented on the concept areas relevant to this thesis. First, basic information regarding child abuse will be presented, including statistical information, prevalence, and risk factors. Next, specific information will be presented regarding the Child Abuse Potential Inventory (CAP), as this is the primary risk assessment tool used in the United States. Of focal relevance to the current study is the major recent revision of the MMPI, the MMPI-2-RF, which will be described in some detail.

### **Child Abuse**

The issue of child abuse, whether that be verbal abuse, emotional abuse, or physical abuse, has been the focus of a significant amount of research in the past and currently. In childhood alone, up to 25% of children are subject to abuse of some kind, whether that is physical, emotional, or verbal (Walker & Davies, 2010). Of that, 7% will experience serious physical abuse from a parent or caregiver. According to the US Department of Health and Human Services, Administration on Children, Youth, and Families (2009), those children that are between the ages of 4 and 7, as well as between the ages of 12 and 15 are at the highest risk of experiencing physical abuse. In fact, anywhere from 1 to 3 million child abuse maltreatment cases are reported in this country each year. Of those children brought in for emergency room visits, between 1.3% and 15% of the injuries were determined to be the result of abuse (Pless, Sibald, Smith, & Russell, 1987). Further, everyday in this country, nearly five children die from suffering abuse (Lung & Daro, 2006). According to ChildHelp (n.d), close to 30% of those

individuals who experience abuse and neglect as a child will subject their own children to abuse. It is important to note that, while child abuse is prevalent and serious, there has been a recent decline in the number of reported cases (Finkelhor & Jones, 2006). The Federal Child Abuse and Treatment Act defines what actions constitute child abuse in this country.

**Definition.** Child Abuse is defined by the Federal Child Abuse Prevention and Treatment Act (2003) as: “Any recent act or failure to act on the part of a parent or caretaker which results in death, serious physical or emotional harm, sexual abuse or exploitation or an act or failure to act which presents an imminent risk of serious harm.” In regards to physical child abuse, the American Humane Association (2009) defines it as “non-accidental trauma or physical injury caused by punching, beating, kicking, biting, burning or otherwise harming a child.”

**Types of Abuse.** There are numerous types of abuse, including sexual, emotional or psychological maltreatment, physical, and neglect. It is important that we have an understanding of what each type of abuse includes and how each is defined in determining if it is present for each individual case. While all types of abuse have serious consequences, according to the U.S. Department of Health and Human Services (USDHHS, 2005), sexual abuse is shown to make up 9.3% of the child abuse cases in 2005 alone.

One of the most detrimental forms of child abuse is sexual abuse. Sexual acts, sexual motivations and behaviors, or sexual defacement of a child is considered sexual child abuse (Berliner, 2000). According to the United States Department of Health and Human Services (2003):

It can include a wide range of behaviors such as: oral, anal, or genital penile penetration, anal or genital digital or other penetration, genital contact with no intrusion, fondling of a child's breasts or buttocks, indecent exposure, inadequate or inappropriate supervision of a child's voluntary sexual activities, or use of a child in prostitution, pornography, internet crimes, or other sexually exploitative activities.

Sexual abuse of a child does not necessarily have to include touching (USDHHS, 2003). In regards to child sexual abuse, incest is reported the most, meaning the child sexual abuse involves family members in biological, adoptive, and step-families (USDHHS, 2002). Equally detrimental is emotional or psychological abuse or maltreatment.

Any abuse that could potentially result in damage regarding the child's development or causes any psychological disability is classified as emotional or psychological abuse (Garbarino & Garbarino, 1994). Additionally, this abuse can also classify a parent or caregiver telling or making the child feel they are of little value, that something is wrong with them, that they are not wanted by their parents or others, making the child live in fear of danger, or that they are a means to an end (Hart & Brassard, 1995). Emotional or psychological abuse involves words; however, it can also be the result of actions, or lack of either the aforementioned aspects (Jantz, 1995). When parents are overly critical of their children, try to belittle them, or fail to support them and give them the proper attention emotional and psychological abuse can also occur (Garbarino & Garbarino, 1994). Psychological maltreatment can include any of the following: rejection, threatening, confining, taking advantage of, degrading or demoralizing, or neglect regarding schooling, medical, or psychological needs. It is

important to note that if emotional and psychological abuse is present there is often physical abuse present as well (Korfmacher, 1998). Emotional and psychological abuse can be hard to identify due to the fact that the damage is internal as opposed to external which is seen in physical child abuse (Korfmacher, 1998).

Physical abuse involves a physical injury of some sort. These physical injuries can include: “bruises and fractures resulting from punching, beating, kicking, biting, shaking, throwing, stabbing, choking, hitting, or burning, among others,” (USDHHS, 2003). Injuries that result from physical child abuse can be immediate, such as broken bone, or they could be the result of numerous occurrences, such as brain damage from shaking. The injuries that result from physical child abuse have a wide range of severity, potentially even death (USDHHS, 2003). In regards to prevalence, it is estimated that out of every 1,000 children, 2 will experience physical abuse (USDHHS, 2003). When an injury occurs in a child, it is not considered accidental. However, this does not necessarily mean that the parent hurt the child on purpose (USDHHS, 2003). Examples of instances when an injury occurred when the parent did not intend on hurting the child would be discipline that is especially severe in nature, or discipline that is potentially inappropriate given the child’s age, including physical punishment (USDHHS, 2003). It is important to note that the most frequently identified form of child abuse is neglect.

The most frequently identified form of abuse in children is neglect (USDHHS, 2003). According to the National Clearinghouse on Child Abuse and Neglect (NCANDS, 1999), of those children suffering from abuse, over half (approximately 63%) of the reports included neglect, with a rate estimation of 7 out of every 1,000 children. Child neglect involves the absence of basic care that eventually or immediately results in

injury or harm, or puts the child at risk of harm (USDHHS, 2003). This absence of basic care can involve lack of food, clothing, housing, medical care, education, or supervision when needed (USDHHS, 2003). There are three types of neglect: physical, educational, and emotional (Sedlak & Broadhurst, 1996). Educational neglect includes parents who allow their children to miss school, not enrolling their child in mandatory schooling, or ignoring needs related to school (USDHHS, 2003). Emotional neglect includes: providing insufficient attention to the child, lack of nurturing, other abuse within the home, allowing the child to intake alcohol or other drugs, allowing dysfunctional behaviors to continue, or denying or delaying psychological service needs (USDHHS, 2003). An estimated 1,200 children known to Child Protective Services had abuse or neglect that resulted in death in 2000 alone (NCANDS, 1999). Of these deaths, more than two-fifths (near 44 percent) did not reach their first birthday. In regards to fatalities resulting from abuse and neglect, there is a greater chance of the child suffering a fatality in a neglect case (34.9 percent) than with any other type of abuse (USDHHS, 2003).

**Effects of Abuse.** There are consequences of physical abuse for parents and children. For children, suffering abuse can lead to aggressive or fearful behaviors later in life (Gershoff, 2008). It also teaches children that hitting is a way to control other people or solve problems. Additionally, they could develop trust issues with persons of authority, such as their parents. Psychological disorders could develop, including anxiety, depression, as well as stress related problems, conduct disorders, problems in school, and overall cognitive deficits (USDHHS, 2003). Parents often develop guilt regarding their abusive behaviors. The effect that this abuse has on the child also relies on a number of factors such as the child's age at the time of abuse, how well developed

the child was at the time of abuse, whether the abuse was physical, emotional, sexual, or neglect, how often the abuse took place, the duration of abuse, the severity of abuse, and who the abuser was in relation to the child (USDHHS, 2009). Unfortunately, there are often psychological outcomes from the abuse inflicted upon young children.

As mentioned earlier, psychological effects of abuse can include depression and anxiety symptoms among others. One study found that in children as young as three who experienced some type of abuse or neglect, depression and withdrawal symptoms were present (Dubowitz, Papas, Black, & Starr, 2002). Another study found that among those young adults who had been abused as a child, 80% met criteria for at least one DSM disorder by the age of 21, including depression, anxiety, suicidal events, and eating disorders (Silverman, Reinherz, & Giaconia, 1996). Other studies have found that dissociative disorders, Attention Deficit Hyperactivity Disorder, anger issues, Post Traumatic Stress Disorder (PTSD), reactive attachment disorder, and panic disorders are also common among those who have suffered neglect or abuse (Teicher, 2000). Another psychological aspect is in the area of cognitive difficulties. The National Survey of Child and Adolescent Well-Being (NSCAW) found that children who had been removed from their homes scored lower on measures of achievement, language acquisition, and overall cognitive capacity than did their peers (USDHHS, 2003). In addition to the psychological effects, there are a number of social effects such as antisocial behaviors or attitudes, borderline personality traits and violence that appear sometimes in children who have suffered abuse or neglect (Schore, 2003). Additionally, physical consequences and difficulties often develop as a result of abuse or neglect.

In addition to psychological and social effects of abuse, there are also numerous physical consequences. For one, shaken baby syndrome, is a common form of child abuse even if the results are not immediate. According to the National Institute of Neurological Disorders and Stroke (2007), brain and eye hemorrhaging, damage to spinal centers, and broken bones can all occur. For another, impaired brain development can be the result of child abuse (De Bellis & Thomas, 2003). This impairment can result in deficits in areas such as school, language, and overall cognitive functioning (Watts-English, Fortson, Gibler, Hooper, & De Bellis, 2006). In a study published by the Administration for Children and Families (2004a), the NSCAW found that of children ages 1-2 that had been fostered, 75% were found to be at medium to high risk of brain development problems when compared to a control sample. Effects also include poor general physical health. Numerous studies have shown that dysfunction (including abuse) and poor health are correlated (Felitti, 2002; Flaherty et al., 2006). Another important physical health consequence is poor physical health in general. These physical health problems can include anything from allergies to asthma and ulcers (Springer, Sheridan, Kuo, & Carnes, 2007). As can be expected, changes in a child's behavior can also develop as a result of suffering abuse.

In addition to physical effects, there are behavioral consequences that have been shown in those children who have suffered from abuse. Another study published by the Administration for Children and Families (2004b) with children ages 3-5 in foster care found that these children had twice the number of behavioral problems than the general population. Not only do we see behavioral problems in childhood, but also in adolescence. Some studies have found that those children who have suffered abuse of

some kind are at least 25% more likely to have issues concerning pregnancy and sexual activity during the teenage years, problems in school, drug use, and attendance problems (Kelley, Thornberry, & Smith, 1997; Johnson, Rew, & Sternglanz, 2006). Additionally, a National Institute of Justice study found that those adolescents who suffered abuse as a child were 11 times more likely to engage in criminal activity and be arrested than juveniles, and 2.7 times more likely than an adult to be arrested for this behavior, and 3.1 times more likely to commit one violent crime in adolescence or adulthood (English, Widom, & Brandford, 2004). Alcohol and drug use is also a typical behavioral consequence of child abuse (Dube et al., 2001). An important aspect of prevention and detection in the area of child abuse is developing a list of indicators that set off red flags for abuse.

**Indicators.** It is important in preventing child abuse that we know the indicators that suggest a child is being abused. Some common indicators would be injuries that are attributed to other causes, those with uncertain explanations, the child and parent having different explanations, injuries that could not fit the given child's age, attendance problems, inappropriate clothing for the weather, or apparent pain or difficulty in functioning (USDHHS, 2003). According to the American Humane Association (2009), some of the injuries that may be present include bruises, cuts, marks on any part of the body, swollen areas on the body, burns, broken bones, bites, missing hair, a change in or strange behaviors, complaints, or problems with physical contact. These indicators can often signal us to look for specific known risk factors that may be present in a suspect situation.

**Risk Factors.** There is not one risk factor that can predict child abuse, nor is there one culture, race, religious group, or economic class that can be pinpointed (USDHHS, 2003). However, there is an every growing list of risk factors that we can use to see what characteristics are common in those who abuse, their families, their environments, and their children (USDHHS, 2003). Situations in which any of these factors exist have a greater chance of having abuse within the home, although this does not necessarily mean that abuse exists with these factors (USDHHS, 2003). There are four domains of risk factors to be discussed: family factors, child factors, environmental factors, and parent/caregiver factors.

Family factors include problems between the parents, being a single parent, unemployment, stress, and lack of social support is related to increased risk of abuse (USDHHS, 2003). The majority of research focuses on family structure. Those children who live with one parent, and are more likely to have lower (perhaps poverty level) incomes, have a greater chance of being abused in some way than those who live with both parents (USDHHS, 2003). Lower incomes are typically associated with greater stress levels since there is only one individual responsible as opposed to two, in addition to there being less social support, both of which can increase the risk of abuse in the home (USDHHS, 2003). Children in single parent homes are nearly twice as likely to experience abuse than those children in two parent homes (USDHHS, 2003). Another study that included 42 countries found that those children in single parent homes were 77% more likely to experience physical abuse (USDHHS, 2003). Another factor that research has focused on is the father-child relationship. The stronger the relationship, the lower the chance of abuse is for that child (USDHHS, 2003). Another factor is the

number of people in the home in general. Those parents who have been found to abuse or neglect their children tended to have a greater number of individuals in the home (Polansky, Guadin, Ammons, & Davis, 1985).

Marital conflict, domestic violence, and stress can also be a contributing factor to abuse. Studies have found that child abuse occurs in 30 to 60% of spousal abuse cases (Edelson, 1999). According to the National Clearinghouse on Child Abuse and Neglect (1999), not only is there a greater chance of child abuse, children also must witness the violence within the home and are also often subject to neglect. Even if the child is not abused in an abusing home, they are likely to suffer from emotional abuse or other emotional consequences from simply being around the violent environment (Margolin & John, 1997). According to the National Research Council (NRC, 1993), another factor that may play a role in child abuse is stress. Studies have shown that those families with higher stress levels are more likely to neglect their children (Gaines, Sandgrund, Green, & Power, 1978), while other studies show that stress in varying forms contributes to physical child abuse (Coohey & Braun, 1997).

A final family factor that plays a role in child abuse is the parent-child interaction. Abusing households tend to use weak reward and recognition systems, however, they often have extreme responses to negative child aspects and behaviors (Garbarino, 1984). Children who live within abusive homes tend to have parents who are not as supportive, interactive, or caring as those non-abusive homes (Bousha & Twentyman, 1984). Abusive parents tend to use physical or harsh punishments, and negative parenting techniques (Trickett & Kucynski, 1986). In addition to the above listed family factors,

there are also numerous child factors such as developmental status, age, and disabilities that could potentially increase their risk of experiencing abuse.

It is important for children to know that they are not to blame for being abused in any way. Having said this, there are still characteristics that some children possess that make them more susceptible to maltreatment (USDHHS, 2003). Child characteristics include age, development, and disability, among others which may make them more susceptible to abuse by a parent or caregiver when combined with other characteristics of parents and the environment.

Whether there is a relationship between how old a child is and their potential to be abused has not been established (USDHHS, 2003). In the year 2000, newborn to the age of 3 were at the highest rate of experiencing abuse (15.7 children out of 1,000 this age), and the number of those experiencing abuse went down as the child got older (USDHHS, 2002). This relationship between age and to potential to experience abuse is the strongest for the neglect form of abuse (USDHHS, 2003). Since this young age group is at such a high risk for experiencing abuse, it is likely that characteristics such as size, beginning development, and a need to be cared for puts them at this higher risk (USDHHS, 2003). It is also important to keep in mind the prevalence of shaken baby syndrome as mentioned before. While this younger age is at an increased risk for neglect, those individuals in the teen years are at the greatest risk of experiencing sexual abuse (USDHHS, 2003).

Those children who have disabilities of any kind tend to have a higher potential to experience abuse than those without disabilities (Crosse, Kaye, & Ratnofsky, n.d.). One

study that took place in 1993 showed that those children with a disability of some kind were 1.7 times more likely to experience abuse (Crosse, Kaye, & Ratnofsky, n.d.). Those children who are seen as different or having more needs, whether that be an illness, disability, etc. may have a higher potential to experience abuse (Rycus & Hughes, 1998). This fact could be due to the fact that the demands they place on their parents or caretakers are overwhelming, or that the bonding between parent and child could be interfered with (Ammerman & Patz, 1996). Those children with disabilities of some sort may experience abuse at a higher frequency because they have trouble understanding or are unable to escape the abuse (Steinberg, Hylton, & Wheeler, 1998). Society's views and attitudes concerning those children with disabilities are believed by some to condone the abuse and neglect towards this population (Steinberg, Hylton, & Wheeler, 1998).

There are a number of other child characteristics that may play a role in the presence of child abuse as well. There is mixed research regarding whether those children born before term are at increased risk for experiencing abuse (Chalk & King, 1998). This possible correlation could be due to the stress of parenting placed on the parent or caregiver, poor development education provided to the parents, a lack of prenatal necessities provided to the parent, abuse within the home, or even substance abuse (NRC, 1993). Other factors of the child that could put them at an increased risk for experiencing abuse would be any problems related to attention, anger issues, or behavior problems of any kind, or it could also be how the parent perceives any of the above listed potential problems (Black, Heyman, & Smith, 2001). Any child characteristic when combined with parent characteristics could affect the potential for child abuse differently. The contribution does not necessarily need to be a direct one, and

the parents' inability to cope, inability to experience empathy, or lack of control could increase the risk (NRC, 1993). Another troublesome area is the frequency of the abuse. Any one of the above listed child characteristics could increase or reinforce the incidence of abuse (NRC, 1993). The environment in which the child is brought up could also play a role in their risk of experiencing abuse in their lifetime.

In addition to family and child characteristics, there are also a number of environmental factors that possibly contribute to child abuse such as poverty and unemployment, social isolation and social support, and violent communities. Typically environmental factors are found in addition to other factors such as parent and child characteristics and family structure (USDHHS, 2003).

To begin, two areas that show strong relationships with abuse are level of poverty and employment rates (Drake & Pandey, 1996). One study by NIS-3 conducted in 1993 found that if the family income is under \$15,000 a year abuse was 22 times more likely than if the income was over \$30,000 a year (Sedlak & Broadhurst, 1996). Often times income and poverty are combined with other factors such as drug or substance abuse, lack of social support, and mental health issues, all of which could increase the chance of the child experiencing abuse by a parent or caretaker (USDHHS, 2003). According to the National Clearinghouse on Child Abuse and Neglect (2002), in 1999, poverty level and substance abuse was identified as the top two characteristics of those cases reported to child protective services agencies in 85% of the states. This relationship between poverty and abuse could be due to the fact that even if lower income families have the same abuse rates as those with higher incomes, they may be reported to child protective services more often due to social examination from others (Plotnik, 2000).

Lack of social support has also been found in some studies to be higher in prevalence in abusing homes than others (Williamson, Bordin, & Howe, 1991). This could be due, in part, to few role models regarding parenting techniques, less material and/or emotional support, and decreased social pressure to conform to typically accepted standards of parenting forms (Harrington & Dubowitz, 1999). One important factor is that it has not been determined as to whether a lack of social support increases the potential to physically abuse a child, or if it is a consequence of the abuse itself (Chalk & King, 1998).

Dangerous neighborhoods or living arrangements could also increase the risk that children with experience abuse or neglect of some kind (Cicchetti, Lynch, & Manly, 1997). This factor could be due to poverty as mentioned above; however, it could also be a reflection of the violence that often times occurs in environments with these particular characteristics (USDHHS, 2003). Additionally, the attitudes that society possesses and the advancement of violence condoned in public media could also contribute to an increased risk of child abuse (Garbarino, 1980). Furthermore, some studies show positive correlations between violence portrayed on television and aggression in general in those who partake in generous amounts of television viewing (Jason, Hanaway, & Brackshaw, 1999). It is of utmost concern for this particular study to pay special attention to parent or caretaker factors that could potentially increase the chance of abuse.

Among parents and caregivers, factors that can contribute to abuse within the home include certain personality characteristics, whether they themselves were abuse, attitudes and knowledge regarding child development, substance and drug abuse, and their age (USDHHS, 2003). According to the American Humane Association (2009),

parents lack of maturity, inadequate knowledge regarding child development and parenting, lack of social support, stressful life events, experiencing similar childhood events, or other violence within the home can also contribute to increasing the risk of physical child abuse. It is imperative to first mention that currently there is not a set of attributes regarding personality that have been shown to relate with those parents who abuse their children (USDHHS, 2003). Despite this, there is a list of characteristics that tend to frequently appear amongst those who are abusive, such as self-esteem problems, lack of impulse control, depression, anxiety, and antisocial behavioral tendencies (NRC, 1993). Often those who abuse their children have behavior or emotional concerns (Chalk & King, 1998). One study found that mental health status was the most highly correlated factor with the potential to physically abuse their children as measured by the Child Abuse Potential Inventory abuse scale score (Rinehart et al., 2005).

Extensive research has been conducted to determine if there is a link between current abuse and the parent being abused as a child. This abuser cycle, as it is often called, states that those parents who were abused themselves are more likely to abuse their own children (Walker & Davies, 2010). Those parents who themselves had a deficit of parenting models to follow or who experienced not having their needs met by their parents or caregivers may find it difficult to do differently for their own children (USDHHS, 2003). Some research shows that as many as one-third of parents who were abused or neglected as a child will do the same with their own children (Kaufman & Zigler, 1993). This could be due to the fact that these individuals as children experienced the abuse or witnessed the violence and therefore learned this behavior in their own homes (Gelles, 1998). This cycle can be prevented with proper intervention techniques;

however, without this, adults may have issues in connecting with their child, emotional or behavioral problems, and poor spousal or partner relationships that could affect their ability to parent effectively and therefore the abuse towards children could begin all over (Riggs, 2010). This is not to say that all parents who experienced abuse as a child will subject their children to the same, it is unknown why, among those parents who were abused as children, some will continue the pattern and some will not (NRC, 1993). It must be stated that each parent is responsible for what they inflict upon their own children, regardless of prior abuse; however, there is research that shows that mature and backing relationships with others could reduce this risk of abuse within the home towards offspring (Egeland, Jacobvitz, & Papatola, 1987).

Substance abuse is another factor of parents and caregivers that could potentially affect abuse rates. Substance abuse has been found to be present in one to two thirds of cases reported to the child welfare system (USDHHS, 1999). One reflective study in Chicago found that children who had parents who were substance and drug abusers were close to three times likelier to experience abuse (Jaudes, Ekwo, & Van Voorhis, 1995). The effects that drugs and substances have on parents can cause them to have impaired mental functionality, impaired judgment, and fewer inhibitions, and a diminished ability to protect their offspring, among others (USDHHS, 2003). Parents with substance abuse problems may also fail to recognize their children's needs, participate in illegal activities putting their children in dangerous situations, or spend money on their habit rather than their children's needs (Zuckerman, 1994). Some additional studies show that there may be a relationship between parent's substance abuse and their methods for punishment and raising their children (USDHHS, 1999). Additionally, there has also been a substantial

amount of research done on the effect of substance abuse during pregnancy on children's development (USDHHS, 2003). It is estimated that 550,000 to 750,000 children are born every year having been exposed to alcohol or drugs of some kind, (Landdeck-Sisco, 1997). As with most of the other factors listed above, substance abuse tends to occur in conjunction with other issues, such as mental illness, health problems, violence between partners or within the home in general, poverty and income level, and the abuser cycle (USDHHS, 2003). Mothers who use substances have the possibility of living in a home that may be dangerous or uncontrolled, as well as risking developmental problems to their child during development. One study found that 79% of the times children were removed from the home, substance abuse was present (Hogan, Myers, & Elswick, 2006).

Parent or caretaker attitudes regarding their child and an insufficient knowledge of general child development is another factor involved in the potential for child abuse (NRC, 1993). Often times those mothers who have been found to physically abuse their children have exceptionally high and antagonistic expectations for their children and a lack of knowledge regarding child growth (Black et al., 2001). When a parent has a deficit regarding child development, these especially high expectations occur (USDHHS, 2003). When the child is unable to meet the expectations set forth by the parent, there is often disproportionate punishment or abuse (USDHHS, 2003).

The age of the parent or caregiver could also increase the risk of child abuse, although research is mixed in this area (NRC, 1993). Some studies have shown that younger mothers are at an increased risk of physically abusing their child than older mothers, (Black, et al. 2001). This could be the result of numerous factors, such as lower social support, increased stress, and poverty and income level, all of which are high

amongst younger mothers (Buchholz & Korn-Bursztyn, 1993). Just as there is a long list of risk factors that could increase the chances of abuse to occur, there are also protective factors that could decrease these risks.

**Protective Factors.** There is a long list of factors that potentially put children or parents at a higher risk of abuse in the home; however, there is also evidence for certain factors that protect against this occurrence (USDHHS, 2003). Those parents who are able to experience positive and substantial relationships with others, whether that is friends or relatives, tend to be at a lower risk of abusing their children (Quinton & Rutter, 1988). Among parents who were abused when they were children, those who resolved resulting conflicts and had good partner relationships were less likely to subject their own children to abuse as well (Egeland et al., 1988). Another protective factor could be courses that specialize in parenting challenges and how to overcome these, teen pregnancy, and general gender differences could prevent abuse within the home as well, (Stanley, Markman, & Jenkins, 2002). Given this extensive review of child abuse, including the effects of it and risk factors of abuse, we need testing instruments that can correctly identify instances of abuse to work towards preventing it in the future, this brings us to the Child Abuse Potential Inventory.

### **Child Abuse Potential Inventory**

Despite the staggering number of child abuse and maltreatment cases reported each year, there is a deficiency in the number of screening instruments available to professionals to measure the potential to abuse, especially those instruments that have research backing their reliability and validity. Additionally, there is strong debate

surrounding the issue of measuring for the potential to physically abuse a child. There is substantial debate surrounding the issue of an instrument to measure this potential without including an overwhelming amount of error, in addition to legal and moral concerns (Milner, 1986). However, over the past 30 years, one instrument for assessing the potential for physically abusing a child has emerged as the gold standard, the Child Abuse Potential Inventory (Begle et al, 2010). The CAP Inventory was developed by Joel Milner starting in 1976, with the hopes of developing an instrument that could aide social service professionals in the assessment of potential child abuse individuals (Milner, 1986). In addition, the CAP Inventory has been independently evaluated as meeting the “Daubert” standard for measuring parental capacity (Yañez & Fremouw, 2004). One of the goals in developing the CAP Inventory was to make it easy all around, including aspects of reading ability, administration, scoring, and understanding by those who will be using it (Milner, 1986). This resulted in an instrument consisting of 160 agree/disagree items.

There are a number of psychological and relationship facets that can increase the potential to physically abuse a child included in the development of the CAP Inventory (Milner, 1986). In developing a test, the most desired aspect is to follow a developed theory that includes aspects of what the instrument is intended to measure, to aid in item development. However, there is no single theory that can be used in the area of potential to physically abuse a child (Milner, 1986). After extensive research, it was determined that a wide array of both relationship aspects and psychological issues should be included in the instrument development (Milner, 1986).

**Defining Physical Child Abuse.** The development of the CAP Inventory worked in conjunction with North Carolina social service departments, therefore the defining criteria for child abuse as this measurement instruments seeks to identify is that which is defined by the state of North Carolina General Statues with constraints specific to the CAP Inventory. The state of North Carolina Child Abuse Reporting Law states that: “Abused Child” means a child less than 18 years of age whose parent or other person responsible for his care:

- i. Inflicts or allows to be inflicted upon such a child a physical injury by other than an accidental means which causes or creates a substantial risk of death or disfigurement or impairment of physical health or loss or impairment of function of any body organ, or
- ii. Creates or allows to be created a substantial risk of physical injury to such child by other than accidental means which would be likely to cause death or disfigurement or impairment of physical health or loss or impairment of the function of any body organ, or
- iii. Commits or allows to be committed any sex act upon a child in violation of the law. (NC G.S. 110-117)

Requirements for the CAP Inventory removed sexual abuse and combined it with physical abuse cases from this definition. What made the CAP Inventory definition different from the North Carolina Child Abuse Reporting Law was that if a parent allowed another individual to abuse a child, they were defined as neglecting the child rather than the abuser themselves (Milner, 1986).

As mentioned above, the term “child abuse” can mean many things, from sexual abuse to neglect. One of the tasks Milner had in developing this instrument was to define what it would measure. As a result, physical child abuse was the targeted behavior (Milner, 1986). In addition, under the screening of physical child abuse there are also three types: mild, moderate, and severe physical child abuse. In developing the CAP Inventory, it was determined that moderate and severe physical child abuse would be the identifiers (Milner, 1986). Milner and his team worked extensively on the item and scale developments of the CAP Inventory to ensure the good psychometric properties of the instrument.

**Item Construction and Scale Descriptions.** In item construction for the CAP Inventory, characteristics that were found in the literature were used to construct 15 to 20 items for each aspect. During item construction, those individuals and groups working in the field of child protection were consulted for input regarding item content. It was decided that the instrument would use a forced-choice answer format so that individuals did not have options to answer in a neutral or disguising way (Milner, 1986). After extensive validity studies, six factors were decided upon.

There are 10 scales on the CAP Inventory (Form VI). The scale of primary focus is the physical child abuse scale, consisting of 77 items (Milner, 1986). This scale is divided into six factor scales including: distress, rigidity, unhappiness, problems with child and self, problems with family, and problems from others. As mentioned above, there is a psychological difficulty component and a relationships component to this instrument. The first three scales deal with the psychological difficulties aspect while the last three have to do with relationship difficulties (Milner, 1986). It is important to note

that the CAP Inventory's overall Abuse Scale does include all six factors; however, it alone should be used when assessing potential physical child abuse (Milner, 1986).

The first factor, distress, represents a pattern of feeling "frustrated, sad, lonely, depressed, worried, afraid, out-of-control, confused, mixed-up, upset, worthless, rejected, misunderstood, and angry" (Milner, 1986). Overall, this scale's items are intended to measure problems adjusting

The second factor, rigidity, has to do with how the parent perceives what their children do and how they appear. Characteristics of this scale would be expectations of cleanliness, orderliness, being tidy, obeying, submissive, and attentive, in addition to a needed authoritarian parenting style. In order to get the child to adhere to these standards, extreme punishment and physical abuse may be employed by the parent, (Milner, 1986).

The third factor, unhappiness, has to do with high levels of unhappiness and low levels of happiness related items. Content included in this scale has to do with a general joylessness and misery, experiencing little laughter, poor sex life, feeling unloved, a feeling of not exceeding others, poor luck, and socially isolated. Overall, these items measure dissatisfaction in relation to others and with life in general (Milner, 1986).

The fourth factor, problems with child and self, has to do with how the parent or caretaker perceives their child in a negative light. Often times this aspect potentially relates to disabilities or behavioral problems, or physical problems among others. This scale also includes items that relate to not being able-bodied and well. This scale not only

includes a view of a handicap child, but also includes some items that relate to lack of health and strength in the respondent (Milner, 1986).

The fifth factor, problems with family, has to do with kin relationships and problems that potentially exist within the family. This could range from altercations and disagreements to just not getting along. There is also an item that relates to how outspoken the respondent is as well (Milner, 1986).

The final factor on the CAP Inventory is classified problems with others. This means that the respondent has troubling relationships with friends or others in general. There is a sense of blame on the other's for one's own unhappiness and dissatisfaction, as well as for their struggles. The respondent may feel as if they are alone and have no one to depend on, and that these relationships are the cause of personal letdown (Milner, 1986).

There are also three validity scales included on the CAP Inventory. These include: the lie scale, the random response scale, and the inconsistency scale. There are three response falsification indicators as well: faking-good, faking-bad, and random response (Milner, 1986). The CAP Inventory has been used in an every-growing list of research studies further extended the reliability and predictive validity in its ability to classify potential physical child abusers.

**Previous Studies Involving the CAP Inventory.** In the past, several studies over a wide array of populations have been conducted and further support the validity and reliability of the CAP Inventory. For example, one study conducted by Ammerman, Kolko, Kirisci, Blackson, and Dawes (1999), found that those fathers and mothers with a

history of substance abuse had significantly higher elevations on the CAP Inventory abuse scale. Another study by Ammerman and Patz (1996) found that mothers with low social resources also had elevations on the CAP Inventory abuse scale. One previous dissertation (Milner, 1986), looked at the correlations between the MMPI scales the CAP abuse scale and found significant and positive correlations on all primary scales excluding Hypochondriasis and Masculinity/Femininity. For this study, the relationship between personality traits and the potential to physically abuse a child is examined. In order to do this, broad based and extensively used personality inventories need to be looked at in conjunction, such as the MMPI.

**MMPI.** In 1943 two individuals working at University of Minnesota Hospitals, Starke Hathaway and J. Charnley McKinley published the MMPI in hopes of having an instrument that could be used to diagnose individuals they were diagnosing within the hospital (Graham, 2006). Hathaway and McKinley believed that a group-administered paper and pencil personality inventory would be more efficient and reliable at arriving at these psychodiagnostic labels than the current individual interviews and testing procedures that were currently taking place.

Hathaway came up with eight diagnostic categories from looking at various textbooks, these included Hysteria, Depression, Paranoia, Psychasthenia, Hypochondriasis, Schizophrenia, and Psychopathic Deviance. Hathaway and McKinley used the empirical keying approach when constructing the MMPI scales. At this time, this was a major advancement in the area of test development; however it is not based on a specific theory but rather based on the content itself. Empirical keying involves the selection of items based on how they discriminate between a normal group (the

Minnesota “Normals” for this test’s development) and a group of individuals who, in this group, had been diagnosed with a certain psychological disorder. A number of additional analyses conducted resulted in the addition of scales measuring masculinity/femininity, which were originally designed to detect homosexual tendencies in an era when homosexuality was considered a psychiatric disorder, in addition to a scale to determine level of social introversion.

In developing the Clinical Scales, Hathaway and McKinley had an initial pool of approximately 1,000 statements and then selected 504 of those statements that they felt were reasonably independent of each other. They then selected the appropriate criterion groups with the control group being the “Minnesota Normals,” which consisted of 724 relatives and visitors of patients in the University of Minnesota Hospitals. This group also included 265 recent high school graduates who were attending precollege conferences at the University of Minnesota. Also, 265 Work Progress Administration workers and 254 medical patients at the University of Minnesota Hospitals were included. The second group, the clinical participants, included 221 psychiatric patients at the University of Minnesota Hospitals. These clinical participants were then divided into subgroups of discrete diagnostic samples according to the clinically determined diagnostic labels.

The next step in developing the scales was to administer the original 504 test items to the Minnesota “Normals” and to the patients in each of the clinical groups. An item analysis was conducted separately for each of the clinical groups in order to identify the items in the pool of 504 that differentiated significantly between the specific clinical group and a group of normal persons. Because Hathaway and McKinley were aware that

test takers could falsify or distort their responses to the items in self-report inventories, they also developed four scales, hereafter referred to as the validity scales, to detect deviant test-taking attitudes.

Unfortunately the Clinical Scales were unable to be used as a diagnostic tool in the hospitals due to the fact that validity could not be established consistently (Dahlstrom, Welsh, & Dahlstrom, 1972). Even though the Clinical Scales could not be used for the intended purpose, it was noticed that it did have the ability to identify certain individual personality characteristics (Ben-Porath & Tellegen, 2008). With this observation the focus of MMPI research moved away from the diagnostic purpose to looking at how patterns of scores revealed certain aspects of the individual. Profile became the terminology used to identify the combination of scores on each of the eight scales for the individual (Ben-Porath & Tellegen, 2008).

Changes continued to take place to the use of the MMPI from its original purpose, and by the 1960's it was no longer used as a diagnostic tool but rather as a way to determine personality, behavior, and psychopathological attributes of the individual (Ben-Porath & Tellegen, 2008). At around this same time, interpretation greatly shifted away from how scores related to external diagnoses, etc, and moved towards understanding what the item content included. Content-based scales complemented the original, empirically derived scales by providing a more direct means of communication between test taker and interpreter (Ben-Porath & Tellegen, 2008). In the area of personality and mental disorder assessment, the MMPI became the most used by the 1980's (Ben-Porath & Tellegen, 2008). Despite being so widely used, the MMPI did not

come without its problems and deficiencies. Due to this, work began in 1989 on the MMPI-2 (Ben-Porath & Tellegen, 2008).

**MMPI-2.** As stated before, the Minnesota “Normals” were the group used for the development of the MMPI in the 1930’s. It was apparent by the time development of the MMPI-2 began that new norms were necessary since the MMPI had become so widely used. Additionally, some of the items on the MMPI included displeasing items regarding religion, sex, certain bodily functions, and cultural references, or language that was no longer used. Items pertaining to this problem were removed or edited during the development of the MMPI-2. Once revisions were completed, the Clinical Scales were still present. Changes seen on the MMPI-2 included a norm group with more characteristics of the United States population as a whole, standard scores were computed differently (Tellegen & Ben-Porath, 1992), the addition of VRIN and TRIN to determine inconsistent responding, the inclusion of  $F_B$  that looked at responding on the back portion of the test in comparison to the front, as well as the addition of new MMPI-2 Content Scales (Butcher, Graham, Williams, & Ben-Porath, 1990). These new content scales replaced the original MMPI Content Scales, and aimed attention at issues such as anxiety, depression, and aberrant experiences similar to the Clinical Scales as well as to other areas that were not included in the Clinical Scales (Ben-Porath & Tellegen, 2008). After publication of the MMPI-2, research continued resulting in two new validity scales ( $F_p$ , which measures the endorsement of items that individuals with true psychopathology did not endorse, and  $S$ , dealing with presenting oneself as excellent (Butcher & Han, 1995), component scales for the Content Scales (Ben-Porath & Tellegen, 2008), The PSY-5 scales that measure characteristics of the Personality Psychopathology Five (Harkness,

McNulty, Ben-Porath, 1995), and changes were made to the Hostility scale, (Cook & Medley, 1954). While the Clinical Scales proved to be a huge success in the MMPI world, they still lacked in areas such as discriminant validity, hence the development of the MMPI Restructured Clinical (RC) Scales.

**MMPI-2 RC Scales.** The Clinical Scales were found to be extremely useful, partly due to their empirical developmental nature. However, the Clinical Scales were clearly not ideal in terms of validity and reliability, also due in part to their empirical nature. Problems with the Clinical Scales were that a unidimensional approach was being used to determine multidimensional problems. There was too much item overlap and the inclusion of subtle items added to the noise on the instrument, in addition to high correlations amongst the scales (Ben-Porath & Tellegen, 2008).

The RC Scale developers wanted to address the above listed issues and make it easier to understand the important information and scale elevations that needed to be interpreted regarding that individual. For the RC Scales, each individual scale measures a single dimension that the Clinical Scales aimed to determine. Construction of the RC Scales (Tellegen, Ben-Porath, McNulty, Arbisi, & Graham, 2003) occurred in four steps. Four samples were used during the RC scale construction to reduce the chance of error.

The first step was to capture Demoralization. Through a set of factor analyses of scales 2 (Low Positive Emotions) and 7 (Dysfunctional Negative Emotions), and a set of 23 Demoralization items were identified. Removal of Demoralization from the Clinical Scales helps to identify (convergently and discriminantly) the valid items representing the scale's distinctive core component. The second step was to add the 23 preliminary

Demoralization items to the item set for each Clinical Scale and factor analyze it. The guiding hypothesis was that each factor analysis would reveal a Demoralization factor, and then a factor representing the distinctive core of the Clinical Scale in question. The third step was to construct seed scales based on core factors of the Clinical Scales and that achieve an optimal balance of: statistical consistency and distinctiveness, and Chronbach's alpha of .80 or higher. The seed scale content must be representative of the core construct (consisting of 3-4 items). "Subsequently, a small number of items were reassigned to different scales based on correlations between RC Scale items and external criteria" (Ben-Porath & Tellegen, 2008). Then the authors correlated all 567 items with all 12 Seed Scales in all 4 samples. The item was included on that RC Scale if it correlated most highly with that Seed Scale, if its correlation was above a criterion, and if its pattern of correlations with other Seed Scales was sufficiently low. The analyses yielded 9 RC Scales:

- RCd: Demoralization. This scale measures a general dissatisfaction, unhappiness, hopelessness, self-doubt, and inefficacy.
- RC1: Somatic Complaints. This scale involves self-reported neurological, gastrointestinal, and pain-related complaints.
- RC2: Low Positive Emotions: This scale involves a lack of, or incapacity to experience positive emotions.
- RC3: Cynicism. This scale involves non-self-referential beliefs that others are bad and not to be trusted.
- RC4: Antisocial Behavior. This includes juvenile misconduct, family problems, substance misuse, and aggressiveness.

- RC6: Ideas of Persecution. This involves self-referential persecutory ideation.
- RC7: Dysfunctional Negative Emotions. This includes anxiety, irritability, anger, over-sensitivity, and vulnerability.
- RC8: Aberrant Experiences. This includes unusual perceptions and thought processes.
- RC9: Hypomanic Activation. This includes impulsivity, grandiosity, aggression, and generalized activation.

To interpret the RC Scales, the scores are presented as uniform T scores. Clinically significant elevations begin at T=65. Additionally, low scores on RC2, RC3, RC4, RC7, and RC9 are interpretable. Tellegen et al. (2003) presented data from several clinical samples documenting that in comparison to their traditional Clinical Scale counterparts, the Restructured Clinical Scales show: comparable or improved reliability, substantially reduced saturation with Demoralization, substantially reduced intercorrelations, comparable or improved convergent validity, and substantially improved discriminant validity. However, it was determined that additional scales needed to be added to get at other individuals characteristics, therefore work on the MMPI-2-Restructured Form (RF) began.

**MMPI-2-RF.** Development began on the MMPI-2-RF with the purpose of developing a scale set that would include the prominent components of the MMPI-2 items, (Ben-Porath & Tellegen, 2008). This process was similar to that used in construction of the MMPI RC Scales. First a factor analysis was conducted to determine the main components, then seed scales were constructed, followed by adding items from the MMPI-2. Other steps were taken to ensure ideal reliability and meaning in the scales.

When work on the MMPI-2-RF was finished, 9 Validity Scales had been added in addition to 28 substantive scales including 3 Higher-Order Scales, 23 Specific Problems Scales, and 2 Interest Scales (Ben-Porath & Tellegen, 2008).

### **Statement of Purpose**

Child abuse continues to be a major focus of the public's attention due to the fact that it is such a prevalent societal concern. With anywhere from 1 to 3 million child abuse maltreatment cases reported each year, it is important that we have screening instruments with good psychometric properties for those working in social services to use. It is important for many reasons to investigate associations between focused screening instruments, like the CAP, and broader-purpose measures of general psychopathology, such as the MMPI. The effective use of instruments such as the CAP rely in part on understanding the pattern of convergent and discriminate validity these instruments exhibit in comparison with broad-based general assessment devices. This contributes to a better understanding of the screening measure itself, potentially leading to improvements. More importantly, gaining a deeper understanding of basic characteristics associated with abuse potential can lead to a better understanding of the primary dynamics of abuse, hopefully informing better identification and intervention approaches.

Past studies have shown correlations between the CAP Inventory Abuse Scale and the MMPI, however none have been looked at since the publication of the MMPI-2-RF in 2008, which greatly changed the scale content. Personality profiles evident in MMPI-2-RF protocols can identify key characteristics of those individuals who are suspected of

physical child abuse. The purpose of this study is to examine correlations and group differences between the new form of the MMPI, the MMPI-2-RF and the Child Abuse Potential Inventory in a group of individuals who have had their children removed from the home by the Georgia Department of Child and Family Services.

### **Hypotheses**

1. Based on previously identified risk factors, I hypothesize that scores on the CAP Inventory will correlate significantly and positively with scores on the MMPI-2-RF that measure similar constructs.

1a. The overall Abuse Scale of the CAP Inventory will correlate significantly and positively with scales RCd (Demoralization), RC2 (Low Positive Emotions), and RC7 (Dysfunctional Negative Emotions).

1b. The first three subscales of the CAP Inventory (Rigidity, Distress, and Unhappiness) will also correlate with the scales of the MMPI-2-RF containing negative emotionality (Demoralization, Low Positive Emotions, and Dysfunctional Negative Emotions).

1c. The last three subscales of the CAP Inventory (Problems with Child and Self, Problems with Family, and Problems with Others), will correlate positively and significantly with scales of the MMPI-2-RF dealing with Interpersonal Problems, (Interpersonal Passivity, Family Problems, Social Avoidance, and Disaffiliativeness).

2. Based on previous research that found gender differences in correlations between the CAP Abuse scale and several of the MMPI-2-RF primary scales (Russell, Morgan,

McCord, Asberg, & Moon, 2011), I hypothesize that gender differences will also exist in correlations between the CAP Abuse scale and the MMPI-2-RF Specific Problem scales.

All of the CAP Inventory scales, including the overall Abuse Scale, and all 6 subscales, were compared to all 41 of the substantive MMPI-2-RF scales. A multiple regression was used to assess the ability of the MMPI-2-RF Higher-Order scales (EID, THD, BXD) to predict levels of potential to physically abuse a child as measured by the CAP overall Abuse scale.

## METHOD

### **Subjects**

Subjects in this study included 178 parents and caretakers who had been referred for evaluation by the Psychology and Counseling Center of Cartersville, GA, and had their children removed from the home by the Georgia Department of Family and Children Services (DFACS). Of this sample the majority, 109, were female. In regards to race, 131 of the individuals were Caucasian. The majority of the sample, 59, classify as married. Subjects were excluded from the study if validity criteria on the MMPI-2-RF were not met. These criteria included a Cannot Say scale greater than 18, an Fp scale greater than 100, or if VRIN and TRIN were greater than 80. After exclusionary criteria were applied, a usable sample of 155 resulted.

### **Measures**

**Child Abuse Potential Inventory.** The instrument used to measure physical child abuse potential is the CAP Inventory, or Child Abuse Potential Inventory. The CAP Inventory is a self-report questionnaire consisting of 160 Agree/Disagree questions. There are six factors that the CAP Inventory is divided into: Distress, Rigidity, Unhappiness, Problems with Family, Problems with Child and Self, and Problems from others. However, the overall 77-item Abuse Scale score is of primary focus for this study. When the overall Abuse Scale is in the elevated range, this means that the test taker endorsed items that are seen amongst known physical child abusers. The CAP Inventory is designed to identify physical child abuse only.

In regards to reliability and validity, the CAP Inventory Abuse Scale has high internal consistency, ranging from .92 to .96 in a control group, and from .95 to .98 in a group of classified abusers. Additionally, the CAP Inventory has proven to have consistent data over longer periods of time. The CAP Inventory showed temporal stability correlations of .91 over one day, .90 over one week, .83 over one month, and .75 over three months (Milner, 1986). For content validity, it was determined that the CAP Inventory Abuse Scale includes items that represent aspects of physical child abuse and that the areas of personal history and current stress demands relate appropriately in determining abuser potential (Milner, 1986). Content validity refers to whether the CAP Inventory actually measures aspects predictive of potential to physically abuse a child. For construct validity, there have also been numerous studies that show strong correlations between the CAP Inventory and other measures including aspects of the CAP Inventory. These include: the Sixteen Personality Factor's Stability Factor, the Revised Behavior Problem Checklist, as well as a study by Pruitt and Erickson (1985, as cited in Milner, 1986) that looked at parents physical response to children, finding that those with elevations on the overall Abuse Scale had more physiological reactions to children (Milner, 1986), in addition to many more. It is of utmost importance to mention that correlations between the MMPI and the CAP Abuse Scale have also been looked at, finding significant relationships on all scales excluding Hypochondriasis and the Masculinity/Femininity Scale.

It is also important to note that studies have also been conducted to establish the discriminant validity of the CAP Inventory. Studies of this nature include: the Moos Family Environment Scale, which found no relationship between intelligence,

organization, or morality and the CAP Inventory Abuse Scale (Milner, 1986), another study by Milner found no relationship between stress related to childbirth and the Abuse Scale, a study by Herrick (1982) found no relationship between what the Abuse Scale measures and how long past marriages lasted or how long the parent had been single, among other factors. Characteristics typical of those individuals who scored in the elevated range on the Abuse Scale include: annoyed, overreacting, impulsive, emotional, tend to be sensitive to anxiety symptoms, take longer to return to normal functioning, tend to have different perceptions, among numerous other difficulties.

Predictive validity refers to how well the instrument can foreshadow a given trait or behavior, such as physical child abuse, either currently or in the future. In this particular instrument, predictive validity is imperative in the desired use of the CAP Inventory. As far as concurrent predictive validity is concerned, Milner and Wimberley (1980) completed a study of 130 individuals, 65 of those classified as abusers and 65 matched for comparison purposes, and found that the Abuse Scale correctly classified 92.3% of the abusers and all of the 65 matched non-abusers (Milner, 1986). Additional studies with similar results have been conducted, including cross-validation studies by Milner and his team. A number of studies have also been conducted looking at the future predictive validity of the CAP Inventory. Milner and Ayoub (1980) looked at a group of 64 individuals who were considered at-risk for physical child abuse. Those individuals who had the highest Abuse Scale scores were confirmed for child abuse at a later date, while those with the lowest Abuse Scale scores were not suspect of child abuse at a later date (Milner, 1986). Based off of this information, Milner and his team conducted

further longitudinal studies confirming the future predictive validity of the CAP Inventory.

**MMPI-2-RF.** The MMPI-2-RF is the instrument used to detect general personality and psychopathology amongst this group of individuals. The MMPI-2-RF is the most recent revision of the MMPI, the most widely used broad-based instrument to determine personality characteristics, behavioral tendencies, interpersonal functioning, specific interests, and validity threats. The MMPI-2-RF consists of 338 of the 567 items on the MMPI-2. Since the MMPI-2-RF items are included in the original 567 items of the MMPI, this has provided opportunities to continue expanding upon the reliability and validity studies of the instrument, showing continued strengths in both areas (Tellegen & Ben-Porath, 2008). The MMPI-2-RF has been shown to present consistent reliability and validity evidence over its years of use. The MMPI-2-RF consists of:

3 Higher-Order (H-O) Scales:

- EID: Emotional/Internalizing Dysfunction
- THD: Thought Dysfunction
- BXD: Behavioral/Externalizing Dysfunction

Restructured Clinical (RC) Scales:

- RCd: Demoralization
- RC1: Somatic Complaints
- RC2: Low Positive Emotions
- RC3: Cynicism

- RC4: Antisocial Behavior
- RC6: Ideas of Persecution
- RC7: Dysfunctional Negative Emotions
- RC8: Aberrant Experiences
- RC9: Hypomanic Activation

Specific Problems (SP) Scales:

- MLS: Malaise
- GIC: Gastrointestinal Complaints
- HPC: Head Pain Complaints
- NUC: Neurological Complaints
- COG: Cognitive Complaints
- SUI: Suicidal/Death Ideation
- HLP: Helplessness/Hopelessness
- SFD: Self-Doubt
- NFC: Inefficacy
- STW: Stress/Worry
- AXY: Anxiety
- ANP: Anger Proneness
- BRF: Behavior-Restricting Fears
- MSF: Multiple Specific Fears
- JCP: Juvenile Conduct Problems
- SUB: Substance Abuse

- AGG: Aggression
- ACT: Activation
- FML: Family Problems
- IPP: Interpersonal Passivity
- SAV: Social Avoidance
- SHY: Shyness
- DSF: Disaffiliativeness

Interest Scales:

- AES: Aesthetic-Literary Interests
- MEC: Mechanical-Physical Interests

Personality Psychopathology Five (PSY-5) Scales:

- AGGR-r: Aggressiveness-Revised
- PSYC-r: Psychoticism-Revised
- DISC-r: Disconstraint-Revised
- NEGE-r: Negative Emotionality/Neuroticism-Revised
- INTR-r: Introversion/Low Positive Emotionality-Revised

Numerous studies have been conducted to demonstrate the reliable and valid use of the MMPI-2-RF. One study by McCord and Drerup (2010) demonstrated the use of the restructured Clinical Scales in a sample of outpatient neuropsychology patients. Findings concluded that the restructured Clinical Scales yielded more specific, narrow-focused elevations than did the original scales. Another study by Thomas and Youngjohn (2009)

found that the Restructured Clinical Scales of the MMPI were useful in detecting overreporting in a sample of traumatic brain injury patients. A significant literature is rapidly emerging that confirms the usefulness of the MMPI-2-RF.

### **Procedure**

Data were archival; therefore, procedures included extracting MMPI-2-RF scores from the MMPI-2 protocols provided by the private practice group in North Atlanta, Georgia. The present files contain answer sheets for the MMPI-2. These were copied, and then by employing scoring procedures, MMPI-2-RF scale scores instead of MMPI-2 scale scores were derived. In addition to obtaining MMPI-2 answer sheets, demographic information was also collected, including all available scores for the CAP Inventory. Cases were coded as to whether they were normal (n=124) or elevated (n=22) on the Child Abuse Potential overall Abuse Scale.

## RESULTS

**Descriptive Statistics**

Means and standard deviations for all MMPI-2-RF scales and CAP Inventory scales are presented in Appendix A. As previously stated, CAP overall Abuse scales were coded as to whether they were normal ( $n = 124$ ) or elevated ( $n = 22$ ). Of the females, 19 had CAP Abuse scale scores in the elevated range, and 3 of the males had CAP Abuse scale scores in the elevated range. (See Table 1)

Table 1

*Males and Females CAP Abuse Scale Cut-Off*

Gender	High Scorers (>166)	Low Scorers (<166)
Males	3 (7%)	40 (93%)
Females	19 (18.4%)	84 (81.6%)

**Overall Abuse Scale**

**Correlations.** The relationship between all scales of the MMPI-2-RF and potential to engage in physical child abuse (as measured by the CAP Inventory overall Abuse scale) was investigated using Pearson product-moment correlation coefficient. Preliminary analyses were performed to ensure no violation of the assumptions or normality, linearity, and homoscedasticity.

**Higher-Order Scales.** There were significant and positive correlations between all higher-order scales of the MMPI-2-RF, and the overall CAP Abuse scale. The strongest correlation existed with EID,  $r = .90$ ,  $n = 62$ ,  $p < .001$ , with high levels of emotional distress associated with strong physical abuse potential. (See Table 2)

Table 2

*Correlations for MMPI-2-RF Higher-Order (H-O) Scales with CAP Abuse Scale*

MMPI-2-RF H-O Scale	CAP Inventory Abuse Scale
EID	.90**
THD	.45**
BXD	.34**

\*\*  $p < .01$

**Restructured Clinical (RC) Scales.** There were significant and positive correlations between all RC scales of the MMPI-2-RF and the overall CAP Abuse scale. The strongest correlation existed with RCd,  $r = .89$ ,  $n = 62$ ,  $p < .001$ , with high levels of emotional turmoil associated with strong physical abuse potential. There were also strong associations with RC2,  $r = .78$ ,  $n = 62$ ,  $p < .001$ , with a lack of positive emotional experiences associated with strong physical abuse potential. Furthermore, there was a strong correlation with RC7,  $r = .79$ ,  $n = 62$ ,  $p < .001$ , with high levels of negative emotional experiences related to a strong physical abuse potential as measured by the CAP Abuse scale. All findings are consistent with hypothesis 1a. (See Table 3)

Table 3

*Correlations for MMPI-2-RF Restructured Clinical (RC) Scales with CAP Abuse Scale*

MMPI-2-RF RC Scale	CAP Inventory Abuse Scale
RCd	.89**
RC1	.70**
RC2	.78**
RC3	.52**
RC4	.51**
RC6	.56**
RC7	.79**
RC8	.51**
RC9	.49**

\*\*  $p < .01$

***Specific Problems (SP) Scales.*** There were significant and positive correlations between all but three (SUI, SUB, and IPP) Specific Problem scales of the MMPI-2-RF and the overall CAP Abuse scale. The strongest correlation existed with MLS,  $r = .77$ ,  $n = 62$ ,  $p < .001$ , with a preoccupation with poor health associated with strong physical abuse potential. Additionally a strong association existed with NFC,  $r = .77$ ,  $n = 62$ ,  $p < .001$ , with indecisiveness and inefficaciousness associated with strong physical abuse potential. (See Table 4)

Table 4

*Correlations for MMPI-2-RF Specific Problems (SP) Scales with CAP Abuse Scale*

MMPI-2-RF SP Scale	CAP Inventory Abuse Scale
MLS	.77**
GIC	.44**
HPC	.56**
NUC	.62**
COG	.73**
SUI	.24
HLP	.57**
SFD	.81**
NFC	.77**
STW	.74**
AXY	.65**
ANP	.59**
BRF	.44**
MSF	.36**
JCP	.38**
SUB	.28*
AGG	.46**
ACT	.46**
FML	.73**
IPP	.31*
SAV	.33**
SHY	.56**
DSF	.49**

\*\*  $p < .01$

\*  $p < .05$

**Interest Scales.** There were no significant correlations between the CAP overall Abuse scale and AES or MEC MMPI-2-RF Interest scales. (See Table 5)

Table 5

*Correlations for MMPI-2-RF Interest Scales with CAP Abuse Scale*

MMPI-2-RF Interest Scale	CAP Inventory Abuse Scale
AES	.02
MEC	-.14

**Personality Psychopathology Five (PSY-5) Scales.** There were significant and positive correlations between 3 of the 5 PSY-5 scales. The strongest correlation existed on NEGE-r,  $r = .83$ ,  $n = 62$ ,  $p < .001$ , with various negative emotional experiences associated with strong physical abuse potential. Other significant and positive scales were PSYC-r and INTR-r. (See Table 6)

Table 6

*Correlations for MMPI-2-RF Personality Psychopathology Five (PSY-5) Scales with CAP Abuse Scale*

MMPI-2-RF PSY-5 Scale	CAP Inventory Abuse Scale
AGGR-r	-.09
PSYC-r	.51**
DISC-r	.15
NEGE-r	.83**
INTR-r	.41**

\*\*  $p < .01$

**Multiple Regression Analysis.** A multiple regression was used to assess the ability of the MMPI-2-RF Higher-Order scales (EID, THD, BXD) to predict levels of potential to physically abuse a child as measured by the CAP overall Abuse scale. Preliminary analyses were conducted to ensure that there were no violations of the assumptions of normality, linearity, multicollinearity and homoscedasticity. The overall regression model was significant,  $F(3, 58) = 82.34, p < .001$ . The only significant predictor of potential to physically abuse a child as measured by the overall CAP Abuse scale was EID ( $\beta = 7.28, p < .001$ ). The other two predictors (THD and BXD) did not contribute significant variance to the model. (See Table 7)

Table 7

*MMPI-2-RF Higher-Order Scales Multiple Regression Results*

		Coefficients <sup>a</sup>				
		Unstandardized		Standardized		
		Coefficients		Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	-250.657	35.514		-7.058	.000
	EID	7.282	.558	.881	13.061	.000
	THD	.007	.670	.001	.010	.992
	BXD	.470	.541	.053	.868	.389

a. Dependent Variable: CAP Overall Abuse Scale

## Rigidity, Distress, and Unhappiness

### Correlations.

**Higher-Order Scales.** There are significant and positive correlations between all MMPI-2-RF higher order scales and the CAP Distress scale. The strongest correlation existed with EID,  $r = .89$ ,  $n = 62$ ,  $p < .001$ , with strong personal distress associated with strong emotional distress. Only THD was significantly and positively correlated with the CAP Rigidity scale,  $r = .31$ ,  $n = 62$ ,  $p < .05$ , with rigidity in attitudes towards children's behavior and appearance associated with serious thought dysfunction. All three higher order scales are significantly and positively correlated with the CAP Unhappiness scale. The strongest correlation existed with EID,  $r = .74$ ,  $n = 62$ ,  $p < .001$ , with strong emotional distress associated with a general unhappiness with life, including difficulties in relationships. (See Table 8)

Table 8

*Correlations for MMPI-2-RF Higher-Order (H-O) Scales with CAP Psychological Difficulties Scales*

MMPI-2-RF H-O Scale	Child Abuse Potential Inventory		
	Distress	Rigidity	Unhappiness
EID	.89**	.19	.74**
THD	.47**	.31*	.48**
BXD	.34*	.21	.32*

\*\*  $p < .01$

\*  $p < .05$

**Restructured Clinical (RC) Scales.** There are significant and positive correlations between all MMPI-2-RF RC scales and the CAP Distress scale. The strongest correlation existed with RCd,  $r = .91, n = 62, p < .001$ , with significant emotional turmoil associated with poor personal adjustment. There are significant and positive correlations between all MMPI-2-RF RC scales and the CAP Unhappiness scale. The strongest correlation existed with RCd,  $r = .71, n = 62, p < .001$ , with significant emotional turmoil associated with a general unhappiness with life, including difficulties in relationships. Only one MMPI-2-RF scale, RC3 was significantly and positively correlated with the CAP Rigidity scale,  $r = .50, n = 62, p < .001$ , with having cynical beliefs associated with rigidity in an individual's attitudes toward the appearance and behavior of children. (See Table 9)

Table 9

*Correlations for MMPI-2-RF Restructured Clinical (RC) Scales with CAP Psychological Difficulties Scales*

MMPI-2-RF RC Scale	Child Abuse Potential Inventory		
	Distress	Rigidity	Unhappiness
RCd	.91**	.19	.71**
RC1	.68**	.24	.65**
RC2	.76**	.08	.68**
RC3	.49**	.50**	.45**
RC4	.46**	.16	.44**
RC6	.51**	.25	.56**
RC7	.78**	.20	.67**
RC8	.57**	.17	.53**
RC9	.48**	.20	.37**

\*\*  $p < .01$

\*  $p < .05$

*Specific Problems (SP) Scales.* There are significant and positive correlations on all but one of the MMPI-2-RF Specific Problems scales and the CAP Distress scale. The strongest correlation existed with STW,  $r = .87$ ,  $n = 62$ ,  $p < .001$ , with multiple problems with stress and worry associated with strong personal distress. The scale not significantly correlated was IPP. Only two MMPI-2-RF Specific problems scales (FML and JCP) were significantly and positively correlated with the CAP Rigidity scale. The strongest correlation existed with FML,  $r = .32$ ,  $n = 62$ ,  $p < .05$ , with rigidity in an individual's attitudes toward the appearance and behavior of children associated with conflictual family relationships. There are significant and positive relationships on all but three (SUI, JCP, and IPP) of the MMPI-2-RF Specific Problems scales and the CAP Unhappiness scale. The strongest correlation existed with COG,  $r = .73$ ,  $n = 62$ ,  $p < .001$ , with cognitive difficulties associated with a general unhappiness with life, including difficulties in relationships. (See Table 10)

Table 10

*Correlations for MMPI-2-RF Specific Problems (SP) Scales with CAP Psychological Difficulties Scales*

MMPI-2-RF SP Scale	Child Abuse Potential Inventory		
	Distress	Rigidity	Unhappiness
MLS	.78**	.05	.67**
GIC	.49**	.25	.46**
HPC	.54**	.28	.47**
NUC	.62**	.11	.66**
COG	.79**	.07	.73**
SUI	.29*	.12	.19
HLP	.52**	.17	.45**
SFD	.85**	.16	.68**
NFC	.79**	.21	.59**
STW	.87**	.14	.67**
AXY	.75**	.06	.72**
ANP	.66**	.19	.63**
BRF	.46**	.11	.43**
MSF	.38**	.01	.29*
JCP	.30*	.30*	.27
SUB	.30*	.06	.41**
AGG	.51**	.07	.54**
ACT	.53**	.09	.39**
FML	.67**	.32*	.59**
IPP	.28	.07	.26
SAV	.32*	.26	.33*
SHY	.53**	.25	.41**
DSF	.56**	.20	.43**

\*\*  $p < .01$

\*  $p < .05$

**Interest Scales.** There were no significant correlations between the MMPI-2-RF Interest scales and the CAP scales of Distress, Rigidity, or Unhappiness. (See Table 11)

Table 11

*Correlations for MMPI-2-RF Interest Scales with CAP Psychological Difficulties Scales*

MMPI-2-RF Interest Scale	Child Abuse Potential Inventory		
	Distress	Rigidity	Unhappiness
AES	.02	-.23	-.06
MEC	-.28	.23	-.10

**Personality Psychopathology Five (PSY-5) Scales.** There are significant and positive correlations on all but two of the MMPI-2-RF PSY-5 scales and the CAP Distress scale. The strongest correlation existed with NEGE-r,  $r = .85$ ,  $n = 62$ ,  $p < .001$ , with strong personal distress associated with experiencing various negative emotions. Only one MMPI-2-RF PSY-5 scale was significantly and positively correlated with the CAP Rigidity scale, PSYC-r,  $r = .34$ ,  $n = 62$ ,  $p < .05$ , with rigidity in an individual's attitudes toward the appearance and behavior of children associated with various experiences concerning thought dysfunction. There are significant and positive correlations on all but two of the MMPI-2-RF PSY-5 scales and the CAP Unhappiness scale. The strongest correlation existed with NEGE-r,  $r = .74$ ,  $n = 62$ ,  $p < .001$ , with a general unhappiness with life including difficulties in relationships associated with experiencing various negative emotions such as anxiety, insecurity, and worry. (See Table 12)

Table 12

*Correlations for MMPI-2-RF Personality Psychopathology Five (PSY-5) Scales with CAP Psychological Difficulties Scales*

MMPI-2-RF PSY-5 Scale	Child Abuse Potential Inventory		
	Distress	Rigidity	Unhappiness
AGGR-r	-.05	.03	.01
PSYC-r	.62**	.34*	.56**
DISC-r	.09	.27	.11
NEGE-r	.85**	.20	.74**
INTR-r	.35*	.10	.42**

\*\*  $p < .01$

\*  $p < .05$

### **Problems with Child and Self, Problems with Family, and Problems with Others**

#### **Correlations.**

**Higher-Order Scales.** There are significant and positive correlations on all of the MMPI-2-RF Higher-Order scales and the CAP Problems with Child and Self scale. The strongest correlation existed with EID,  $r = .38$ ,  $n = 62$ ,  $p < .001$ , with considerable emotional distress associated with describing their children in a negative way. Only one MMPI-2-RF Higher-Order scale was significantly and positively correlated with the CAP Problems with Family scale, EID,  $r = .43$ ,  $n = 62$ ,  $p < .001$ , with difficulties in familial relationships associated with strong emotional distress. There are significant and positive correlations on all of the MMPI-2-RF Higher-Order scales and the CAP Problems with

Others scale. The strongest correlation existed with EID,  $r = .60$ ,  $n = 62$ ,  $p < .001$ , with strong emotional distress associated with general difficulties in social relationships. (See Table 13)

Table 13

*Correlations for MMPI-2-RF Higher-Order Scales with CAP Interactional Problems Scales*

MMPI-2-RF H-O Scale	Child Abuse Potential Inventory		
	Problems with Child and Self	Problems with Family	Problems from Others
EID	.38**	.43**	.60**
THD	.32*	.03	.44**
BXD	.29*	.10	.48**

\*\*  $p < .01$

\*  $p < .05$

***Restructured Clinical (RC) Scales.*** There are significant and positive correlations on five of the MMPI-2-RF RC scales and the CAP Problems with Child and Self scale. The strongest correlation existed with RC3,  $r = .41$ ,  $n = 62$ ,  $p < .001$ , with describing their children in a negative way associated with having cynical beliefs. Three of the MMPI-2-RF RC Scales were significantly and positively correlated with the CAP Problems with Family scale. The strongest correlation existed with RCd,  $r = .37$ ,  $n = 62$ ,  $p < .001$ , with significant emotional turmoil associated with difficulties in familial relationships. There are significant and positive correlations on all of the MMPI-2-RF scales and the CAP Problems from Others scale. The strongest correlation existed with

RC6,  $r = .65$ ,  $n = 62$ ,  $p < .001$ , with general difficulties in social relationships associated with paranoid delusional thinking. (See Table 14)

Table 14

*Correlations for MMPI-2-RF Restructured Clinical (RC) Scales with CAP Interactional Problems Scales*

MMPI-2-RF RC Scale	Child Abuse Potential Inventory		
	Problems with Child and Self	Problems with Family	Problems from Others
RCd	.35*	.37**	.63**
RC1	.33*	.13	.56**
RC2	.22	.36*	.51**
RC3	.41**	.05	.62**
RC4	.26	.21	.55**
RC6	.21	.08	.65**
RC7	.38**	.34*	.61**
RC8	.26	-.01	.44**
RC9	.35*	.11	.43**

\*\*  $p < .01$

\*  $p < .05$

**Specific Problems (SP) Scales.** There are significant and positive correlations on 9 of the MMPI-2-RF Specific Problems scales and the CAP Problems with Child and Self scale. The strongest correlation existed with BRF,  $r = .48$ ,  $n = 62$ ,  $p < .001$ , with describing their children in a negative way associated with reporting of multiple fears. There are significant and positive correlations on 5 of the MMPI-2-RF Specific Problems

scales and the CAP Problems with Family scale. The strongest correlation existed with FML,  $r = .50$ ,  $n = 62$ ,  $p < .001$ , with difficulties in familial relationships associated with conflictual family relationships. There are significant and positive correlations on 19 of the MMPI-2-RF Specific Problems scales and the CAP Problems from Others scale. The strongest correlation existed with COG,  $r = .64$ ,  $n = 62$ ,  $p < .001$ , with general difficulties in social relationships associated with patterns of cognitive difficulties. (See Table 15)

Table 15

*Correlations for MMPI-2-RF Specific Problems (SP) Scales with CAP Interactional Problems Scales*

MMPI-2-RF SP Scale	Child Abuse Potential Inventory		
	Problems with Child and Self	Problems with Family	Problems from Others
MLS	.46**	.45**	.48**
GIC	.15	.25	.37**
HPC	.24	.20	.36*
NUC	.26	-.01	.59**
COG	.23	.13	.64**
SUI	.08	.29*	.15
HLP	.05	.14	.43**
SFD	.30*	.43**	.53**
NFC	.33*	.29	.62**
STW	.29*	.47**	.55**
AXY	.28	.22	.51**
ANP	.34*	.17	.59**
BRF	.48**	.04	.33*
MSF	.31*	.04	.17
JCP	.21	.23	.49**
SUB	.11	-.02	.35*
AGG	.22	.16	.51**
ACT	.30*	-.00	.31*
FML	.35*	.50**	.55**
IPP	-.03	.08	.23
SAV	.10	.23	.25
SHY	.26	.22	.40**
DSF	.25	.03	.42**

\*\*  $p < .01$

\*  $p < .05$

**Interest Scales.** There are no significant correlations between the MMPI-2-RF Interest scales and the CAP scales of Problems with Child and Self, Problems with Family, and Problems from Others. (See Table 16)

Table 16

*Correlations for MMPI-2-RF Interest Scales with CAP Interactional Problems Scales*

MMPI-2-RF Interest Scale	Child Abuse Potential Inventory		
	Problems with Child and Self	Problems with Family	Problems from Others
AES	.11	.21	-.14
MEC	.06	-.15	-.15

**Personality Psychopathology Five (PSY-5) Scales.** There are significant and positive correlations on 2 of the MMPI-2-RF PSY-5 scales and the CAP Problems with Child and Self scale. The strongest correlation existed with PSYC-r,  $r = .41$ ,  $n = 62$ ,  $p < .001$ , with describing their children in a negative way associated with experiencing unusual thought processes. There are significant and positive correlations on only one of the MMPI-2-RF PSY-5 scales, NEGE-r, and the CAP Problems with Family scale,  $r = .39$ ,  $n = 62$ ,  $p < .001$ , with various negative emotions associated with difficulties in familial relationships. There are significant and positive correlations on 4 of the MMPI-2-RF PSY-5 scales and the CAP Problems from Others scale. The strongest correlation existed with NEGE-r,  $r = .60$ ,  $n = 62$ ,  $p < .001$ , with general difficulties in social relationships associated with experiencing various negative emotions. (See Table 17)

Table 17

*Correlations for MMPI-2-RF Personality Psychopathology Five (PSY-5) Scales with CAP Interactional Problems Scales*

MMPI-2-RF PSY-5 Scale	Child Abuse Potential Inventory		
	Problems with Child and Self	Problems with Family	Problems from Others
AGGR-r	.13	.01	.08
PSYC-r	.41**	.05	.52**
DISC-r	.22	-.02	.29*
NEGE-r	.33*	.39**	.60**
INTR-r	.02	.26	.29*

\*\*  $p < .01$

\*  $p < .05$

**Gender Differences.** Gender differences were examined between all scales of the MMPI-2-RF and potential to engage in physical child abuse (as measured by the CAP Inventory overall Abuse scale) was investigated using Pearson product-moment correlation coefficient. Preliminary analyses were performed to ensure no violation of the assumptions or normality, linearity, and homoscedasticity.

**Females.** There are significant and positive correlations on all MMPI-2-RF scales but 4 and the overall CAP Abuse scale for females. The strongest correlation existed with RCd,  $r = .92$ ,  $n = 46$ ,  $p < .001$ , with significant emotional turmoil associated with strong physical abuse potential. A strong correlation also existed with EID,  $r = .91$ ,  $n = 46$ ,  $p < .001$ , with a strong physical abuse potential associated with considerable emotional distress. Correlations for all scales can be found in Appendix B.

**Males.** There are significant and positive correlations on 5 of the MMPI-2-RF scales (EID, RC7, AXY, ANP, and NEGE-r) and the overall CAP Abuse scale for males. The strongest correlation existed with NEGE-r,  $r = .76$ ,  $n = 16$ ,  $p < .001$ , with various negative emotions such as anxiety, insecurity, and worry associated with a strong physical abuse potential. A strong correlation also existed with EID,  $r = .64$ ,  $n = 16$ ,  $p < .001$ , with a strong physical abuse potential associated with considerable emotional distress. Correlations for all scales can be found in Appendix C.

## DISCUSSION

These results are consistent with those of previous research regarding the characteristics of potential physical child abusers, (e.g., Chalk & King, 1998; Milner, 1986; NRC 1993; Rinehart et al., 2005) suggesting that personality and mental health traits are associated with a higher potential to physically abuse a child. Some key aspects of the present findings that differentiate it from previous studies are the particular personality traits associated with an increased physical abuse potential as measured by the CAP overall Abuse scale as well as the subscales that factor in to the CAP Abuse scale. Furthermore, gender differences were examined in more depth than in previous studies concerning prevalence and personality traits.

### **Descriptive Statistics**

As seen in Table 1, about 15% of individuals in this study scored high enough on the CAP Inventory to fall into elevated range. Of this, approximately 18% of females and 7% of males were in the elevated range. This large number of females can be potentially explained with the fact that in single parent homes, it is typically the female faced with many aspects of caring for the child. As mentioned before, children living in single parent homes are more likely to experience abuse (USDHHS, 2003). Furthermore, when there is a single parent home, there is often lower income, which is also related to higher levels of abuse (USDHHS, 2003). If there is not a strong father-child relationship, there is a greater chance for abuse (USDHHS, 2003).

### **CAP Abuse Scale Correlations**

As discussed (see Table 3) the hypothesized outcomes (Hypothesis 1a) regarding the overall CAP Abuse scale correlations with scales on the MMPI-2-RF of RCd (Demoralization), RC2 (Low Positive Emotions), and RC7 (Dysfunctional Negative Emotions) were found. This indicates that individuals with a higher potential to physically abuse a child as measured by the overall CAP Abuse scale are likely to have characteristics consistent with emotional turmoil and feeling overwhelmed, feelings of sadness and unhappiness, significant anhedonia, and experiences relating to anxiety, fear, and anger. The strongest overall correlation on the Higher-Order EID scale is consistent since RCd, RC2, and RC7 are the three RC scales that contribute to EID.

This is consistent with previous research indicating that symptoms associated with depression and anxiety (NRC, 1993), behavioral or emotional concerns (Chalk & King, 1998), and overall mental status (Rinehart et al., 2005) contributes to higher levels of abuse. However, characteristics such as lack of impulse control and antisocial behavioral tendencies that were found in previous studies (NRC, 1993) were not strongly associated with the CAP overall Abuse scale.

Beyond the MMPI-2-RF primary scales, we also see strong correlations with other aspects of functioning related to CAP Abuse scale scores. Endorsed items related to poor health, an overall sense of malaise, and feeling tired is strongly associated with an increased potential for physical abuse. Another interesting relationship is with being indecisive and inefficacious with a strong CAP Abuse scale score. Consistent with previous research (USDHHS, 2003), conflictual family relationships was also strongly

correlated with CAP Abuse scale scores, indicating that family problems may contribute significantly to an abusive living situation for the child.

There are some inconsistencies with previous research found in the current study. As mentioned earlier, substance abuse has been found to be involved in the majority of reported abuse cases (USDHHS, 1999). In the present study, substance abuse was significantly and positively correlated with the overall CAP Abuse scale, however, it was at a much lower level than expected and than other scales of the MMPI-2-RF. It is important to note that these parents all were aware that they were being evaluated in regards to their parental fitness, which may have impacted their reporting of substance use.

### **Multiple Regression Analysis**

As previously mentioned (see Table 7), in order to analyze what predicted elevated scores on the overall CAP Abuse scale, a multiple regression was conducted including the MMPI-2-RF Higher-Order scales (EID, THD, BXD). Of these three scales, EID was the significant predictor of having the potential to physically abuse a child as measured by the overall CAP Abuse scale. These results are consistent with the significant correlations that were found indicating that aspects of emotional turmoil were associated with increased abuse potential. Furthermore, aspects related to thought dysfunction and externalizing behavioral tendencies were not significantly predictive of CAP Abuse scale scores.

### **CAP Psychological Difficulties Scales**

The hypothesized outcomes (Hypothesis 1b) were found on the CAP Distress scale and the CAP Unhappiness scale, but not on the CAP Rigidity scale (see Appendix B). The CAP Distress scale measures aspects of personal distress including personal adjustment problems. This is consistent with the significant and positive correlations with the scales of the MMPI-2-RF relating to negative emotionality (RCd, RC2, and RC7). These individuals who are distressed are likely to have a general unhappiness, anxiety, and have significant anhedonia, consistent with previous research. The basis of the CAP Inventory is that the Distress scale contributes to the overall Abuse scale, indicating that the MMPI-2-RF negative emotionality scales are associated with significant distress.

Additionally, there are significant and positive correlations with the scales of the MMPI-2-RF related to negative emotionality (RCd, RC2, and RC7) with the CAP Unhappiness scale. Low loadings on happiness and high loadings on unhappiness contribute to this scale. This is consistent with elevations on RCd, RC2, and RC7, all of which relate to negative emotionality.

The hypothesis that the CAP subscale of Rigidity would correlate with the MMPI-2-RF scales pertaining to negative emotionality (RCd, RC2, and RC7) was not found. The Rigidity subscale of the CAP represents rigidity in regards to how one perceives a child's appearance and behavior, and also taps into aspects of cleanliness and orderliness. This scale was not correlated with any aspect of negative emotionality. However, the CAP Rigidity subscale was significantly and positively correlated with RC3. Scale RC3

of the MMPI-2-RF has to do with cynical beliefs and a general distrust of others. This finding is interesting since there is no connection between cynicism as defined by the MMPI-2-RF, and rigidity in regards to children's appearance and behavior.

### **CAP Interactional Problems Scales**

For the CAP Interactional Problems scales, correlations showed associations different from the hypothesized outcomes (Hypothesis 1c). To begin, the Problems with Child and Self scale involves describing children in a negative manner. Of the MMPI-2-RF scales involved with Interpersonal Problems, the CAP Problems with Child and Self scale was only correlated with FML at a low level. The MMPI-2-RF scale FML involves conflictual family relationships. It would be expected that there would be a stronger correlation between these two scales than what was found, based on previous research (USDHHS, 2003). The CAP Problems with Child and Self scale did however strongly correlate significantly and positively with the MMPI-2-RF scale Behavior-Restricting Fears. This MMPI-2-RF scale consists of reporting fears that significantly restrict normal functioning.

The CAP Interactional Problems scale Problems with Family includes aspects of familial conflict. Of the MMPI-2-RF scales for interpersonal problems, Problems with Family only correlated significantly with Family Problems, as would be expected.

The CAP Interactional Problems scale Problems from Others indicates general difficulties in social relationships. Of the MMPI-2-RF scales for interpersonal problems, Problems from Others correlated significantly and positively with FML and DSF. The correlation with Family Problems likely indicates a general difficulty in social

relationships, including with family members. The MMPI-2-RF scale DSF measures a dislike for other people, preferring to be alone, and a lack of close relationships. This is expected with an individual reporting elevated problems from others.

### **Gender Differences**

As seen in Appendices B and C, a clearer analysis can be conducted by separating the data based on gender. Both male and females had similar and strong associations between the overall CAP Abuse scale and the MMPI-2-RF Higher-Order scale EID. This indicates that for both males and females, emotional distress is associated with a higher potential to physically abuse. Additionally, both males and females had similar associations on the MMPI-2-RF subscale of Anger Proneness, exhibiting traits of being impatient with others, easily angered, and irritable, indicating that these are related to a higher potential to physically abuse a child as measured by the overall CAP Abuse scale. A final similarity between males and females is an elevation on the MMPI-2-RF PSY-5 scale NEGE-r. This scale includes various negative emotions including anxiety, insecurity, and worry.

There were also several significant differences between the MMPI-2-RF scales that are correlated strongly with the overall CAP Abuse scale consistent with previous research (Russell, Morgan, McCord, Asberg, & Moon, 2011). For females, one of the strongest correlations with the overall CAP Abuse scale was on the MMPI-2-RF Restructured Clinical scale RCd. This scale measures an overall sense of feeling sad and unhappy. This same elevation was not significantly correlated for males; an interesting finding considered EID (considerable emotional distress) was a strong correlation for

males. For males, according to these results, feeling sad and unhappy is not contributing to emotional distress, but they are still experiencing this distress, possibly from another aspect, such as anger proneness. Along similar lines, for females, another strong correlation existed between the overall CAP Abuse scale and the Restructured Clinical MMPI-2-RF scale RC2. This same correlation was not found to be significant for males. The MMPI-2-RF RC2 scale measures a lack of positive emotional experiences. As mentioned above, for males, this lack of positive emotional experiences is not contributing to their sense of emotional distress found by the MMPI-2-RF Higher-Order scale EID.

There were also significant differences between males and females on the MMPI-2-RF Specific Problems scales when correlated with the overall CAP Abuse scale, a hypothesized outcome (Hypothesis 2). For females, the MMPI-2-RF Specific Problems scales of SFD (Self-Doubt), NFC (Inefficacy), and STW (Stress/Worry) were among the strongest correlations with the overall CAP Abuse scale, all of which are internalizing scales. However, for males, we see a much different pattern with ANP (Anger Proneness) being the only significant correlation with the overall CAP Abuse scale. The MMPI-2-RF Specific Problems scale Anger Proneness measures traits related to being easily upset, impatient, and easily angered with others. While ANP is still an internalizing scale, there are obvious differences in the traits measured by this scale and what we see with scales the females endorsed including aspects of lacking confidence and feeling useless, being passive and indecisive, and having above-average levels of stress and worry. Furthermore, as previously mentioned, results of this study were consistent with previous research indicating that family problems were risk factors for the

potential for physical abuse towards the child. When the data is analyzed by gender, family problems remains a significant association with the overall CAP Abuse scale, however, it is not significant for males.

### **General Limitations**

As with any research, there are some limitations including the sample composition and the instrumentation used. Furthermore, this study is primarily correlational. Due to this nature, it is simply not possible to rule out all mediating factors that could have impacted the response patterns found.

**Sample Composition.** The sample composition is by no means heterogeneous. All of the sample data were collected from a private practice in Catersville, GA, limiting the generalizability to the general population. The ethnic make-up was almost entirely Caucasian from the suburban southeast. Additionally, the sample size is not large enough to draw generalizable conclusions. As stated above, there were significantly more females than males in the sample. This may have contributed to higher emotional and internalizing characteristics related to potential to physically abuse a child as measured by the overall CAP Abuse scale than what was found in previous research. Finally, all individuals were being evaluated for parental fitness after having their children removed from the home by the Georgia Department of Family and Children Services. Therefore, actual reporting of substance use, aggressive behavior, depression, etc. may be skewed in a positive manner.

**Instrumentation.** As with any self-report instrument there are limitations, especially with a population with special circumstances as this sample does.

Furthermore, the Child Abuse Potential Inventory (CAP) is not a commonly used instrument given its narrow focus, despite the extensive research regarding its validity and reliability.

### **Implications and Future Directions**

Most interventions with child abusers are based on externalizing problems such as anger control and restricting externalizing behaviors. This is based on previous research that states antisocial tendencies and acting out are related to a higher potential to engage in physical child abuse (NRC, 1993). However, the current study demonstrates that it is the internalizing factors such as anxiety, depression, feelings of sadness and unhappiness, that are more dominant in a population of potential child abusers considered to have an elevated potential for physical abuse. One explanation for this finding could be difficulty with distress management. Abuse could therefore be seen as a symptom of internalizing problems as opposed to impulse control or a behavioral inhibition. When interventions are targeted towards the underlying issues, such as depression and anxiety, there is potential for a better outcome, that being a decrease in the occurrence or reoccurrence of abuse within the home.

Future research in this area could indicate levels that would be clinically significant in regards to personality traits of potential child abusers. Additionally, since this is a small limited sample, research expanding the demographics could increase the generalizability of results indicating internalizing risk factors.

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## APPENDIX A

*Means and Standard Deviations for all MMPI-2-RF and CAP Inventory Scales.*

Scale	<i>M</i>	<i>SD</i>
CAP Abuse	144.03	(107.53)
Rigidity	19.20	(15.34)
Unhappiness	18.64	(15.89)
Distress	64.69	(74.89)
Problems with Child and Self	4.77	(6.13)
Problems with Family	8.36	(9.73)
Problems with Others	8.88	(8.19)
Loneliness	7.02	(8.03)
Ego Strength	27.46	(14.42)
Inconsistency	4.57	(2.64)
Random Response	2.55	(2.23)
Lie	8.34	(4.28)
Cannot Say	.47	(1.23)
VRIN	49.77	(10.18)
TRIN	47.99	(9.76)
F	54.39	(14.76)
Fp	50.36	(11.38)
Fs	54.40	(14.58)
FBS	55.41	(12.62)
L	63.81	(14.51)
K	54.56	(10.83)
EID	48.78	(12.36)
THD	49.42	(10.08)
BXD	51.15	(11.51)
RCd	49.77	(11.94)
RC1	53.72	(12.60)
RC2	48.73	(10.33)
RC3	49.53	(10.68)
RC4	52.90	(11.73)
RC6	52.77	(11.04)
RC7	47.40	(11.44)
RC8	48.14	(10.39)
RC9	44.32	(8.85)
MLS	51.64	(11.70)
GIC	51.63	(11.12)
HPC	53.59	(12.59)
NUC	53.79	(12.74)
COG	51.47	(12.80)
SUI	47.32	(6.73)
HLP	46.31	(9.15)
SFD	49.66	(11.29)
NFC	49.11	(11.53)
STW	49.85	(12.16)
AXY	53.40	(14.13)
ANP	46.58	(10.28)
BRF	50.51	(11.29)
MSF	51.48	(9.10)
JCP	54.69	(13.62)
SUB	48.23	(8.73)
AGG	45.55	(10.00)
ACT	47.95	(11.69)
FML	48.74	(10.97)
IPP	49.50	(9.23)
SAV	50.55	(9.49)
SHY	47.56	(10.34)
DSF	47.64	(8.58)
AES	44.60	(8.10)
MEC	51.35	(11.67)
AGGR-r	49.27	(9.08)
PSYC-r	48.09	(9.99)
NEGE-r	49.40	(12.28)
INTR-r	50.35	(9.19)

## APPENDIX B

*Correlation Table for Females*

MMPI-2-RF Scale	Overall CAP Abuse Scale
EID	.91**
THD	.50**
BXD	.47**
RCd	.92**
RC1	.71**
RC2	.79**
RC3	.60**
RC4	.60**
RC6	.58**
RC7	.82**
RC8	.57**
RC9	.62**
MLS	.76**
GID	.45**
HPC	.59**
NUC	.60**
COG	.73**
SUI	.25
HLP	.59**
SFD	.82**
NFC	.82**
STW	.73**
AXY	.61**
ANP	.62**
BRF	.43**
MSF	.31*
JCP	.50**
SUB	.32*
AGG	.50**
ACT	.51**
FML	.74**
IPP	.27
SAV	.32*
SHY	.58**
DSF	.53**
AES	-.05
MEC	.06
AGG-r	-.03
PSYC-r	.56**
DISC-r	.36*
NEGE-r	.83**
INTR-r	.41**

\*\* $p < .01$ \* $p < .05$

## APPENDIX C

*Correlation Table for Males*

MMPI-2-RF Scale	Overall CAP Abuse Scale
EID	.64**
THD	.12
BXD	.39
RCd	.39
RC1	.43
RC2	.38
RC3	.48
RC4	.33
RC6	.18
RC7	.57*
RC8	.10
RC9	.34
MLS	.45
GID	.24
HPC	.32
NUC	.27
COG	.42
SUI	.24
HLP	.33
SFD	.47
NFC	.46
STW	.30
AXY	.60*
ANP	.62**
BRF	.47
MSF	.45
JCP	.34
SUB	.25
AGG	.39
ACT	-.02
FML	.42
IPP	.04
SAV	.33
SHY	.46
DSF	.22
AES	-.12
MEC	.15
AGG-r	.15
PSYC-r	.19
DISC-r	.28
NEGE-r	.76**
INTR-r	.28

\*\* $p < .01$ \* $p < .05$