THE INFLUENCE OF CHILD MALTREATMENT ON JUVENILES' PSYCHOLOGICAL ADJUSTMENT WITHIN CORRECTIONAL INSTITUTIONS

by

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ABSTRACT

Title of Dissertation: THE INFLUENCE OF CHILD MALTREATMENT ON JUVENILES' PSYCHOLOGICAL ADJUSTMENT WITHIN CORRECTIONAL INSTITUTIONS

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Studies have identified many short and long term consequences for individuals who have been maltreated as children. Research on the effects of child abuse routinely shows a connection between child maltreatment and subsequent delinquency, including violent behavior. A high proportion of institutionalized juvenile offenders suffer classic symptoms of Posttraumatic Stress Disorder and studies have found that the backgrounds of these offenders include physical and verbal abuse. Mental and emotional problems among institutionalized delinquents is high; but, there has been little research on the relationship between the maltreatment of juveniles and their psychological adjustment within correctional institutions.

Juveniles' mental health problems can have profound effects on their functioning in correctional environments. The goal of this study is to answer the following two questions: 1) Does child maltreatment have a significant and positive

impact on changes in anxiety and depression levels among institutionalized juveniles during the time they are in residential facilities? 2) Do juveniles who were maltreated as children adjust differently in boot camps compared to traditional institutions?

Using a longitudinal sample 509 juveniles confined to 48 correctional facilities in 20 states, the current study used ordinary least squares regression to examine the impact of child maltreatment on juvenile maladjustment. The analysis indicates that incarcerated youth who experienced greater levels of child maltreatment had higher levels of both anxiety and depression, holding other individual and institutional related factors constant. Additionally, greater levels of maltreatment were associated with increased changes in depression over time. When examining the influence of facility type, the findings indicate that there was a significant decrease in depression for juveniles in boot camps. However, findings indicate that there is not a significant interaction between facility type and maltreatment on adjustment. The relationship between maltreatment and depression does not vary by facility type. This study's results provide policy makers and correctional administrators with empirical research indicating that child maltreatment should be assessed when treating issues related to psychological adjustment within correctional environments.

DEDICATION

This dissertation is dedicated to my unconditional support system - my family, friends, and John.

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CHAPTER ONE: INTRODUCTION

Child maltreatment is a major risk factor for juvenile delinquency. Maltreatment may take the form of physical violence among family members, a violent caretaker/parent who physically, psychologically, or sexually abuses a child, or a caretaker/parent who is neglectful of a child's basic needs. Maltreatment causes symptoms of trauma, such as anxiety and depression, in the general population of adolescents, symptoms which show up in even higher percentages among incarcerated youth (Singer et al., 1995). Many experts believe the prevalence of behavioral, emotional, and personality disorders among juveniles institutionalized in correctional facilities is higher than in the general population (Hunzeker, 1993). Youth who come in contact with the juvenile justice system are also at a great risk for becoming antisocial adults. To reduce adult criminality, understanding the link between child maltreatment and mental health issues among juvenile delinquents is critical (Dembo et al., 1987).

Child Maltreatment, Delinquency, and Violent Behavior

Childhood maltreatment is widely recognized as a risk factor for predicting juvenile delinquency (Smith and Thornberry, 1995; National Research Council, 1993; Zingraff et al., 1993; Widom, 1989; Loeber and Stouthamer-Loeber, 1986). Family structure and dysfunction are also associated with early-onset and serious delinquency (Sampson and Lauritsen, 1994). According to the "cycle of violence literature,"

violent behavior in adolescence is connected to physical or sexual abuse in childhood (Dodge et al., 1990; Widom, 1989a; Morrow and Sorrell, 1989; Mouzakitis, 1981).

A high proportion of those who come in contact with the criminal justice system have histories of maltreatment. Not surprisingly, many institutionalized youth come from family backgrounds characterized by abuse, neglect, and other traumatic experiences (Dembo et al., 1987). The connection between maltreatment as a youth and incarceration as an adult is also evident. A recent survey of state prison inmates, for example, found that 14% of male inmates and 37% of female inmates reported they had been abused before the age of 18 (Harlow, 1999). This compares to general population estimates of 5% to 8% for males and 12% to 17% for females (Gorey and Leslie, 1997). Paroled youth with maltreatment histories have a higher rate of recidivism than those without such histories, which places them at a higher risk for involvement in the adult criminal justice system (Visher et al., 1991).

Child Maltreatment and Mental Health

The behavior characterized by the justice system as delinquency may be a result of the adolescent's family history. This history is reflected both in their behavior and in their mental health. Violence within the family (both experiencing abuse and witnessing family violence) has a negative effect on adolescents' psychological development. Children who witness interparental violence have significantly higher levels of anxiety and depression than children who do not witness such violence (Edelson, 1999). Anxiety, depression, and stress result from exposure to family

violence (Edelson, 1999; Margolin, 1998; Holtzworth-Munroe et al., 1997; Nilzon and Palmerous, 1997; Straus and Kantor, 1994; Straus and Gelles, 1990).

Incarcerated youth may have been witnesses to family violence or victims of it, and studies have found a high percentage of general mental health problems among these youth (Steiner, 1997). Empirical studies have documented the high rate of depression among individuals confined to correctional institutions (Boothby and Durham, 1999; Eyestone and Howell, 1994; Daniel et al., 1988; Chiles et al., 1980). For example, one study of juveniles in group homes and detention centers estimated that over half were in need of mental health services (Pratt, 1996). In another study, 37% of incarcerated youth surveyed were found to be at risk for clinical depression (Messier and Ward, 1998). Mental health interventions for incarcerated juvenile offenders are necessary.

Dimensions of Child Maltreatment

Child maltreatment is not a monolithic construct. Commonly recognized dimensions of child maltreatment include physical abuse, sexual abuse, psychological abuse, neglect, and witnessing violence among family members. Consequences of family violence are influenced by the type, frequency, and chronicity of the maltreatment. Silvern et al.'s (1995) findings, for example, suggest that the traumatic effects of witnessing domestic violence may be distinct from those associated with experiencing child abuse. These findings are confirmed by longitudinal research showing that youth who report higher levels of exposure to interparental violence have

significantly more adjustment difficulties (e.g. anxiety and depression), even when they were not physically or sexually abused (Fergusson and Harwood, 1998). It is difficult to separate the specific consequences of various maltreatment dimensions since they often overlap in samples. Because this has been done to a limited extent in the research literature, less is known about the influence of individual dimensions of childhood maltreatment, or the additive consequences of various dimensions, on adolescent psychological adjustment problems.

Hughes et al., (1989) propose that children who both witness and experience family violence are at a high risk for a "double-whammy" effect of consequences. In order to better understand the mechanisms that place children who witness marital violence at risk for adjustment difficulties, it is important to examine the co-occurrence of witnessing family violence and other dimensions of maltreatment. Additionally, there are few studies that examine these issues using samples of incarcerated juvenile delinquents. The connection between childhood maltreatment and juvenile offending (Widom and Ames, 1994) makes this population particularly important for studying these issues. Delinquents may be more or less responsive to treatment or institutional regimentation, depending on their particular histories with family violence.

Institutional Adjustment

Few studies have examined the impact that child maltreatment has on juveniles' psychological adjustment within correctional institutions. One might expect that the negative influence that child maltreatment has on adolescent cognitive and emotional

functioning (Dodge et al., 1990; Cicchetti, 1989) would also make it harder for them to adjust to a correctional environment. While it is clear from a review of the extant literature that there are negative psycho-social consequences of experiencing child maltreatment, less is known about the extent to which maltreatment effects juveniles' adjustment within an institutional setting. What does the experience of maltreatment add to the issue of institutional adjustment? The literature on institutional adjustment suggests that factors that youth bring with them into the institution (importation hypothesis) and those that they experience within the institution (deprivation hypothesis) are related to how they adjust to living in a secure environment. Absent from much of this discussion, however, is the role that child maltreatment plays as an importation factor for juveniles' adjustment within a correctional setting. Additionally, little research has examined the potential negative psychological problems for maltreated youth within specific types of institutional settings. It is quite possible that the experience of being placed in a secure institutional setting produces levels of stress that psychologically returns juveniles' to past trauma. Boot camp programs provide a key example of a popular programmatic correctional option for which some critics argue are inappropriate for certain types of juveniles, especially for those from abusive backgrounds (Morash and Rucker, 1990).

Therefore, it is essential to gain a stronger understanding of institutional adjustment that the correctional field examine both the effects of child maltreatment as well as its interaction with specific institutional modalities. Research addressing these issues can help address specific policies regarding appropriate screening and treatment

options for youthful offenders. Furthermore, understanding the link between child maltreatment and the institution most able to treat these youth will provide a key first step to planning appropriate programs for juveniles with histories of maltreatment and obtaining the best services to help them become law-abiding and mentally healthy individuals.

Current Study

This study examines the influence of child maltreatment on juveniles' psychological adjustment within correctional institutions. Specifically, this study assesses the impact of child maltreatment on self reported anxiety and depression among youth shortly after being confined to correctional facilities as well as their adjustment over time. Research has found several internalizing emotions that are important indicators of maladjustment; two of these indicators are anxiety and depression (Buehler et al., 1997). The present research consists of a longitudinal design of surveys conducted with a large sample of institutionalized juvenile offenders from 48 correctional facilities. This study examines the effect of child maltreatment on institutional psychological adjustment. Also, the present study examines whether there are differential impacts of child maltreatment on adjustment for youth confined to juvenile boot camps compared to traditional institutions. This study will inform practitioners and researchers on the prevalence of child maltreatment among institutionalized youth and its impact on adjustment over time and across facility types. This study, therefore, informs theories of institutional adjustment, practitioners

interested in issues of institutional adjustment, and issues surrounding the appropriateness of institutional modalities for youth with prior histories of maltreatment.

Research Questions

Building on the prior literature on the effects of child maltreatment, this study addresses two primary research questions.

1. Does child maltreatment have a significant and positive impact on anxiety and depression levels as well as their change over time among institutionalized juveniles?
2. Do juveniles who were maltreated as children adjust differently in boot camps compared to traditional institutions?

Organization

Chapter 2 presents a review of the literature that is relevant to the research questions. There are three sections in Chapter 2. The first section discusses the history, dimensions, etiology, and scope of child maltreatment. The second section reviews the literature on the relationship between child maltreatment and delinquency and/or violent behavior. The third section reviews the literature on the psychological consequences of child maltreatment, and, in particular, the negative effects of exposure to violence in the family. In addition, issues related to child maltreatment and incarceration are discussed, specifically focusing on anxiety and depression as

measures of institutional adjustment. Chapter 3 presents two theoretical explanations for institutional maladjustment. This chapter specifically discusses the relationship between importation and deprivation factors and institutional adjustment. Chapter 4 provides a description of juvenile boot camps and an overview of the issues and controversies surrounding their use for juvenile offenders. Chapter 5 discusses the methodological approach used for this dissertation. Chapter 6 presents the findings from this research. Finally, Chapter 7 presents theory and policy implications from this study and discusses directions for future research.

CHAPTER TWO: RELEVANT LITERATURE

This chapter presents literature that is relevant to the research questions explored in this study. The literature presented is organized in three sections. The first section discusses the history, dimensions, etiology, and scope of child maltreatment. The literature presented in the second section discusses the relationship between child maltreatment and criminality. The third section discusses the negative psychological consequences of child maltreatment and discusses the influence of child maltreatment on institutional adjustment as measured by anxiety and depression.

Child Maltreatment

Child maltreatment is a problem within all communities, regardless of age, ethnic or racial background, social or economic class, gender, or religious background (Varghese and Mouzakis, 1985). Maltreatment destroys family structure and has devastating consequences to children, siblings, and other family members. Maltreatment, however, has not always been recognized as a social problem. The following section provides a brief history of child maltreatment. This section is not meant to be exhaustive but to provide a background for the research conducted in the present study.

Historical Perspective of Child Maltreatment

Abusive child-rearing practices are not a recent phenomena. The history of

Western society is plagued with darkness regarding the violent and abusive way children have been treated by parents. In ancient times, it was commonplace for children to experience cruel and harsh punishment as a means to correct their behavior. According to historian Samuel Radbill (1987), various kinds of abusive treatment were culturally sanctioned. In fact, infanticide was extremely common among ancient and prehistoric cultures. Infants were killed, abandoned, or left to die unless the father granted the infant the right to live. Moreover, targets of infanticide tended to be girls, children born to unmarried women, infants who constantly cried, infants who were deformed, and infants who had a perceived imperfection (Robin, 1982). Infanticide remained common through the 18th and 19th centuries. Since ancient times, every society has been guilty of the crime of abuse and neglect (Kempe and Helfer, 1976).

In addition to killing children as a form of abuse, children were beaten with rods and canes and were mutilated by parents (Gelles, 1997). In colonial America, parents were encouraged to beat evil spirits out of their children. 'Stubborn child' laws were enacted in the early 1600s which allowed parents to petition for the death of their child.

Agencies to protect animal rights were established before there were laws to protect children's rights (Groves, 1996), and it was not until the first half of the twentieth century that there were social and legal remedies for maltreated children. Protecting children became a social responsibility in the 1930s with the passage of the Social Security Act. Governmental attention to the problem of child maltreatment lead to the first research inquiries into the physical injuries children suffered at the hands of

parents. One of the earliest definitions of child abuse was suggested by physician C. Henry Kempe in his benchmark paper 'battered child syndrome' where child abuse was defined as a clinical condition with medical injuries that resulted from a physical assault (Kempe et al., 1962). Prior to Kempe's scholarship, professional and media articles on child abuse and neglect were virtually nonexistent. Kempe's work is commonly used to mark the date when child abuse was re-discovered during the twentieth century (Nelson, 1984). After Kempe's work, the issue of child maltreatment finally received national attention as an interdisciplinary phenomena and was embraced by the medical and social work fields.

In response to the work of Kempe and other early researchers, government began to take a more active role in the protection of children. Between 1963 and 1967, for example, mandatory child maltreatment reporting laws were passed by every state and the District of Columbia (Gelles, 1997). As a result, the nation experienced a dramatic increase in the demand for child protective services (Nelson, 1984). In 1973 Richard Gelles published an article that argued against the dominant paradigm of parental psychopathology as the cause of maltreatment and instead suggested that the cause is sociologically oriented (Gelles, 1974). Shortly afterwards, in 1974, the federal government established the National Center on Child Abuse and Neglect with the passage of legislation sponsored by then Senator Walter Mondale: the Federal Child Abuse Prevention and Treatment Act. The Act appropriated over fifty million dollars for research, program development, and program evaluation efforts between 1974 and 1980 (Gelles, 1997).

In addition to governmental attention, child maltreatment was becoming a field of scientific study by researchers. The first nation-wide public survey was conducted in 1970 to determine the extent of the problem (Gil, 1970). Gil reviewed over 20,000 child maltreatment cases that were reported to an official source in the United States during 1967 and 1968. This research effort, and many others that followed, highlighted the influence of family factors in the etiology of maltreatment. Eventually the topic of child maltreatment emerged from behind closed doors and was viewed as an important social issue. Within public and professional communities, child maltreatment is considered to be a relatively recently discovered social problem (Garbarino, 1981). Researchers today, however, recognize the extreme social costs that result from child maltreatment, and consider it to be a topic worthy of scientific study and directed social policy.

Dimensions of Child Maltreatment

The concept of child maltreatment is not uni-dimensional. Several different dimensions of child maltreatment have been identified. Many scholars have exclusively focused their research on one type, such as physical abuse, neglect, or sexual abuse. Yet, in other cases research does not distinguish between the etiology and outcomes of the different types of maltreatment. Some scholars view child maltreatment as a range of behavior from mild discipline to severe physical or sexual abuse, while other scholars see it as a set of behavioral problems each having a distinct etiology (Gelles, 1997). The consequences of the co-occurrence of different

dimensions of child maltreatment has received limited attention in the literature. This point holds true regardless of the fact that it is unlikely for victims of maltreatment to be subjected to only one dimension. For example, emotional and psychological maltreatment is a usual precursor to physical and sexual abuse (Browne and Herbert, 1997). One group of researchers estimated that almost half of the children who witness violence between their parents are also victims of physical abuse (Jouriles and Le Compte, 1991). Regardless, little is known about consequences of different kinds of maltreatment (National Research Council, 1993). Research focusing on the co-occurrence of different kinds of maltreatment is important for the development of appropriate prevention and treatment strategies.

One of the most difficult tasks in the field of child maltreatment has been to develop an agreed upon working definition. According to the National Research Council (1993), there are as many definitions of child maltreatment as there are scholars in the field. One of the problems in developing an agreed upon definition is that different groups and practitioners use the definition for different purposes. Today, the National Research Council recognizes four categories within the term 'child maltreatment:'1) physical abuse; 2) sexual abuse; 3) neglect; and 4) emotional maltreatment.[1] Each category is comprised of a range of behaviors. Each of these four

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[1] The inclusion of physical abuse, sexual abuse, neglect, and emotional abuse is consistent with the definition of child abuse and neglect by the Child Abuse Prevention and Treatment Act of 1974. According to the Act, "child abuse and neglect means the physical or mental injury, sexual abuse or exploitation, negligent treatment or maltreatment of a child under the age of eighteen, by a person who is responsible for

categories, and the additional category of witnessing family violence, will be reviewed in the following sections.[2]

Physical Abuse. Some researchers argue that physical abuse includes physical punishment, since the intent is to cause some slight harm in order to correct a child's behavior (Gelles, 1997). According to social surveys, physical punishment of children is extremely common in American society. For example, rates of physical punishment of children are estimated to range between 84% and 97% by parents during some point while raising their children (Straus, 1991; 1994; Straus and Gelles, 1990).

Empirical research does not support a relationship between physical punishment and physical abuse (Gelles, 1991). Physical abuse is the most frequent dimension of maltreatment experienced by children (Azar, 1991). The majority of incidents involving physical abuse to children are not life-threatening events (Crittenden, 1998). Rather, most incidents involve minor injuries, are repetitive, are accompanied with another dimension of maltreatment such as psychological abuse or neglect, and are directed towards most children in a household. However, physical abuse includes both major and minor physical injuries. Examples of major physical injuries include bone fracture, dislocation/sprains, internal injuries, poisonings, brain damage, skull fracture,

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the child's welfare under circumstances which indicate the child's health or welfare is harmed or threatened thereby" (Varghese and Mouzakitis, 1985: 9).

2 It is important to note that emotional maltreatment is included in this section for discussion purposes because it is a recognized category of child maltreatment by the National Research Council (1993). Emotional maltreatment is not a type of maltreatment examined in the analysis section of this dissertation.

subdural hemorrhage or hematoma, burns, scalds, severe cuts, lacerations, bruises, welts, or related injuries (Wolfe, 1987). Examples of minor physical injuries include shaking, minor cuts, bruises, welts, or similar injuries that do not place the child's life at risk. Additional forms of physical abuse that have been recognized as causes of childhood morbidity and mortality include fetal alcohol syndrome, addiction during pregnancy, and intentional poisoning of children (Siefert, 1985). Another rare type of physical abuse is referred to as 'Munchausen,' in which an adult will cause a child to be ill in order to receive medical or financial attention.

Sexual Abuse. Sexual abuse has received much attention as a form of child maltreatment as a result of the research conducted by V. De Francis on incest during the 1960s (see De Francis, 1966). According to the research on sexual abuse that has accrued since De Francis's work, unlike physical abuse and exposure to marital violence, the perpetrator of sexual abuse is often a nonparental adult, such as an uncle or cousin (Trickett et al., 1998). Sexual abuse includes the involvement of a child in any sexual act or situation such as incest, exposure to indecent acts, exploitation, forcible or statutory rape, sexual assault, molestation, involvement in child pornography, or sexual rituals. As with other forms of abuse, official estimates of sexual abuse underestimate its actual occurrence because the field relies heavily on self reporting. The very first national survey on the nature, prevalence, and impact of childhood sexual abuse took place in 1985 by the Los Angeles Times, and was conducted as a telephone survey (Finkelhor et al., 1990). Sexual abuse prevalence rates for females vary between 15% and 33% and for males the rate ranges between

13% and 16% (Finkelhor et al., 1990; Fromuth and Burkhart, 1989). A national survey found 27% of women and 16% of the men experienced sexual abuse (Finkelhor et al., 1990). While it is estimated that females comprise 85% of all sexual abuse victims (Conte et al., 1989), research indicates that males are victims of sexual abuse more often than was originally suspected (Finkelhor, 1990). Other researchers state, "There is an alarming trend of confirmed and probable cases of sexual abuse in young boys" (Heath et al., 1996: 396). Boys and girls encounter different types of childhood sexual abuse. When boys are at a young age, they are anally abused to the same degree that girls are vaginally abused (Heath et al., 1996). However, boys are consistently anally abused throughout all ages while girls are vaginally abused more at earlier ages.

Child Neglect. Child neglect has been a difficult phenomena for researchers to study and, therefore, statistics are harder to come by. Neglect is not as easily identifiable visually as the burns and bruises caused by acts of physical violence. In addition, neglect is not one single action, but rather a series of 'inactions' (Baily and Baily, 1985). Child neglect involves a deficiency in caretaker obligation that results in psychological and/or physical harm. The origins of child neglect are most commonly grounded within parent characteristics (Polansky et al., 1992), and they include neglecting to provide nourishment, clothing, shelter, health care, education, and supervision. Neglectful behavior also includes abandonment and emotional neglect. Variations exist from state to state in the range of behaviors that are included under neglect (Varghese and Mouzakitis, 1985). Neglect is sometimes referred to as passive violence, where anger towards the victim is shown by a lack of concern for the victim's

well-being (Browne and Herbert, 1997). While neglect does not involve physical force, the consequences may be physical, psychological, or social in nature. After all, not providing children with proper nourishment or emotional support, for example, can result in both their physical and psychological detriment.

Emotional Maltreatment. Emotional maltreatment is the most recently recognized type of maltreatment and is also referred to as psychological abuse. It is the most difficult dimension of maltreatment to quantify in terms of severity. While few self-report surveys have attempted to measure the prevalence of psychological abuse, it is assumed that official reports of this dimension of maltreatment underestimate its occurrence. For example, using a very broad definition of psychological maltreatment and a national sample of 3,346 parents, Vissing et al., (1991) estimated that 63% of the parents used some form of psychological maltreatment within the past year.

Psychological abuse occurs when an adult's behavior is intended to terrorize a child and cause fear or anxiety. Verbal abuse, belittlement, a lack of emotional availability, and similar behaviors on the part of the caretaker cause the child to have low self esteem. This form of maltreatment includes harm inflicted on the victim's intellectual or mental capacity and inhibits normal functioning.

It has been argued that children's adjustment and development are gravely affected by psychological abuse, and that they experience harm that extends beyond physical scars left by overt violence. Psychological abuse leaves scars on self-esteem and self-concept.

Witnessing Violence in the Family. While sexual abuse, physical abuse,

neglect, and emotional maltreatment are directly experienced by the child, another dimension of maltreatment that has negative consequences for children and adolescents is witnessing violence between family members. This dimension is not included in the definition of child maltreatment established by the National Research Council (1993). Research on the effects of witnessing family violence is in the early stages (Sudderman and Jaffe, 1997).

The needs of children who witness violence within the home remain largely unrecognized by teachers, mental health professionals, law enforcement personnel, health care providers, and social science researchers. It is estimated that children witness between 40% and 80% of domestic violence that takes place (Jaffe et al., 1990). Each year, approximately 3.3 million children between the ages of three and 17 observe physical confrontations between their parents (Henning et al., 1996). Straus (1992) estimates this figure to be even higher; he suggests that 10 million children each year witness physical violence between their parents, and estimates this figure to triple throughout childhood. A study by Fantuzzo et al., (1997) examined the extent to which children were involved in misdemeanor domestic violence cases. Their findings indicated that in 20% of households where substantiated domestic violence occurred, children were involved in the abusive episode in 11% to 12% of the cases.

Those who witness violence within their family of origin are a hidden group who are at risk for involvement in violent relationships, developing emotional and behavioral problems, and having achievement problems at school. Additional psychological consequences of witnessing violence include depression, anxiety,

posttraumatic stress disorder, conflicts with peers, social isolation, noncompliance with adults, learning problems, and a host of behavioral problems (Sudermann and Jaffe, 1997). The extent of the emotional and behavioral consequences are dependent on a number of factors, such as the duration, frequency, and chronicity of the exposure, the physical closeness to the incident, the child's age and coping strategies, and the availability of legal protection (Bell and Jenkins, 1993; Famularo et al., 1993; Martinez and Richers, 1993; National Research Council, 1993).

Scholars have pointed out that an area in need of future research is the concurrent effects of physical abuse and sexual abuse in combination with witnessing violence (Suddermann and Jaffe, 1997), since it has been estimated that between 45% and 70% of children who witness violence between their parents are also victims of physical abuse (Straus et al., 1980). While research on the effects of witnessing violence in the family of origin is relatively new, it is a dimension of child maltreatment that has a profound influence on psychological adjustment in the next generation. And, it is important to remember that this is the invisible background of many incarcerated juveniles.

Hughes et al., (1989) propose that children who both witness and experience family violence are at a high risk for a "double-whammy" effect of consequences. In order to better understand the mechanisms that place children who witness marital violence at risk for adjustment difficulties, it is important to examine the co-occurrence of witnessing family violence and other dimensions of maltreatment.

Etiology of Child Maltreatment

Although this study cannot address the causes of child maltreatment, this section provides a brief discussion on the research examining the causes of child maltreatment to provide a background for the research conducted herein. According to the National Academy of Sciences panel of research on child abuse and neglect, little is known about the major causes and pathways that influence risk factors in the etiology of child maltreatment (National Research Council, 1993). While some progress has been made in the past thirty years of research on child abuse and neglect, the existing literature points to the difficulty of scientifically studying such an emotional phenomenon.

The first etiological models of child abuse were developed from retrospective studies and were models that focused on either characteristics of the parent or child. For example, child characteristics and factors that have been shown to increase the risk of maltreatment include age, gender, low birth weight, temperament, prematurity, developmental difficulties, or being emotionally or physically disabled (National Research Council, 1993). Research has shown that very young children are at the greatest risk of being physically abused or killed and females are at a heightened risk of being sexually abused than males. Overall, however, the literature is not clear if child characteristics are contributing factors to maltreatment, consequences of maltreatment, or are contributing factors only when other parent and environmental factors are present.

Similar to models focusing only on the child or the parent, early sociological

models focused on the physical and social environment without considering characteristics of the child or parent. Although these models did not firmly establish direct causal relationships in the etiology of maltreatment, they did identify numerous variables that had some sort of relationship with maltreatment. For example, the influence of poverty was recognized as being strongly related to neglect (Gil, 1970). Having a lack of social support systems was also found to be related to the presence or absence of maltreatment (Garbarino, 1977).

The early simple models of child abuse were eventually criticized by the scientific community as having limited explanatory power since it was recognized that maltreatment did not arise out of a single factor. Although simple models identified variables that had an impact on the risk of maltreatment, these models did not establish causal relationships. During the 1970s researchers began to examine interactions among the child, parent, and environmental risk factors (National Research Council, 1993). Among others, factors such as adult personality characteristics, adult attitudes, attributions, and cognition, alcohol and drugs, biological factors, demographic factors, child characteristics, parenting styles, stressful life events, family income/poverty, unemployment, neighborhood characteristics, and cultural and social values were studied.

Interactive models focused on a combination and interaction of several risk factors, not just the presence of an individual factor.[3] These models identify numerous

[3] Three contemporary models that recognize the interactions among multiple risk factors

pathways for maltreatment, depending on the presence, absence, and combination of certain risk and protective factors associated with the child, parent, and environment (Cicchetti and Carlson, 1989). Interactive models predict maltreatment to occur when the presence of risk factors outweigh the presence of protective or buffering factors (Cicchetti and Carlson, 1989). The risk factors are subject to change over time just as individuals and life circumstances change due to dynamic historical or developmental periods. Although relatively new, interactive models are promising approaches when looking towards future research in this area.

Unfortunately, not a lot of research exists comparing the etiologies of specific types of maltreatment, such as neglect, physical abuse, sexual abuse, and psychological abuse. Studies that have examined the differences and similarities among etiologies have documented the complex nature of this issue. For example, a large scale longitudinal study of a northeastern representative community sample using official and self-report data was conducted to investigate risk factors associated with child abuse and neglect (Brown et al., 1998). Different patterns of risk factors predicted the occurrence of physical abuse, sexual abuse, and neglect. Specifically, 15 factors were associated with physical abuse, nine factors were associated with sexual abuse, and 21 factors were associated with neglect. The study's findings confirmed the hypothesis that the causes of child abuse and neglect are extremely complex.

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of child maltreatment and view it within the sociocutural environment in which it occurs (i.e., the family, community, and society) include ecological, transitional, and transactional models (see National Research Council, 1993, for a review).

According to Azar's (1991) metatheoretical analysis of models of child abuse, numerous models could be posited to explain child physical abuse alone. The next step for future research, according to Azar (1991), is to prioritize the factors and conditions that have been identified as leading to abuse.

The Scope of Child Maltreatment

In addition to the complexity involved in studying the etiology of child maltreatment, the exact scope of child maltreatment is unknown. A source of child maltreatment data heavily relied upon in the past have been clinical studies. Data in clinical studies are collected by the clinician, whether is it a social worker, psychologist, psychiatrist, or marriage counselor. Although clinical studies have the potential of providing very detailed information, they tend to utilize small, non-representative samples, unsophisticated sampling techniques, lack comparison groups, and as a result are limited in terms of generalizability.

Given these problems with clinical studies, the two main sources of data used today to estimate the incidence and prevalence of maltreatment are official statistics and population surveys. Since official statistics represent only those cases reported by professionals to the authorities (law enforcement, educators, medical personnel, etc.), it is suspected that they grossly underestimate the actual prevalence of maltreatment. In fact, for every one case of maltreatment officially reported, it is suspected that there are three cases that remain unreported (Varghese and Mouzakitis, 1985). In addition, official statistics are limited because they indicate a class bias, rely on a voluntary

reporting process, and are tied to a bureaucratic process (Doerner, 1987).

The largest official source of child maltreatment data is the National Child Abuse and Neglect Data System (NCANDS), which is the Administration on Children, Youth and Families primary data collection, analysis, and information dissemination program on child maltreatment (U.S. Department of Health and Human Services, 1999). NCANDS was established by the National Center of Child Abuse and Neglect and represents all child maltreatment cases reported to states' child protective services agencies. Professionals in various fields who come into contact with children are required by The Child Abuse Prevention and Treatment Act of 1974 (Public Law 93-247) to report suspected child abuse and neglect cases to NCANDS. However, this official measure is questionable in the end since the definition of child abuse and reporting practices vary from state to state.

According to the most recent NCANDS figures for the year 1997, states reported that nearly three million children were alleged victims of maltreatment.[4] From these reports, the national rate of children who were brought to the attention of Child Protective Services (CPS) agencies was about 42 children per 1,000 children in the population under the age of 18.

Fifty-four percent of all maltreatment reports were made by professionals (legal, medical, educational, law enforcement, mental health, day care, or social service personnel); 26.4% were made by parents, family members, friends, neighbors, and

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[4] Figure is based on reports from 45 States.

alleged victims; and 20% of the reports were made by unknown sources, other sources, or alleged perpetrators.[5] The distribution of child maltreatment reporting sources has remained constant since 1990 with educators representing the largest single source and law enforcement representing the second largest source of reports to a CPS agency.

Of all investigations conducted by a CPS agency, one-third of the investigations resulted in a disposition of either substantiated or indicated child maltreatment (33.8%). Slightly more than half of the investigations resulted in a finding that child maltreatment was not substantiated (56.2%).[6] Ten-percent of the CPS investigations resulted in a finding other than child maltreatment or resulted in no finding at all. Therefore, according to the investigations conducted by CPS agencies, there were approximately 984,000 victims of child maltreatment nationwide during the year of 1997, which was a decrease from more than one million in 1996.[7] This calculates to a rate of victimization for 1997 of 13.9 per 1,000 children. The rate of victimization has been steadily declining since 1993 when it peaked at 15.3 per 1,000 in the population. However, the 1997 rate is still slightly higher than the 1990 rate of 13.4 per 1,000 which was when the first NCANDS data were collected.

For 1997, approximately 53% of the victims experienced neglect (440,944), 24% experienced physical abuse (197,557), 12% were sexually abused (98,339), 6%

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5 Figures are based on reports from 42 States.

6 Figures are based on reports from 46 States.

7 Figure is based on reports from 44 States.

experienced psychological abuse or neglect (49,338), 2.3% experienced medical neglect (18,894), and 10% experienced other types of maltreatment such as abandonment, congenital drug addiction, or threats to harm the child (103,576).[8,9] When comparing these figures to the 1990 estimates, the proportion of victims who were neglected increased by 7.5%, whereas the proportion of those who were sexually abused declined by 4.8%. Also, compared to 1990 estimates, the proportion of victims who were physically abused declined by 2.3%, and the proportion of those who were victims of other types of maltreatment increased by 2.5%.

Prior to the development of the NCANDS, the National Center on Child Abuse and Neglect (NCCAN) contracted with Westat, Inc. to conduct the first National Incident Study (NIS-1) on child abuse and neglect in 1979-1980. The second National Incidence Study (NIS-2) was conducted in 1986. These studies represent official reports of maltreatment known to various professional agencies such as investigatory agencies (e.g., law enforcement, courts, etc.) and community institutions (e.g., educators, physicians, hospitals, etc.). The substantiated maltreatment incidence rate for the NIS-1 was 10.5 per 1,000 in the population. The NIS-2 used two operational definitions for maltreatment. Based on a more conservative definition that required the victim to have identifiable harm, the reported rate of maltreatment was 14.8 per 1,000

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[8] Figures are based on reports from 43 States.

[9] Since children could have been victims of more than one dimension of abuse, the total percentage exceeds 100%.

in the population. When a broader definition was used that considered endangered children who are at risk of harm, the reported rate increased to 22.6 per 1,000. The most recent National Incidence Study (NIC-3) reported the rate of maltreatment to be 13.1 per 1,000 children (Sedlack and Broadhurst, 1996). Different reporting policies and maltreatment definitions across states results in different outcome classifications, even for children with similar experiences (NCCAN, 1996).

Another source of data on child maltreatment, besides official statistics, that researchers rely on for prevalence estimates are national population surveys. There are several advantages of self-report population surveys. First, they can provide a more representative sample of maltreated children because they do not rely on reports made by professional agencies. Second, self-report surveys can be broader in their definition of child maltreatment and, therefore, provide a more holistic view of this issue. Despite these advantages, just as official statistics have their own unique limitations, findings from self-report surveys are suspect for several reasons. One major criticism of self report surveys involves imprecise indicators. For example, some studies include spanking in their definition of physical punishment and others may exclude it. Another limitation relates to the internal and external validity of a study's findings, such as whether the group under study was drawn from an institutionalized or clinical population (Doerner, 1987). Individuals may be affected by social norms and are, therefore, reluctant to report that they engage in deviant behavior. Furthermore, individuals who are victims of maltreatment or who engage in abusive behavior may not remember their experiences.

Again, despite these methodological limitations, just as with any crime statistics, the field relies on self-report surveys for estimates of maltreatment. According to a national self-report survey of 6,002 men and women, one out of eight individuals reported witnessing at least one violent incident between parents while growing up (Gelles and Straus, 1988). Interviews conducted with a national random sample of families indicated that 18% of children in the U.S. experienced severe child abuse (kicked, bit, punched, beat up, burned or scalded, or threatened with or used a gun or knife) at least once (Straus and Gelles, 1988). More recently, data from the National Family Violence Survey reported prevalence rates for physical abuse of 49 per 1,000 (Straus et al., 1997). As pointed out by Straus et al. (1997), the physical abuse rate reported by the National Family Violence Survey is eleven times higher than the physical abuse rate reported by the NCCAN (1994) and five times greater than the rate reported by the NIC-3 (Margolin and Gordis, 2000). Even with national surveys based on national probability sampling procedures, it is still suspected that child maltreatment is grossly under-reported. Together, the literature across multiple methods of data collection indicates that the maltreatment of children in today's society is disturbingly high.

As alarming as these rates are, the outcome and financial costs of child maltreatment also presents a dismal picture. Medical intervention in cases of child abuse are extremely costly and the outcome is often significantly worse than for other diseases (Irazuzta et al., 1997). Children arriving at Pediatric Intensive Care Units (PICU) who have suffered some form of maltreatment require an extensive work-up,

including both physiological and neurological examinations. Out of 937 admissions to the Pediatric Intensive Care Unit (PICU) in a hospital in California for child abuse, for example, the medical bills ranged from $12,200 to $115,6000, with an average cost of $35,641. These figures include total physician care, from pediatric internists, radiologists, ophthalmologists, plastic surgeons, general surgeons, and neurosurgeons.

While there are difficulties in measuring child maltreatment and prevalence and incidence rates differ depending on how it is defined and measured, all indicators show that large numbers of individuals are victims of maltreatment during childhood. According to the U.S. Advisory Board on Child Abuse and Neglect, child maltreatment is a social 'epidemic' that calls for national attention and response (National Research Council, 1993). It is clear that maltreatment results in high costs socially and economically.

Child Maltreatment and Criminality

In addition to the high social and economic costs of identifying and treating child maltreatment there are other costs associated with its occurrence. One social cost of child maltreatment is its causal relationship with criminality. Determining the source of causality of any human behavior, such as delinquency, is a difficult task, especially in the natural environment where controls are difficult to achieve. Prior research has established many variables that increase the likelihood of youth committing delinquent acts. Among these factors are child maltreatment, family criminal involvement, substance abuse, and demographic factors such as gender, age,

and age at first offense. Overall, research findings support the idea that no single factor accounts for all delinquency and that no single pathway leads to a life of crime (Tolan and Gorman-Smith, 1998).

In addition to the numerous risk factors that can influence the development of antisocial attitudes and behavior, youth experience a difficult period of transition during early adolescence. This is a time when youth experience changes in physical development, emotional adjustment, cognitive abilities, and self-esteem (Nilzon and Palmerus, 1997). Family life events and dynamics have been found to have a significant influence on the development of adjustment difficulties during this time.

A recurring theme in the juvenile delinquency literature is the importance of a healthy home environment characterized by parental affection, cohesion, and parents' involvement in their children's daily lives. When these elements are missing, and when parents associate appropriate discipline with physical abuse, healthy development is impeded and the child's risk of delinquency increases. Numerous research studies have found maltreatment to be a risk factor for delinquency. Greater risks exist for general and violent offending when a child has been maltreated during childhood. Such a child is more likely to begin offending earlier and to be more involved in delinquent activities than children who have not been maltreated earlier in life.

This section reviews the research literature on the relationship between child maltreatment and criminality. First, the literature on the basic relationship between child maltreatment and general criminal offending is discussed. Next, the literature is reviewed that examines the relationship between child maltreatment and violent

offending. These two sections are included because of their importance to the subjects in the present study.

The Relationship Between Maltreatment and Delinquency/Adult Criminality

The majority of children and adolescents who experience maltreatment do not become delinquent or adult offenders, although a high proportion of people who commit crime also experience maltreatment. The central hypothesis of the maltreatment and delinquency relationship is that disrupted social and emotional development can lead to problem behavior. Research has shown that child maltreatment can greatly impact healthy development. Healthy emotional and social development is the foundation for law abiding behavior.

Early research on the relationship between maltreatment and delinquency tended to be cross-sectional and retrospective in design. Alfaro (1981), for example, examined juvenile court histories of all children referred to a protection agency in New York during 1952 and 1953 (N=4,465). Findings indicated that by 1967, 10% of the maltreated children were delinquent or ungovernable, compared to 2% in the State of New York overall. A study of 226 male and female delinquents incarcerated in four New Jersey training schools found high levels of childhood maltreatment (Geller and Ford-Somma, 1984). According to another study of juvenile delinquents, two-thirds of the sample reported that they had been beaten with a belt or extension cords, 33% were beaten so severely that they were bruised, and 32% were beaten at least five times during childhood. A survey of incarcerated male delinquents in Nevada found 47% to

have been physically abused as children and 10% to have been sexually abused (Mason et al., 1998). These studies document the high prevalence of child maltreatment among delinquent populations and are consistent with prior studies that have found high rates of abuse among incarcerated youth (Spaccarelli et al., 1997). Moreover, Gray (1988) reports that retrospective studies have documented a higher prevalence of child maltreatment among juvenile delinquents than in the general population of youth.

A review by Howling et al., (1990) indicates that studies based on official records have found that between nine and 26% of delinquents have records of abuse whereas studies based on delinquents' self-reports of abuse indicate that the figures tend be between 51% and 69%. This difference in official reports and self reported maltreatment experiences implies that a large potion of abuse/neglect incidents are not reported to official records. However, studies that have used random or comprehensive sampling procedures have found consistent estimates of child maltreatment rates among youth in the juvenile justice system (Dembo et al., 1994). Rates range between 25% and 31%.

Studies examining child maltreatment using incarcerated adult samples find similar trends. Sixty-eight percent of randomly selected adult male felons incarcerated in a New York State correctional facility self-reported experiencing childhood victimization (physical abuse, sexual abuse, or neglect) before the age of 12 (Weeks and Widom, 1998). Interestingly, violent offenders reported a significantly higher amount of neglect than nonviolent offenders. Using official data, Dutton and Hart (1994) reviewed the records of 604 adult males incarcerated in seven prisons in the

Pacific Region of Canada. Based on information obtained from institutional files it was determined that 41% of the inmates sampled experienced some form of childhood abuse. Thirty-one percent of the sample reported physical abuse, 11% reported sexual abuse, and 13% reported experiences with neglect. From a review of the literature, it is apparent that child maltreatment is prevalent among both delinquent and criminal populations.

Critics of this research, however, contend that the cross sectional approach is methodologically inadequate and does not allow one to make causal arguments about the relationship between child maltreatment and delinquency/criminality (Doerner, 1987). In fact, there are numerous criticisms of existing research supporting the correlation between child maltreatment and juvenile delinquency (Schwartz et al., 1994). Kobayashi et al., (1995) assert that many of the studies that report a casual link between child abuse and juvenile delinquency are characterized by methodological difficulties and are limited because of their reliance on self-reported retrospective data. To address the methodological shortcomings of cross sectional designs, researchers began to use prospective longitudinal designs to explore the relationship between maltreatment and criminal behavior.

One of the first prospective studies on the link between child maltreatment and criminality was conducted by McCord (1983). In McCord's (1983) longitudinal study, 232 males were identified by case files written between 1939 and 1945 as being either

'neglected,' 'abused,' 'rejected,' or 'loved' during their childhoods.[10] After examining official records forty years later, it was determined that the groups had significantly different involvement levels with delinquency. Specifically, 45% of the neglected or abused males committed a serious crime, became mentally ill, became alcoholics, or died unusually young.

One of the most widely cited longitudinal studies was conducted by Widom (1992). Widom conducted a prospective study which followed 1,575 cases in the Midwest from childhood for 20 years through young adulthood to examine the long-term consequences of abuse and neglect. The sample included a total of 908 individuals who experienced substantiated abuse or neglect and a matched group of 667 individuals who did not experience abuse or neglect. The comparison group was matched according to sex, age race, and family socioeconomic status. Findings indicated that individuals who were abused or neglected as children were more likely than those who were not abused or neglected to be arrested for delinquency as juveniles and for committing crime as an adult. Specifically, being abused or neglected increased the likelihood of being arrested as a juvenile by 53% and as an adult by 38%. From this work Widom stresses the need for early intervention and special attention to

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10 Those who had been continually subjected to harsh, physical punishment were categorized as 'abused.' Those who did not receive attention nor affection, or interacted with parents infrequently were categorized as 'neglected.' Those who had at least one parent who cared about their well-being were categorized as 'loved.' Those who were not abused nor neglected, but were not loved by one parent were categorized as 'rejected.'

be directed towards abused and neglected youth since this group is at the highest risk for delinquency, criminality, and violence.

Another prospective study conducted in the most populated county in North Carolina tracked three random samples of children through school and juvenile court records (Zingraff et al., 1993). The three samples included one maltreated sample and two non-maltreated comparison samples (school and impoverished samples). A comparison of the maltreated sample and non-maltreated samples showed that the overall experience of maltreatment places children at a higher risk for involvement in delinquency. However, after controlling for age, sex, race, and family structure, the effect of maltreatment on delinquency was significantly reduced. Based on their findings the researchers argue that the relationship between child maltreatment and delinquency has been exaggerated (Zingraff et al., 1993). They attribute this conclusion to two reasons. First, the studies measuring the relationship are plagued with methodological problems and, second, delinquency is only one of many possible consequences of maltreatment.

In contrast, a more recent study using data from the Rochester Youth Study in the Northeast supported a relationship between child maltreatment and delinquency (Smith and Thornberry, 1995). Official arrest records were compared to self-report data and provided evidence that a history of maltreatment was significantly related to more serious forms of delinquency. A history of maltreatment increases the probability that a juvenile will be arrested for delinquency by .13 (from .32 to .45). Moreover, children who experienced multiple types of maltreatment and chronic or severe

maltreatment had higher rates of delinquency.

Most recently, Widom and English (1999) replicated findings from Widom's 1992 study and extended their generalizability using a sample from the Northwest region of the U.S. that includes Native American Indians in addition to Whites and Blacks. The sample of substantiated cases of child abuse and/or neglect was identified from court records during the years 1980-1985. The comparison group was obtained by birth records and were matched on the basis of age, race/ethnicity, gender, and approximate family social class. The abused and/or neglected individuals in the sample (N=900) were significantly more likely than the control group (N=900) to be arrested for a delinquent offense and for an offense as an adult (Widom and English, 1999).

These empirical studies are examples of the numerous research efforts conducted during the 1980s and 1990s that investigated the relationship between two major social issues: child maltreatment and delinquent/criminal offending. Given this wealth of empirical evidence, what we do know is that children and adolescents who are maltreated are at a higher risk for delinquent or criminal behavior later in life. Further evidence of a maltreatment and delinquency link may encourage the development of appropriate treatment for institutionalized youthful offenders.

The Relationship Between Maltreatment and Violent Offending

In addition to the research on the relationship between child maltreatment and general criminality, there is also a body of literature on the transmission of violence across generations. The terms 'cycle of violence,' 'violence begets violence,' and

'intergenerational transmission of violence,' are used interchangeably in literature when discussing the link between child maltreatment and violent behavior. This is the idea that being exposed to abuse (physical abuse, neglect, sexual abuse, and witnessing violence in the family) as a child increases the likelihood of engaging in violent behavior later in life. Some research suggests that parents who were physically abused as children may be more likely than others to abuse their own children (Kaufman and Zigler, 1987; Raymond, 1981; Helfer and Kempe, 1968). There are several reviews in the literature on the relationship between child maltreatment and violent behavior (Widom, 1989b; Gray, 1988; Garbarino and Plantz, 1986). Findings from early studies testing this relationship were mixed.

Widom (1989b), for example, reviewed twelve studies that examined the relationship between abuse, neglect, and violent behavior. Several of these studies that used samples of delinquents found support for a relationship between abuse and later violent behavior. For example, an early study of incarcerated boys in Connecticut found those who witnessed or were victims of violence as children were more violent than boys who were not exposed to violence during childhood (Lewis et al., 1979). Of a sample of 114 violent male delinquents, 30% had witnessed or experienced some form of family violence, 15% were victims of physical abuse, and 2% were sexually abused during childhood in the home (Hartstone and Hansen, 1984). Next, a relationship between severe childhood abuse and committing murder was found by Lewis et al., (1985). Of nine children who were clinically evaluated during adolescence and later committed murder, 88% had been victimized by one or both

parents compared to 58% of the nonviolent comparison group youth. In addition, statistically sophisticated analysis was performed by Geller and Ford-Somma (1984) in their examination of the relationship between specific forms of violent behavior and a history of abuse among a sample of 226 incarcerated juvenile offenders in New Jersey. This analysis found that the more the offenders were victimized by routine violence (being hit with a belt or stick or by some other hard object), the more violent crimes they committed.

In another study 101 delinquent adolescents were referred to a psychiatric institute for services (Tarter et al., 1984). Twenty-seven of these adolescents were abused as children while 74 were not. According to information from past records, probation officer reports, and psychiatric interviews, 44% of the abused delinquents committed assaultive crimes compared to 16% of the non-abused delinquents. In a similar analysis, of 30 randomly selected adolescents at a psychiatric hospital, 15 were admitted for assault and the remaining 15 had no prior evidence of assaultive behavior (Blount and Chandler, 1979). Eight out of the 15 admitted for assault had prior abuse histories while only 3 of the 15 had a history of abuse.

Widom also reviewed two studies using samples of emergency room patients that provided tentative support for the cycle of violence. When comparing violent patients receiving services from an emergency room in Boston to a non-violent control group, violent patients were more likely than the controls to have been abused by their mothers or fathers (Climent and Ervin, 1972). For example, 16 out of the 40 violent patients were physically abused by their fathers compared to only 6 out of the 40

nonviolent individuals in the control group. Also, the violent behavior of samples of abused and non-abused children who were receiving psychiatric treatment at a city hospital were compared (Monane et al., 1984). Comparisons showed that 72% of the abused sample had been extremely violent while only 46% of the non-abused patients were violent.

Several studies examining the relationship between witnessing violence and later violent behavior provide further support for the cycle of violence hypothesis. For example, in a study of dating violence among high school students, Head (1988) reported that males who witnessed violence between their parents were four times as likely than males who did not witness violence to inflict violence on a dating partner.

While these and other studies lend support to cycle of violence hypothesis, Widom (1989b) notes that there are findings from several studies that do not support this hypothesis. A study by Kratoski (1982) examined case files of 863 confined delinquents who were divided into two groups: those abused and those not abused. The abused delinquents were assessed as not being more violent the non-abused delinquents. Similar findings were reported by Guiterres and Reich (1981) in that the physically abused children were more likely than the non-abused children to be arrested for nonviolent acts such as truancy, running away, etc.

Researchers have advised caution in interpreting findings from early studies due to methodological problems. These methodological problems have been well-documented by Widom (1989b) and by Conway and Hansen (1989). Studies conducted during the 60s, 70s, and 80s are criticized for failing to specifically define

the phenomenon of interest, having an over-reliance on retrospective designs, using weak sampling techniques involving convenient samples, an over-reliance on correlational analysis, not distinguishing between abuse and neglect, failing to examine the long-term consequences of abuse and neglect, and a lack of appropriate control groups (for a review, see Widom, 1989b; Conway and Hansen, 1989).

Along with methodological criticisms of studies that examine the cycle of violence hypothesis, controversies remain as to the existence of such a cycle. Moreover, studies examining the cycle of violence hypothesis have produced rates that vary between 18% and 70% (Kaufman and Zigler, 1987). Kaufman and Zigler (1987) suggest that rates have been overestimated and that a more accurate rate of the cycle of violence is approximately 30%. This rate that was supported by Oliver's (1993) review of the literature.

More recent research has addressed some of the methodological shortcomings of earlier work. Widom's (1992) study (previously mentioned) using a prospective matched sample found that being abused and neglected increased the likelihood of a violent crime by 38%. Dodge et al.'s (1990) study, using a random sample of 309 children during kindergarten registration in three different geographic areas, examined whether physical violence during childhood affected the development of aggressive behavior. Findings showed that children who were physically abused were significantly more likely to be more aggressive than children who did not experience abuse. These findings held regardless of ecological and biological factors and were consistent across three methods of ratings (teacher ratings, peer ratings, and observer

ratings). Moreover, this study provided support for the cycle of violence in that children who have been physically abused process social information differently than children who were not physically harmed. Compared to children who were not abused, harmed children tended not to be aware of important cues, attributed hostile intentions to other children, and were less likely to have solutions to interpersonal problems.

More recently, Maxfield and Widom (1996) revisited the cycle of violence issue by examining over 20 years of official criminal records on a sample of abused/neglected children and a matched control group. Findings indicated that being abused/neglected increased the risk of being arrested for a violent crime by 29%. The arrest rates for those with abuse histories were 21% followed by the arrest rates for those who were neglected (20%).

Overall, the results from the more recent studies with improved methodologies indicate increased support for the cycle of violence hypothesis. Independent of other risk factors, it appears that individuals who are maltreated as children have a significantly greater likelihood of engaging in violent behavior.

Together, the results from both the studies on the relationship between child maltreatment and general delinquency/criminality as well as violent offending indicate that it is a substantial risk factor in the etiology of both general and violent offending. What is clear from this literature is that child maltreatment within the family presents a serious vulnerability to both offending later in life and violent offending in particular. Moreover, this risk factor appears to have long-term criminogenic effects into late adolescence and early adulthood (Hawkins et al., 1998). While beyond the scope of the

present study, this literature suggests that reducing child maltreatment could produce significant benefits towards preventing crime.

Psychological Consequences of Child Maltreatment

In addition to the relationship between various forms of child maltreatment and criminality, there is also a large body of research documenting its relationship with psychological dysfunctions. Often, this research examines, specifically, the influence of child maltreatment in the form of family violence. It is impossible to determine the exact cause or causes of child maltreatment that applies to all children and families. Children who were subjected to maltreatment have several different pathways that they can take depending on how the maltreatment effects their adjustment. The consequences of maltreatment may disrupt children's normal developmental progress during their childhood, adolescence, young adulthood, and through their adulthood. Children are especially vulnerable to the effects of childhood maltreatment because of the potential disruptions to their developmental trajectories (Booney-McCoy and Finkelhor, 1995). According to Widom's (2000) most recent work, children who have been maltreated are at risk for adjustment difficulties at any time during their childhood, adolescence, teenage years, young adulthood, and adult life.

> It also is possible that abuse or neglect may produce immediate effects that then irremediably affect subsequent development, which it turn may affect later outcomes (Widom, 2000: 7).

Initial consequences of psychological childhood maltreatment may include anxiety, depression, and posttraumatic stress disorder symptoms, which may in turn lead to a

disruption in age-appropriate developmental stages. Unfortunately, survivors of maltreatment are at risk for experiencing adjustment problems throughout their life.

There are many ways in which juveniles are maltreated in today's society. Children and adolescents, for example, may be direct victims of violence in their schools, neighborhoods, or homes. They may also be exposed to violence by viewing others with weapons, or by witnessing violent, traumatic events. A large body of research has documented the high rate in which children and adolescents come into contact with various forms of violence. This is particularly true among institutionalized youth. Moreover, studies have further documented the negative psychological consequences experienced by individuals who are exposed to violence and general maltreatment in the home. The following section presents some of this research to provide a background for the present study. Since the present study addresses only the micro-level relationship of exposure to violence within the family, only this research is presented.

Violence in the Family

As we move into the twenty-first century, we cannot deny the fact the violence has become a common element in the lives of many adolescents living in the United States. Between 1980 and 1997, nearly 38,000 juveniles were murdered in the U.S. (Synder and Sickmund, 1999). In 1997 alone, approximately six juveniles were murdered daily. Younger children (age six and younger) were most likely to be murdered by a family member. In addition, juveniles between the ages of 12 and 17

are as likely as young adults between the ages of 18 and 24 to be victims of violence.

Not only are juveniles frequent victims, but they are also exposed to violence by viewing others with weapons (Chao et al., 1998). For many children, home is no refuge from violence at school. For example, a survey of 1,000 middle and high school students found that 23% had witnessed a murder and 40% of these murder victims were family, friends, neighbors, or fellow students (Shakoor and Chakmers, 1989). A survey of 359 elementary school children in Chicago found that 17% witnessed parents or other relatives fighting (Dyson, 1990).

A common theme in the psychological literature on children's reactions to violence is that they are significantly more likely to experience a wide variety of emotional difficulties compared to children who are not exposed to violence in the home. Numerous studies have documented negative psychological consequences of violence exposure, both in the community and family, such as symptoms of posttraumatic stress disorder, anxiety, and depression (Kliewer et al., 1998; Singer et al., 1995; Freeman et al., 1993; Martinez and Ritchers,1993; Fitzpatrick and Boldizar, 1993; Breslau et al., 1991; Pynoos and Nader, 1988; Pynoos et al., 1987; Pynoos and Eth, 1984).

The literature clearly documents the negative consequences of violence and other forms of maltreatment in the home. According to Cummings (1998), a complete reaction and response to a traumatic situation, such as child maltreatment, can occur over a period of time. Therefore, developmental, emotional, and behavioral reactions to maltreatment may emerge at a later point in time. In other words, victims are not

only at risk for adverse consequences during the immediate aftermath of the victimization experience. The consequences of child maltreatment may not be short lived, and thus affect individuals into adulthood (Margolin and Gordis, 2000). In fact, reactions to stressors in the family are said to occur in at least two, if not more, phases (Laumakis et al., 1998). Hence, the process by which children react and adjust to being exposed to violence between parents is complex (Cummings, 1998).

Clinical studies, for example, have found that exposure to family violence is related to feelings of anxiety (Pynoos and Eth, 1985), depression (Freeman et al., 1993; Allen and Tarnowski, 1989; Kazdin et al., 1985), other symptoms of posttraumatic stress disorder (Garbarino et al., 1992; Pynoos et al., 1987), and withdrawal (George and Main, 1979; Kagan, 1977; Martin and Beezley, 1977).

Other non-clinical studies, however, have also examined the mental health effects of children's and adolescents' exposure to violence in the family. Childhood trauma plays a significant role in the development of mental disorders. Psychological consequences similar to the effects on youth exposed to war and sniper attacks have been reported in the trauma literature: posttraumatic stress disorder, chronic anxiety, low self-esteem, and depression (Lipovsky et al., 1989; Maxfield and Widom, 1996; 1989; Famularo et al., 1993; Dodge et al., 1990; Hibbard et al., 1990; Browne and Finkelhor, 1986; Lewis, 1992; Council on Scientific Affairs, 1993). While the severity of symptoms is not surprising among victims of war-torn areas, the symptoms are surprising when considering that these juveniles are survivors of abusive families. What is perhaps most surprising is that the effects are measurable, even when children

are bystanders to the main events of the family drama.

One of the most commonly studied psychological consequences of family violence as it relates to child maltreatment is posttraumatic stress disorder (PTSD).[11] Over the past ten years much research has focused on the concept of PTSD as a psychological consequence of child maltreatment, and particularly for cases of childhood sexual abuse. PTSD and its symptoms are reactions individuals have from being exposed or experiencing a traumatic event or situation, and particularly if they had previously been exposed to severe stress. PTSD symptoms help explain how brief and discontinuous events, such as various dimensions of maltreatment, can negatively impact adjustment over an extended period of time (from months to years) (Wolfe et al., 1993). An eliciting stimuli such as an association with places, persons, or odors, can lead to maladaptive responses by children or adult victims long after the abuse took place (Baum et al., 1990). Studies have found symptoms of PTSD and other trauma related psychopathology to be associated with abuse, neglect, sexual molestation, and witnessing violence (Groves, 1996; Kiser et al., 1991; Deblinger et al., 1989; Steiner et al., 1997). Posttraumatic stress may involve nightmares, flashbacks, irritability, and

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11 "Posttraumatic Stress Disorder (PTSD) is a psychiatric diagnosis applicable to many children who have suffered traumatic experiences. In the current Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) (American Psychiatric Association, 1994), the diagnosis of PTSD requires: (a) experience of a traumatic event(s); (b) re-experiencing of the trauma in one of several different thought, emotional, or behavioral forms; (c) emotional blunting or overall numbing of responsiveness; (d) persistent symptoms of increased arousal, particularly when exposed to stimuli concretely or symbolically reminiscent of the trauma; (e) symptoms lasting at least one month" (Famularo et al., 1994: 28).

violent outbursts and can last for years if left untreated. However, according to a study by Famularo et al., (1993), the development of PTSD among children depends on the type, severity, and duration of the maltreatment. The effects of five forms of child maltreatment were assessed on the development of PTSD among 101 children between the ages of 6 and 12 (Famularo et al., 1993). The children who had histories of sexual abuse, emotional maltreatment, or witnessing violence in the family were most likely to develop PTSD, compared to the other two forms of maltreatment. In addition, the intensity of PTSD was related to the duration of the experience.

Child maltreatment can also take the form of witnessing family conflicts. Hershorn and Rosenbaum (1985) compared children of battered women to children from homes characterized by marital conflict and did not find differences among the two groups of children in behavior or personality. Moore and Pepler (1998) suggest that children exposed to family violence experience similar stressors as children exposed to marital conflict, such as later poor adjustment in school. Individuals who are exposed to parental conflict and violence may have feelings of anxiety and engage in aggressive behavior (Cummings, 1998). Many children who continually view conflict among parents feel that they are being psychologically abused, and respond to it in a highly emotionally way.

A study by Jouriles et al., (1988) examined children's adjustment problems who witnessed parental violence. This study, however, examined the internalizing (anxiety and depression) and externalizing (behavior problems) consequences experienced by children who witnessed extremely severe interparental violence: violence involving the

threat or use of knives or guns. From the sample of 155 children between the ages of eight and 12, children who witnessed violence between their parents involving knives or guns experienced more severe adjustment difficulties than children who did not witness such violence with weapons.

In a comprehensive review of 19 studies that examined the relationship between marital conflict and adjustment problems during childhood, Grych and Fincham (1990) determined that 15 of these studies provided evidence of a consistent and modest relationship between parental conflict and poor childhood adjustment. Turner and Barrett (1998) recently used Grych and Fincham's (1990) cognitive-contextual framework to examine the effect of marital conflict on adolescent adjustment and found a direct relationship between the two.

It is extremely difficult to measure the incidence and prevalence of children and teenagers who witness violence between their parents. The majority of research in this area have used samples of elementary school-aged children whose mother's are seeking assistance from domestic violence shelters (Christopoulos et al., 1987; Davis and Carlson, 1987; Fantuzzo et al., 1997; Holden and Ritchie, 1991; Hughes, 1988; Hughes et al., 1989; Hughes et al., 1991; Jaffe et al., 1986a; Jaffe et al., 1986b; O'Keefe, 1994; Rossman and Rosenberg, 1992; Wolfe et al., 1986; Wolfe et al., 1985). Other studies have used community samples (Doumas et al., 1994; Kempton et al., 1989; Spaccarelli et al., 1994), clinical samples (Hershorn and Rosenbaum, 1985; Jouriles et al., 1989), or samples obtained from social service agencies (Rosenbaum and O'Leary, 1981; Sternberg et al., 1993). A high proportion of women who have received services from

domestic violence shelters report that their children are in need of clinical treatment (Hughes and Luke, 1998). Studies comparing children of abused women seeking assistance from a domestic violence shelter to children from non-violent households found a significant relationship between the amount of violence in the home and poor childhood adjustment (Wolfe et al., 1988). Regardless of the sampling method, the majority of this research has documented psychological adjustment difficulties associated with children who experienced the traumatic event of witnessing parental violence (Cummings and Davies, 1994; Fincham, 1994).

Researchers have also recognized that different forms of child maltreatment co-occur at high rates. According to O'Keefe's (1994) study of 185 children between the ages of 7 and 13, witnessing parental violence was a better predictor of internalizing and externalizing behaviors for males than parent-child aggression. Jaffe et al., (1986b) and Jouriles et al., (1987) found the opposite - parent-child abuse had more severe consequences than witnessing interparental violence alone. Other studies have found that the most severe adjustment problems occur for youth who both experience and witness violence (Davies and Carlson, 1987; Hughes, 1988; Hughes et al., 1989; O'Keefe, 1996). Interestingly, according to Sternberg et al.'s (1993) examination of 110 children between the ages of 8 and 12, those who witnessed parental violence only did not have significantly different levels of depression than those who were abused only or both abused and witnessed violence. Depression levels of youth in all three groups were significantly higher than the comparison youth who weren't exposed to either type of maltreatment. Hughes (1998) examined the psychological effects of the

co-occurrence of physical abuse and witnessing domestic violence. Children who were temporarily living in a domestic violence shelter were compared to children who had similar economic backgrounds on three measures of adjustment: depression, anxiety, and self-esteem. The shelter children were divided into two groups: those who were physically abused and witnessed parental violence and children who witnessed parental violence but were not abused by their parents. The comparison groups consisted of sample of children from the community who had not been exposed to any type of maltreatment. Results indicated that there was significantly more distress among children who were both abused and witnessed parental violence compared to the group of children who were not exposed to any type of child maltreatment. In addition, adjustment scores for the children who witnessed parental violence but were not physically abused were lower than the group who experienced both types of maltreatment, but were higher than the comparison group of children who did not experience maltreatment all (Hughes et al., 1989). However, in a similar study Dawud-Nourise et al., (1998) compared social adjustment scores of children who were prior victims of parental physical abuse, observed parental violence, and both observed parental violence and were victims of physical abuse. Although all three groups of children experienced high levels of maladjustment, scores did not vary tremendously across groups. Overall, therefore, it is safe to conclude that research has not yet established whether being the victim of childhood physical abuse or witnessing family violence has more serious consequences since the findings have been mixed. Due to the fact that maltreatment is not a unidimensional construct, it is important to consider

the effects of different types of maltreatment co-occurring. Knowledge of the consequences of child maltreatment is essential for the development of specific interventions and appropriate prevention efforts.

Prior studies on the consequences of child maltreatment have paid minimal attention to the severity aspect of maltreatment. Specifically, only a few studies have examined whether the severity of maltreatment is related to the extent of the children's psycho-social problems (e.g., Jaffe et al., 1986b; Rosenberg, 1987). It is important to examine the severity of maltreatment among groups of children and adolescents because base rates for minor forms are likely to be high among all delinquents (Spaccarelli et al., 1995). Since child maltreatment tends to be a reoccurring event, it is important to identify youth who have experienced severe levels of maltreatment because of its potential disruption on social development.

For example, a study by Heath et al., (1996) found that for both males and females, the level of severity of the childhood sexual abuse accounted for a large portion of the variation in levels of anxiety, depression, and other traumatic symptoms. Contrary to these findings, however, are those reported by Koverola et al., (1993) where the severity of sexual abuse was not found to be significantly correlated with the intensity of the victim's depression. The methodology of this study, however, is criticized for having a small sample size and for the absence of a control group. Few studies have examined the influence of violence severity on the extent of negative outcomes (Jaffe et al., 1986a; Rosenberg, 1987). Nevertheless, disregarding the variation in the seriousness of child maltreatment obscures potentially different effects

on childhood adjustment (Jouriles et al., 1998).

It is quite possible that children exposed to extremely severe levels of maltreatment will experience more adjustment difficulties than children exposed to less severe levels of maltreatment. This is consistent with research that has examined the consequences of marital conflict. For example, children who witness marital conflict regarding children or child rearing issues have the highest likelihood of experiencing negative adjustment problems compared to the children who witness conflict about other issues. In addition, children who witness marital conflict that is resolved satisfactorily experience less serious adjustment problems than children who witness unresolved marital conflict (see Cummings and Davies, 1994; Davies and Cummings, 1994; Grych and Fincham, 1990 for reviews).

A large body of literature has addressed the negative psychological consequences of child maltreatment. A majority of these studies have focused on short-term consequences among preschool and school-aged children (Blumenthal et al., 1998). Nonetheless, there are a few studies that have used adult samples to examine the psychological consequences of maltreatment, and these studies have established relationships between child maltreatment and long-term adjustment problems.

Towards examining the negative psycho-social consequences of child maltreatment more recent studies have examined these issues using both longitudinal and cross-sectional samples of adults. Varia et al., (1996) documented the detrimental effects of abuse (psychological, physical, and sexual) on later personality and social adjustment using a non-clinical sample of 173 adults. Those who experienced abuse

during childhood had more psychological and social adjustment problems than those who did not experience childhood abuse. The non-abused group in this study was described as having better personality adjustment and healthier social relationships than the abused group and were profiled as more conscientious, moderate, responsible, and patient. The abused individuals were described as more impulsive, temperamental, headstrong, demanding, and rebellious (Varia et al., 1996).

Similarly, Widom (1998b) describes the long-term consequences of child abuse and neglect in a prospective cohort study conducted in the Midwest. From interviews conducted with 676 men and women who were abused/neglected more than twenty years prior and interviews conducted with a control group, findings indicated that the abused/neglected group were significantly more likely to report having attempted suicide and to meet the criteria for having an antisocial personality disorder.

Another study focusing on the long-term consequences of maltreatment was conducted by Silvern et al., (1995). Using a large sample of college students (N=3,735), Silvern et al., (1995) conducted a retrospective study to examine the relationship between exposure to parental abuse and depression, self-esteem, and trauma-related symptoms. Again, this study was unique because it examined how exposure to violence influenced adjustment during adulthood rather than childhood. The findings from Silvern et al.'s study of retrospective reports of child abuse provided evidence that exposure to parental abuse does in fact have an impact on long-term adjustment.

To examine the relationship between childhood exposure to parental violence

specifically and adjustment problems during young adulthood, for instance, a birth cohort of 1,265 children were surveyed at age 18 (Fergusson and Horwood, 1998). Adjustment problems examined included mental health problems, drug abuse, and criminal activities. Findings indicated that individuals who reported high exposure levels of parental conflict had the highest levels of all three adjustment problems. Researchers concluded that children who are exposed to parental violence are at a significantly high risk of psycho-social adjustment problems during adulthood.

In an effort to better establish the long-term outcomes of witnessing marital conflict, Blumenthal et al. (1998) administered self-report questionnaires to a sample of 326 college students at an east coast university. Findings indicated that witnessing parental violence was significantly associated with higher levels of both depression and anxiety while controlling for demographics and other correlated stress experiences.

It is apparent from a review of the previous literature that there are negative psychological consequences for individuals maltreated as children. Given the high rate in which youth are maltreated in the home, and its documented negative effects on adjustment during childhood and young adulthood, there is a continued need to understand the relationship between child maltreatment and mental health outcomes. The incarcerated population is an appropriate group for this research attention since studies have shown the relationship between child maltreatment and criminality and that the prevalence of child maltreatment is high among institutionalized delinquents.

Consequences of Physical and Sexual Abuse

In addition to the negative psycho-social consequences of child maltreatment in general, a limited amount of scientific literature examines the specific consequences of various forms of maltreatment. Of the research that has focused on a specific form of maltreatment, the clinical literature has most often investigated the short and long-term consequences of childhood sexual abuse. Nonetheless, it is difficult to disentangle the effects of specific forms of child maltreatment because the rate of co-occurrence is high in most populations studied. In fact, Margolin and Gordis (2000) report that the child maltreatment literature is methodologically flawed because of the high rates of co-occurrence of exposure to numerous types of violence among youth. As a result, it is unclear if sexual or physical abuse have differential effects (Margolin and Gordis, 2000). For example, Dykman et al. (1997) found high internalizing symptoms among children who had prior experiences with physical or sexual abuse compared to a group of non-abused children, but did not find significant variation in symptoms across both abuse groups.

Studies have also noted high rates of PTSD in victims of both childhood sexual and physical abuse (Emery and Laumann-Billings, 1998). There is some evidence, however, that suggests victims of sexual abuse have higher levels of PTSD than victims of physical abuse (Sadeh et al., 1993). In addition, Toth and Ciccheti (1996) found that sexually abused children report significantly higher levels of depression than neglected and physically abused children. However, they included both physically abused and sexually abused children in the sexually abused group. This provides further evidence

that it is difficult to separate out the independent influence of specific forms of abuse on psychological dysfunctions.

Overall, studies examining initial effects of both physical and sexual abuse found a high proportion of the victim population to experience anxiety, depression, anger, hostility, guilt, and fear (Browne and Finkelhor, 1986; Conte and Shuer man, 1987; Finkelhor, 1990; Friedrich, 1990; Kolko, 1992; Kendall-Tackett et al., 1993; Koverola, 1992; Wolfe and Wolfe, 1988). For example, according to structured clinical interviews with a large sample of sexually abused children, almost half of the children in the sample met the criteria for PTSD (Wolfe et al., 1993). Comparisons of the PTSD group to the non-PTSD group found significant differences in anxiety and depression levels. Findings indicated that the nature and severity of abuse contributed to a large proportion in the variance of the PTSD symptoms. Caution is recommended in the overall interpretation of findings from studies that examined initial or short-term effects of childhood sexual abuse due to the fact that many of these studies did not have adequate comparison groups or standardized outcome measures. Overall, for posttraumatic stress disorder, the literature more consistently finds effects for sexual abuse than for physical abuse.

The majority of empirical studies examining long-term effects of childhood sexual abuse compare samples of adult men and women abuse survivors to non-abused control groups (Sigmon et al., 1996). These studies found adult abuse survivors to experience numerous long-term psychological adjustment difficulties compared to controls, such as more depression, anxiety, dissassociative experiences, and

interpersonal problems (Polusny and Follette, 1995; Silverman et al., 1996).

One of the most commonly studied areas of child maltreatment is the study of child physical abuse. Literature has examined the psychological effects of parental physical abuse. Allen and Tarnowski (1989) investigated the psychological consequences of abuse by comparing samples of physically abused to non-abused children. The abused sample was obtained from an abuse clinic in a large midwestern hospital and cases of abuse were physician-documented. The non-abused sample of children was obtained from the community and matched to the abused sample on demographic characteristics. Children in the abused samples scored significantly higher on measures of depression than the non-abused sample. These findings replicated earlier research by Kazdin et al., (1985) who found a direct relationship between physical abuse and depressive symptomatology.

According to the empirical literature, links between physical and sexual abuse and internalizing symptoms of depression and anxiety are well noted. Nonclinical and clinical studies of children and adolescents who were physically abused by their parents have documented high rates of depression compared to groups of non-maltreated children and adolescents (Kinard, 1980; Pelcovitz et al., 1994; Toth et al., 1992). Kaplan et al. (1998) found physical abuse to have the most predictive power of depression compared to all other factors examined (e.g., parenting risk factors). Moreover, the most common long-term psychological effect of childhood sexual abuse is depression (Browne and Finkelhor, 1986; Koverola et al., 1993; Briere, 1989; Finklehor, 1990; Russell, 1986; Wyatt and Powell, 1988; Peters, 1988). For example,

in a randomly selected community sample of 387 women, those who reported prior childhood sexual abuse had significantly higher depression levels than those who did not experience sexual abuse (Bagley and Ramsay, 1985). Specifically, 17% of the sexually abused group reported clinical symptoms of depression compared to only 9% of the non-abused group. Similar findings were reported in other studies with nonclinical samples (Briere and Runtz, 1985; Sedney and Brooks, 1984).

However, several clinical studies on the psychological effects of childhood sexual abuse have not produced statistically significant findings. Herman (1981) found high rates of depressive symptoms among the group of sexually abused cases as well as the group of non-sexually abused cases. Herman's (1981) findings replicated Meiselman's (1978) work and indicated that 35% of incest victims reported high depressive symptoms compared to 23% of the non-abused control group reporting depressive symptoms. These differences were not significantly different.

In addition to depression being the most frequently documented consequence of childhood physical and sexual abuse, anxiety is also cited as a common symptom of childhood maltreatment (Browne and Finkelhor, 1986). For example, in Briere's (1984) clinical study, 54% of those who reported prior experience with childhood sexual abuse also experienced anxiety attacks during adulthood. Twenty-eight percent of the non-abused respondents reported anxiety attacks. Similarly, Sedney and Brooks (1984) found 59% of those who had been victimized by childhood sexual abuse also displayed symptoms of anxiety among a sample of college students. Bagley and Ramsay (1985) found 19% of subjects in a community sample who were sexually

abused as children also suffered somatic anxiety compared to 9% of the subjects who did not experience sexual abuse. Other reviews of the literature have established strong links between physical and sexual abuse, anxiety and depression (see Kolko, 1992; Kendall-Tackett et al., 1993; Margolin and Gordis, 2000).

While a few studies have found gender differences in the long-term effects of childhood sexual abuse (Baum et al., 1990) two studies specifically examining this issue found men and women experience the same adjustment difficulties (Briere and Runtz, 1989; Briere et al., 1988). According to the findings from Briere et al. (1988), researchers concluded that it is not necessary to differentiate between gender when discussing psychological consequences of childhood sexual abuse. Overall, however, there is little conclusive evidence about the psychological consequences experienced by male survivors of childhood sexual abuse, since most of the research has focused on female only samples (Trickett and Putnam, 1998).

In a study by Sigmon et al. (1996) 19 males and 59 female survivors of childhood sexual abuse were recruited from local and national support groups. These individuals reported experiencing chronic sexual abuse over a number of years prior to the age of 18. When examining the standardized measures of current psychological adjustment, females who experienced childhood sexual abuse had significantly higher levels of trauma-related distress than males who experienced childhood sexual abuse. However; when looking at overall psychological adjustment between males and females, gender differences were not found. Similarly, a study by Gold et al. (1998) specifically examined psychotherapy similarities and differences between men and

women childhood sexual abuse survivors and concluded that the only significant differences found were attributed to anatomical differences.

In the past decade, there has been a lot of research attention devoted to the detrimental impacts of childhood physical and sexual abuse. The majority of the research on sexual abuse focused on female survivors and very little research attention was paid to males (Gold et al., 1998; Briere et al., 1988; Browne and Finkelhor, 1986; Faller, 1989; Vander Mey, 1988). The lack of attention to male sexual abuse survivors cannot be explained by the fact that males are infrequent victims of this form of childhood maltreatment. Data from community and clinical studies are beginning to show that childhood sexual abuse has been under-reported by males in the past.

The implication of the findings from the research presented above is that individuals who have a history of both childhood physical and sexual abuse are at a great risk for having mental health and adjustment problems during adolescence and adulthood. Therefore, it is extremely important for delinquents who have experienced these traumatic events to be appropriately identified for treatment interventions.

Maltreatment and Incarceration Issues

General mental health issues are particularly important when one examines institutionalized juvenile offenders. Not only are delinquents at a greater risk of experiencing various forms of child maltreatment and associated psychological dysfunctions, they are also at risk for increased psychological duress when placed in the secure environment of a correctional facility.

According to research on the causes of youths' conduct problems, harsh parental discipline practices have been established as a risk factor for delinquency, particularly among boys (Patterson et al., 1992). In addition to the importance of examining psychological consequences for youth who experienced childhood maltreatment, there is another reason why it is particularly important to examine these consequences using an incarcerated sample of youth (Wolfe et al., 1988). Not only are maltreated youth more likely to be arrested for criminal offenses in general, they are also at an increased risk for spouse abuse (Rosenbaum and O'Leary, 1981; Pagelow, 1981). This is consistent with social learning models that suggest continual exposure to violence within the family during childhood teaches children that violence is an acceptable method of resolving conflict (Herzberger, 1983). In sum, research has clearly established a strong association between childhood maltreatment and involvement in a later violent relationship (Kalmuss, 1984; Cappel and Heiner, 1990; Doumas et al., 1994).

As mentioned earlier, the literature has established child maltreatment to be more prevalent among institutionalized youth than in the general population, and several studies have documented high rates of psychological dysfunctions among samples of incarcerated delinquents. For example, according to self-reports by delinquents institutionalized in a correctional facility, 24% fulfilled criteria for PTSD (Burton et al., 1994). Of the 205 delinquents examined who were under the authority of the California Youth Authority, 16% were suffering from PTSD (Steiner et al., 1997). Delinquents with PTSD also show elevated depression and anxiety levels.

It is not surprising, therefore, that mental health issues are a serious concern of corrections personnel. Approximately 10% to 35% of incarcerated adults under state and federal supervision have serious mental health problems (Hunzeker, 1993). The prevalence of mental illness within adult correctional populations is estimated to be two to four times higher than rates in the general adult population (Teplin, 1990). One study estimates serious mental health problems among incarcerated juveniles to be between 20% and 40% (Ewing and Coleman, 1993). Other studies report the rate of mental health disorders among juvenile offenders to be as high as 60% (Cocozza, 1992). From a review of 34 studies examining mental health issues among the juvenile justice system, Otto et al., (1992) concluded that the rate of mental health problems among the incarcerated population is much higher than in the general population youth. Estimates for mental health problems for juveniles in the general population range between 14% to 22% (The National Coalition for the Mentally Ill in the Criminal Justice System, 1992). According to another study, one out of every five youth in the juvenile justice system is dealing with a serious mental health problem (Cocozza and Skowyrn, 2000). Overall, these estimates vary from study to study but are reported at consistently high levels.

Although the high rate of mental health problems among youth in the juvenile justice system has been documental by a number of studies, reviews of this research criticize many studies for being methodologically flawed. Many studies used biased, non-random samples, relied solely on retrospective case report data, used inconsistent definitions, and non-standardized measurement instruments (otto et al., 1992). One

reason why it has been difficult to measure and address mental health problems experienced by youth has to do with the varying uses and definitions of the terms "mental health disorder" and "mental illness" (Cocozza and Skowyrn, 2000). The phrase "youth with serious mental health disorders" often refers to specific diagnostic categories such as schizophrenia, major depression, and bipolar disorder. Youth who are diagnosed with a mental health disorder meet the formal criteria listed in the Diagnostic and Statistical Manual of Mental Disorders: Fourth Edition, DSM-IV (American Psychiatric Association, 1994). The term "serious emotional disturbance" (SED) refers to youth who have a diagnosable disorder that interferes with their day-to-day functioning. Research suggests that most youth in the juvenile justice system qualify for at least one mental health disorder and many qualify for more than one.

Despite these definitional issues in mental health research, in the past two years much attention has been paid at the federal level to the mental health needs of youth in the juvenile justice system (Cocozza and Skowyra, 2000). For example, the U.S. Department of Justice initiated a series of investigations to examine the lack of mental health services provided by juvenile justice facilities in several states. Also, the first national survey to document mental health services available to youth in correctional facilities was initiated by the U.S. Department of Health and Human Services (Center for Mental Health Services, 1998). In addition, several bills were considered by congress proposing mandated mental health screening and treatment within the juvenile justice system (Manisses Communications Group, Inc., 1999). Although the mental health needs of juvenile offenders have for the most part been ignored in the past, this

issue is now receiving attention by policymakers, practitioners, and advocates at the state and federal levels (Burns, 1999). Part of this attention can be attributed to recent changes in the juvenile justice system (Cocozza and Skowyra, 2000). During the 1990s the juvenile justice system experienced the "get tough on crime" movement and more youth were transferred to criminal courts, received longer sentences, and were subjected to lower minimum ages in which they could be prosecuted as adults (Altschuler, 1999). As a result, juvenile courts and corrections have been faced with mental health issues similar to those dealt with by the adult criminal justice system.

However, "in some states a wide gulf exists between juvenile corrections and mental health agencies" (Hunzeker, 1993: pp. 3). According to the National Mental Health Association (1999), to comprehensively address the mental health needs of institutionalized juvenile offenders multiple relevant agencies must coordinate and integrate strategies and services. Coordinated services should include coordinated strategic planning and budgets, multi-agency screening and assessment centers, training of staff across agencies, and team approaches to assessment and case management. Several states have successfully implemented systems of care initiatives that coordinate services provided by mental health agencies for youth confined to juvenile correctional facilities (e.g., Wisconsin, see Kamradt, 2000).

Characteristics of an institutional setting combined with the background characteristics of offenders creates a dynamic environmental atmosphere. It is important for correctional personnel to keep this in mind when developing appropriate mental health programming for offenders. What is even more challenging, however, is

the difficult task offenders have reintegrating back into society when they are released from institutions. The process by which inmates adjust to an institution has continued to receive attention in the field of corrections. Research on inmates' reactions to incarceration has primarily focused on behavioral measures of adjustment. It is, however, also important to examine the impact the institution has on psychological measures of adjustment. After all, since one of the primary goals of corrections is to rehabilitate offenders, it is important to understand how inmates adjust to the institutional environment. This issue is of particular concern for juveniles, since they offer the best hope for rehabilitation.

Many juveniles have problems adjusting to life in correctional institutions because their loose and unstructured behavior patterns on the outside were suddenly brought to an end by the process of arrest and incarceration (Zamble and Porporino, 1988). As a result, juvenile offenders may experience additional anxiety, which can be a barrier to positive change. It is important to note that some research on inmate change during incarceration indicates that prison inmates are most receptive to individual change during the early periods of incarceration, when emotional stress is high. However, after several months of incarceration, the high stress level tapers off, and the desire to change decreases (Zamble and Porporino, 1990). Identifying juveniles with high anxiety and depression levels, whether this difficulty was caused by institutional conditions, past experiences, or a combination of both, would allow treatment staff to direct attention to those who are experiencing negative emotions.

Anxiety and Depression

Anxiety is an unpleasant emotional state that occurs as a reaction to stress (Spielberger, 1972). When an individual is in a moderately anxious state their autonomic nervous system is activated and they experience feelings of tension, apprehension, and nervousness. High anxious states are often accompanied by feelings of fear and panic. Anxiety states occur when a stimulus or situation is interpreted as dangerous or potentially dangerous. Trait anxiety refers to individual differences in being prone to anxiety. Those who are high in trait anxiety are more likely to view situations as dangerous or threatening and feel tension due to a stimulus that is interpreted as stressful. Victims of child maltreatment often have high trait anxiety because they are constantly fearful in their home environment. Also, the literature indicates that children and adolescents who have troubled relationships with their parents are vulnerable to mild and serious psychopathology, such as increased anxiety (Pedersen, 1994).

Depression is a common emotion that is often described as feelings of sadness, anguish, dejection, and melancholy (Arieti, 1962). Where anxiety is associated with expectant danger, depression is characterized by a feeling that the dangerous event already took place. In other words, depression is a reaction that follows a cognitive processes where an individual evaluates the significance or impact of a specific event. For example, in the case of child maltreatment, depression would be an emotional response that follows the violent incident (or non-violent event, for cases of emotional abuse or neglect). Also, psychoanalytic research has documented the tendency for

depressed individuals to continually perseverate over previous disappointments, which invokes a feeling of helplessness that subsequently maintains the state of depression (Pedersen, 1994).

Depression is considered to be an abnormal emotion if a precipitating factor or cause cannot be identified. Depression is also considered abnormal if it becomes excessive, or if it is inappropriate in relation to the precipitating factor or cause (Arieti, 1962). Also, abnormal depression may replace other emotions, such as anxiety or hostility, because the individual is better able to cope with the depressive symptoms. When the depressive symptoms are so severe that they exceed stress experienced in everyday life, a diagnosis of a depressive disorder is appropriate. Depressive disorders are characterized as either bipolar, or non-bipolar, depending on whether manic episodes accompany the depressive state.

According to Izard's Differential Emotions Theory of Human Emotion, individuals have 10 fundamental affective states, seven of which are negative (anger, fear, sadness/distress, contempt, disgust, guilt, and shame/shyness), one is neutral (surprise), and two are positive (joy and interest/excitement) (Izard, 1972, 1977; Blumberg and Izard, 1986). Anxiety and depression are not basic emotions, but are instead experiences that emerge from the complex combination of these ten, basic affective states. The overall experience of anxiety is predominantly influenced by the emotion of fear, but it is also influenced by interactions among other basic emotions, such as anger, shame, guilt, sadness, and interest/excitement. According to this model, the emotion of fear is a prerequisite for anxiety, while interactions among the

secondary emotions vary according to the situation. Individuals who are exposed to danger, such as family violence, experience fear. Fear is directly related to one's ability to resist a perceived threat. Fear, however, is a temporary emotion; whereas anxiety is a lasting feeling of "doom" (Wolman, 1994: 5). For children who are continually exposed to some form of family violence, fear and stress are constant, since they feel that the threat of violence is always present.

The overall experience of depression is predominantly influenced by the emotion of sadness, but it is also influenced by interactions among other basic emotions such as disgust, anger, fear, and guilt. This model suggests that the emotion of sadness is a prerequisite for depression, while the presence and interactions of the secondary emotions vary according to the situation. Izard's Differential Emotions Theory explains why anxiety and depression emerge and has been empirically supported by studies with samples of children and adults (Blumberg and Izard, 1986).

Negative affective states are symptoms of discord between what individuals desire on a daily, weekly, or monthly basis and environmental constraints to these desires (Zautra et al., 1989). A number of research studies have established that undesirable daily, weekly, and monthly events can have a major influence on one's adjustment and the emergence and maintenance of negative affectivity. A correctional setting clearly represents an environment where an individual may regularly experience undesirable events.

Clinical research supports a strong association between anxiety and depression for children, adolescents, and adults. Numerous studies have found strong correlations

(between .50 and .80) between anxiety and depression scales (Watson and Kendall, 1989). High correlations between scales have been found for both self-report measures and clinicians' and teachers' ratings of anxiety and depression. Moreover, many children who experience depressive symptoms also experience symptoms of anxiety. For example, according to an examination of a clinical sample of 54 depressed children, 35% of the children were also diagnosed with an anxiety disorder (Puig-Antich et al., 1978). According to a longitudinal sample of 65 clinically diagnosed children with depression, 27% of the sample also experienced an anxiety disorder (Kovacs et al., 1984). Overall, studies have found between 20% and 40% of depressed children also have a co-diagnosis of an anxiety disorder (Kovacs et al., 1989; Ryan et al., 1987). Other studies have found high rates of depressive symptoms within samples of children previously diagnosed as having an anxiety disorder (Bernstein and Garfinkle, 1986), but it is more common for depressed individuals to display anxious symptomatology than for anxious individuals to display symptoms of depression (Finch et al., 1989).

Some studies suggest that these twin emotions are not independently distinct constructs, but instead reflect an overall state of emotional distress (Harrington, 1993; Tannenbaum and Forehand, 1992). The overlap between symptoms of depression and anxiety within the general population is unknown, and when children display symptoms of both, it is difficult for clinicians to make a differential diagnosis. Therefore, it may be the case that both anxiety and depression share a common cause (Harrington, 1993). The literature suggests, in fact, that risk factors common to anxiety are also found in depression. However, since correlations between anxiety and depression scales are not

perfect, this suggests that there are unique qualities of each affective state. For example, according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; American Psychiatric Association, 1994), symptoms specific to depression are a dysphoric mood, loss of interest, weight loss or weight gain, poor appetite, motor retardation guilt/worthlessness, and thoughts of death. Symptoms that are specific to anxiety include excessive worry, autonomic hyperactivity, exaggerated startle response, and muscle tension. Symptoms that are common to both depression and anxiety are irritability, agitation/restlessness, concentration difficulties, insomnia, and fatigue.

Summary of the Relevant Literature

Together the research presented in this chapter indicates that child maltreatment is not a monolithic construct. Child maltreatment reflects a diversity of negative childhood experiences. The social and psychological consequences of child maltreatment are numerous. The literature does, however, clearly suggest convergence in that all these consequences are negative. Specifically, it appears that child maltreatment is associated with criminality, and that exposure to violence in childhood is related to later acts of violence. Child maltreatment is also associated with psychological dysfunctions, including anxiety and depression. Not surprisingly, one also finds that these negative psychological states are more prevalent in criminal populations. Therefore, this literature suggests that child maltreatment is associated with a higher likelihood for both engaging in antisocial behavior and experiencing psychological distress. Studying the relationship between child maltreatment and

psychological distress is particularly important among institutionalized delinquents for both theoretical reasons and designing appropriate institutional treatment modalities which can improve a delinquent's mental health and increase his or her likelihood for successful rehabilitation.

CHAPTER THREE: THEORETICAL EXPLANATIONS FOR INSTITUTIONAL ADJUSTMENT

For decades published works have informed the scholarly community on what life is like inside prison walls for institutionalized offenders. For example, many scholars have contended that incarceration is destructive because it provides a process in which offenders learn new methods of law breaking. There is no doubt that prison environments are uniquely intense. While some offenders adequately adjust to a correctional environment, others experience extreme maladjustment. Prison administrators are faced with the difficult task of maintaining control over the institutional environment while simultaneously attempting to allow offenders to properly adjust to the institutional environment. Unfortunately, unmates' desire to act autonomously is difficult within the regimented functioning of a prison environment (MacKenzie et al., 1987).

Adjustment to institutional life traditionally has been operationalized in the literature by two competing theoretical models: importation and deprivation. These two theories have been used most often to explain adult inmates' adjustment - but have increasingly been applied to juveniles as well (Gover et al., 2000b). Deprivation theory...

> focuses primarily on the prison environment itself. Imprisonment, according to this view, inherently deprives the inmate of basic needs, resulting in tension and particular ways of adaption (Parisi, 1982: 9).

Early deprivation theorists argued that institutional deprivations produced "pains of imprisonment" that include the loss of personal security, material possessions, social

acceptance, personal autonomy, heterosexual relations, and overall personal liberty (Sykes, 1958; Sykes and Messinger, 1960). Inmates react to these 'pains' with increased stress, anxiety, depression, anger, and anti-staff attitudes. In contrast to the deprivation model, importation theory emphasizes the "character of inmates that precedes their institutionalization" and presumably shapes their adjustment process (Parisi, 1982: 9). From this perspective, inmates entered the institution with past experiences and demographic characteristics that explain their institutional adjustment. Together, the two theories offer an explanation for how institutionalized offenders adjust to correctional environments as measured by both official actions (e.g., rule violations, misconducts, violence, etc.) and internal reactions (e.g., anxiety, depression, attitudes, stress, etc).

Deprivation Theory

Deprivation theory explains inmate adjustment to confinement according to the unique characteristics of the correctional institution. According to this perspective, conditions of confinement within an institution viewed by inmates as 'depriving' have a negative influence on their attitudes, social interactions, and behavior. Early work by Sykes (1958) suggested inmates' frustration and rebellious behavior were a product of the depriving conditions of prisons. In other words, the institutional setting itself is viewed as the primary influence on inmates' adjustment to the institution. Researchers have also suggested that institutional conditions not only have an impact on inmates' behavior during confinement, but also have an influence on inmates' adjustment to the

community after they are released (Goodstein and Wright, 1991). Deprivation theorists contend that the deleterious aspects of the prison environment are particularly damaging to inmates' self-esteem and psyche, which is carried over to negatively impact their behavior outside the prison walls.

Past empirical exploration of the deprivation hypothesis can be categorized into two groups of research: studies that focus on institutions' influence on social and organizational adaption (Clemmer, 1940: McCorkle and Korn, 1954; Sykes, 1958; Tittle, 1972; Wellford, 1967) and studies that examine institutions' influences on psychological adjustment (MacKenzie et al., 1987; Toch and Adams, 1987; Van Voorhis, 1994). The term 'prisonization' is often used in deprivation literature and refers to the formation of an inmate counterculture, which is a process used by inmates to cope with the 'pains of imprisonment.' The institutional counterculture is collectively adopted by inmates to oppose the aims and goals of the prison administration, and operates in complete loyalty to other inmates (Clemmer, 1940; Thomas and Peterson, 1977). For example, according to the 'inmate code,' inmates do not report other rule violations to authorities, nor do they support the institutions rehabilitations efforts, such as treatment and work programs. Adherence to this counterculture, allows inmates 'reject the rejectors' and function in response to the pains of imprisonment (McCorkle and Korn, 1954).

More resent studies testing the deprivation model have moved away from testing concepts of 'prisonization' and 'inmate counterculture' (i.e., the degree of subculture assimilation within the prison) and have instead examined prison specific variables that

directly contribute to institutional misconduct (Lawson, et al., 1996). Researchers have examined the influence of the type of institution inmates are confined to, institutional crowding, the ratio of staff to inmates, length of time of confinement and other institutional conditions (e.g., levels of justice, freedom, danger, activity, structure, etc.) on institutional adjustment.

Type of facility has been one of the most common deprivation factors used to account for institutional adjustment (Feld, 1981; Goodstein and Wright, 1991; MacDonald, 1999). Institutions that place more of an emphasis on custody versus treatment are expected to be more stressful and create opposition among inmates. Several studies have found institutions that primarily focus on custody issues have more institutional misconducts (i.e., violence and other infractionary behavior) (Feld, 1981; McCorkle et al., 1995; Poole and Regoli, 1983).

McCorkle et al., (1995) studied individual and collective violence within 371 state prisons and found both forms of violence to be more prevalent within maximum and medium security institutions compared to minimum security institutions. In a comparison of four juvenile correctional facilities, higher levels of institutional violence was reported by juveniles confined to custody-oriented facilities compared to treatment-oriented facilities (Poole and Regoli, 1983). Institutions with highly coercive prison conditions also have fewer opportunities for inmates to ameliorate their pains of imprisonment, which creates pressure to engage in violence. Similar findings were reported by Feld (1981) in his analysis of four juvenile institutions. Inmate subcultures within punitive and custody-oriented institutions were more oppositional, hostile, and

violent than those in treatment-oriented institutions.

In contrast, however, Hepburn and Albonetti (1980) found institutions that place less emphasis on security tended to create role conflicts among staff. This in turn, alienated inmates. The alienation subsequently resulted in inmates' developing attitudes in opposition to the institution (Smith and Hepburn,1979).

Another condition of confinement expected to be associated with adjustment is structure. The level of structure within an institution can be conceptualized as a condition that exists in certain types of facilities. For example, empirical evidence indicates that a coercive, highly structured environment within a correctional facility creates alienation, more stress, and higher prisonization (Thomas et al., 1978; Thomas and Zingraff, 1980).

Boot camp programs represent a relatively new highly structured 'type' of facility that has been extremely popular since the early 1990s for juvenile offenders. Boot camps borrow basic elements from the military philosophy and incorporate them into their program. For example, boot camp participants usually enter and exit the program in groups (e.g., in a platoon or squad), wear military uniforms, address staff with military titles and participate in marching and drill and ceremony on a daily basis (see Gover et al., 2000a; MacKenzie et al., 1998). Such program components suggest a highly structured and custody oriented environment.

If institutions that focus on custody and structure are indeed more stressful for inmates, these boot camp-type programs would be expected to be more stressful for inmates. Critics of boot camps argue that such characteristics make correctional boot

camps poor therapeutic environments because the stressful atmosphere is not conductive to positive change, individual growth, and quality interpersonal relationships (Morash and Rucker, 1990).

In addition to the type of facility, the impact of institutional crowding has been examined as a deprivation factor that affects adjustment to institutional life (Ellis, 1984; Gaes and McGuire, 1985; MacDonald, 1999; McCorkle et al., 1995; see also Walker and Gilmour, 1984, for a review of the literature). The probability of institutional violence is expected to increase because inmates become irritable from crowding and lack of personal space. Crowding may also lead to increased stress due to a reduction of resources (e.g., programs, staff, etc.) available to inmates. Measured at both aggregate and individual levels, researchers have found institutional violence to be positively associated with increased levels of crowding (Gaes and McGuire, 1985; McCorkle et al., 1995; Walker and Gilmour, 1984). However, the relationship between crowding and aggression has not always been found (Wright and Goodstein, 1991). For example, Wormith (1984) found that inmates whose personal space needs were not met did not necessarily engage in behavioral problems.

Deprivation may be related to other conditions of confinement, or aspects of the institutional environment. Researchers have suggested that there is a significant relationship between inmates' perceptions of their institutional environment and their adjustment (Ajdukovic, 1990; Goffman, 1959; Moos, 1969; Toch, 1977; Wright, 1985). Early research by Moos (1971) suggested that inmates' motivation to find satisfaction and rewards within the institutional culture is predicted by features of the environment.

According to Wright (1991), inmates whose needs were met by the environment experienced higher levels of successful adjustment and lower levels of distress.

Justice is a condition of confinement that has been theoretically hypothesized to affect inmate adjustment. According to Wellford (1967), resistance to institutional authority potentially exists when inmates view disciplinary committees actions as 'unjust.' According to one study, individual inmates who felt they had been treated unjustly were also more likely to violate rules (McCorkle et al, 1995). Inmates who view the institution as 'unjust' may also adjust to the conditions of confinement by using drugs, a form of self-destructive adjustment (Sykes, 1958).

Inmate attitudes and adjustment also have been found to be related to the length of time served in a prison (Goodstein and Wright, 1991). Wheeler (1961), for example, suggests that adjustment occurs in a U-shaped curve (in terms of conformity to conventional norms). At the beginning of inmates' length of stay in prison, they conform to conventional values, become maladjusted during the middle of their sentence, and then return to conventional values upon their release. However, other studies have found that inmate attitudes vary according to their length of confinement, and support the notion that longer time in a facility is associated with increased antisocial attitudes (Garabedian, 1963; Wellford, 1967). Inmates, for example, appear to experience higher levels of stress during the initial incarceration phase while they are adjusting to their new environment (MacKenzie and Goodstein, 1984; Zamble and Porporino, 1988).

Importation Theory

Irwin and Cressey (1962) challenged the deprivation model of prisonization and disagreed with the idea that inmate behavior is the result of institutional characteristics. The cohesive social organization and solidarity of prisoner assimilation inside institutional walls was criticized as being overly simplistic (Jacobs, 1974, 1976, 1979). Challenges to the deprivation model became know as the importation model of prisonization. According to Irwin and Cressey (1962),

> "...observers have overlooked the dramatic effect that external behavior patterns have on the conduct of inmates in any given prison" (pp. 145).

Subcultures within institutions are thought to mirror deviant subcultures existing outside prison environments (Irwin and Cressey, 1962). In fact, a prison population represents numerous different subgroups which are extensions of subcultures formed before inmates entered the institution. Instead of representing a solidified body of inmates, these groups compete with one another for control and power over the prison environment (Jacobs, 1976; Stojkovic, 1984).

In contrast to deprivation theory, importation theory of prison adjustment asserts inmate adjustment is the result of the unique characteristics inmates bring with them (i.e., "import") to the institution (Innes, 1997). For example, an inmate who violently attacks another inmate reflects one's aggressive tendencies developed prior to being institutionalized.

Importations theorists suggest that prison subcultures may be based on one's race or ethnicity that reflects competing norms and values in the general population.

Interestingly, some scholars point out that mass divisions within prison communities coincided with widespread attention to issues of civil rights violations and the influx of minority groups into prison populations during the 1960s (Goodstein and Wright, 1991).

Studies testing the importation model have focused on individual inmate characteristics that influence inmate assimilation within the prison (Lawson, et al., 1996). Tests of the importation model have used demographic, criminal history, and other risk factors to explain institutional adjustment (Ellis et al., 1974; Harer and Steffensmeier, 1996; MacDonald, 1999; MacKenzie, 1987; Poole and Regoli, 1983). For example, several studies have found that the competition among racial subgroups resulted in individual and collective acts of interracial violence (Carroll, 1974; Gaes and McGuire, 1985; Harer and Steffensmeier, 1996; Jacobs, 1976).

Importation theory assumes that prison difficulties can be predicted with the same factors that predict crime in general (Innes, 1997). Common risk factors for delinquency include family criminality and exposure to family violence (Buka and Earls, 1993; Farrington, 1989; Fergusson and Horwood, 1998; Lattimore et al., 1995; Salmelainen, 1996). Juveniles with family members involved in criminal behavior or juveniles who experienced childhood maltreatment are at a greater risk for future offending than juveniles who were not exposed to these risk factors. All of these risk factors represent individual characteristics that juveniles "import" into institutions. In addition, age is a well documented predictor of prison adjustment (Flanagan, 1980; MacKenzie, 1987). According to several studies, younger inmates are more likely than older inmates to adjust poorly, as measured by institutional misconduct (Myer and Levy,

1978).

Another risk factor for delinquency is prior substance abuse. Mills et al. (1998) examined the relationship between a self-reported measure of alcohol abuse (Alcohol Dependence Scale - ADS[2]) and subsequent serious institutional maladjustment. The study found that offenders with substantial alcohol dependence (which has been indicative of polysubstance abuse) were more likely to be involved in serious institutional misconducts.

Prior criminal behavior has also been explored as a pre-prison characteristic that predicts other types of misconducts (Flanagan, 1983; Myers and Levy, 1978; Poole and Regoli, 1983; Proctor, 1994; Shields and Simourd, 1991). Prior criminal history has been shown to consistently predict misconduct (Innes, 1997). Studies have operationalized prior criminal history with measures such as number of prior arrests, commitments, convictions, history of violence, seriousness of prior acts and current offense.

A Combined Model of Importation and Deprivation Theories

Researchers have produced thousands of works in their attempt to explain the process by which inmates adjust to prison life. As shown above, scholars have identified factors both internal to the inmate and external factors related to the institution's environment that influences inmate adjustment (Goodstein and Wright, 1991). Both explanations of inmate adjustment make valid causal arguments (MacDonald, 1999). Since inmates enter institutions with pre-prison attitudes and

experiences from outside sources (Irwin and Cressey, 1962), it seems reasonable that these experiences and beliefs would influence their social interactions with other inmates (MacDonald, 1999). In addition, it also apparent that these same offenders will be influenced by their newly restricted environment, and their pre-prison characteristics will interact with these new surroundings.

The most efficient models are those that integrate factors from both importation and deprivation theories since neither model, by itself, adequately predicts inmate adjustment to confinement (MacDonald, 1999; Thomas et al., 1978; Zingraff, 1980). Many studies integrating concepts from both importation and deprivation models of adjustment focus on which theory is more valid, in terms of its predictive power of prison misconduct and institutional violence. Findings from these studies are mixed. For example, studies by Gaes and McGuire, (1985) and Feld (1981) lend more support to the deprivation model while studies by Poole and Regoli (1983) lend more support to the importation model. Yet more recent research suggests that a combined model using constructs from both theories has the most efficient explanation of institutional adjustment (MacDonald, 1999; Gover et al., 2000b). In fact, a meta-analysis of 39 studies that attempted to predict adjustment to the prison environment found personal and situational variables to be similar in their predictive ability (Gendreau et al., 1997).

Research examining importation and deprivation factors have used various official outcome measures to examine prison adjustment, including disciplinary infractions or drug/alcohol use (Van Voorhis, 1994). Prison adjustment, however, does not only involve problem behaviors, it also involves emotional and attitudinal reactions.

Studies have indicated that official measures of misconduct are flawed and represent only one measure of adjustment (Poole and Regoli, 1983). The majority of recent studies measuring official acts of misconduct may actually be measuring a different psychological aspect than that developed through the original psychosociological perspective, of prison adjustment espoused by Clemmer (1940) and by Sykes (1958).

It is important to point out that the purpose of the current research is not to determine whether deprivation factors, importation factors, or a combined model of both has the greatest explanatory power on institutional adjustment. Rather, this research focuses primarily on the influence of prior childhood maltreatment (importation factor) on juveniles' psychological adjustment. Prior childhood maltreatment has not been highlighted in previous research on institutional adjustment, despite the fact that there is a wealth of information indicating the negative psychosociological consequences experienced by those who were maltreated as children. Based on this prior empirical research, it is imperative that the influence of this pre-prison characteristic on institutional adjustment be assessed.

The present study returns to the original applications of these theoretical constructs by examining the influence of pre-institutional characteristics (e.g., child maltreatment, arrest history, race, age) and perceptions of the institutions themselves (e.g., justice, activity, freedom, control) on juveniles' psychological adjustment. The key advantage to the present study is that it allows one to examine the independent influence of both individual and institutional factors on the mental health of institutionalized juveniles. Additionally, this study will also examine if boot camps,

independent of other factors, have the negative mental health consequences that critics' suggest. Specific focus will be placed on examining the importation factor of past childhood maltreatment. Together, the present study will examine the applications of both importation and deprivation theories in a large multi-site sample of institutionalized youth. The present study's findings, therefore, will be generalizable to juvenile offenders who are sentenced to confinement in a correctional facility, such as a boot camp program or traditional facility.

CHAPTER FOUR: BOOT CAMPS FOR JUVENILE OFFENDERS

Boot camp prisons are one correctional option for adults who are convicted of breaking the law and juveniles who are adjudicated delinquent. Boot camps intensify the experience of incarceration by incorporating a quasi-military philosophy into their programming so that they are similar to basic training in the military.[12] Boot camps are characterized by a structured environment that promotes order and discipline. The purpose of integrating a military model within a correctional setting is for the creation of a highly structured and discipline-oriented environment that facilitates teaching offenders accountability and responsibility. The goals of boot camp programs include specific deterrence, general deterrence, rehabilitation, punishment, and the reduction in prison and jail overcrowding (Osler, 1991).

Although the first boot camp programs for adults were started in 1983, boot camps for juveniles did not become popular until the 1990s.[13] According to a survey of state and local juvenile correctional administrators, there were 37 boot camp programs housing juvenile offenders in 1995. Only one of these programs opened prior to 1990

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12 The introduction of the military model within correctional institutions was not necessarily a unique concept of the twentieth century. The military model was first introduced at Auburn Prison in 1821 (McKelvey, 1977) and then at Elmira in 1888 (Cole, 1986).

13 The first boot camp programs for adults were started in Georgia and Oklahoma in 1983, followed by Mississippi in 1985 (Osler, 1991). For a discussion of adult boot camps, see MacKenzie and Parent (1992).

with nearly all of them opening during or after 1993 (MacKenzie and Rosay, 1996). Boot camp programs are overwhelmingly supported by the public because they are viewed as a harsher punishment for offenders. In addition, corrections administrators support boot camps because of the potential to reduce time served, save correctional dollars, and alleviate overcrowding (Correia, 1997; MacKenzie and Piquero, 1994). It is not surprising that boot camps have received strong political support since they are touted as a means to get tough on crime.

After the 1994 Crime Act was passed the Department of Justice allocated 12 million dollars to 24 jurisdictions for the development of new boot camp programs for juveniles, the renovation of existing facilities, and the construction of new programs. According to researchers at the University of Maryland, there were 50 programs operating across the country for juveniles in 1997 (Gover et al., 2000a). Due to the rapidly growing boot camp phenomena, accrediation standards were developed by the American Correctional Association (MacKenzie et al., 1998). Today, many local and state governments as well as the Federal Bureau of Prisons rely upon boot camps as a correctional option for adult offenders and juvenile delinquents.

The majority of juvenile boot camps hold fewer offenders than the traditional correctional facilities such as training schools or detention centers. The majority of juvenile boot camps serve males only; however, there are several boot camps that have both male and female populations on the same grounds, separated by buildings or fences. The original intent of adult boot camp programs was to incarcerate offenders for shorter periods of time than a traditional institution. This is also true for juvenile boot

camps. On average, juveniles completing sentences are confined for shorter periods of time in boot camps than in traditional facilities.

Nearly all boot camps incorporate the first seven to ten days of confinement as an 'Intake Phase.' During intake in many camps male inmates have their heads shaved. Inmates are required to stand at attention or stand facing a wall while being informed of the strict program rules, such as the requirement to address staff as "Sir" or "Ma'am," to request permission to speak, and to refer to themselves as "this inmate." This is the period of confinement where drill instructors attempt to 'break inmates down' emotionally and physically by requiring strenuous physical activity and compliance with program rules. Drill instructors use physically and verbally aggressive tactics to "train" inmates to act in a prosocial manner (Morash and Rucker, 1990). Following this "break down" phase is a period where drill instructors begin 'building inmate back up' by telling them that their boot camp experience will lead them to commit to a law abiding life style following their release from the program. The main objective a the boot camp experience is to provide a regimented period of incarceration that will serve as a strong disincentive for offenders to break the law after they complete the program.

Boot camp inmates are required to rise early in the morning and participate in an hour or two of physical training followed by drill and ceremony. Inmates are also required to make their beds which are immediately inspected. During meal-time, inmates are ordered to stand at parade rest while waiting in line to be served and to exercise military movements when the line moves. Inmates must stand in front of the table until commanded to sit and are not permitted to make conversation while eating.

Inmates follow a strict daily schedule of activities. They have set times for educational classes, showering, studying, meal-times, and visiting hours. Programming components within boot camps vary depending on the philosophy of the institution. Some programs may devote as much as five hours a day on military activities such as drill and ceremony, marching, and physical labor. Other programs with more of a rehabilitative focus may devote more time to activities such as individual counseling, group counseling, life-skills training, or substance abuse education or treatment. Regardless of the institutional philosophy, boot camps are operated in a structured and routine manner (Gover et al., 2000a).

Boot camp inmates gradually earn more privileges and responsibilities as their performance in the program improves. A different color hat or uniform may be the outward display of their new prestige. Depending on the facility, the attrition rate ranges from 8% and 50% for adult offenders (MacKenzie and Shaw, 1990). For those who successfully complete the program, an elaborate graduation ceremony occurs with visitors and family invited to attend. Frequently awards are given for achievements made during the program. In addition, the inmates often perform the drill and ceremony they have practiced throughout their time in the boot camp.

The obvious commonality among boot camps is their incorporation of the military model into the correctional environment. Programs require juveniles to wear military uniforms and to march to class, meals, and to other activities. Also, programs utilize drill, ceremony, and physical fitness training. The military philosophy also is incorporated in employee procedures, such as requiring the staff to wear military

uniforms and have military titles. For example, some programs utilize summary punishments, which involves physical exercise such as pushups or running when a minor rule has been violated. Other examples of summary punishments include requiring offenders to carry logs on their backs, digging a six foot deep hole in a sand pit with a small garden tool, excessive exercise in cold weather, and being required to wear a clothing item for the purpose of humiliating the offender (Lutze and Brody, 1998). Major rule violations often result in dismissal from the program. Juveniles tend to enter the programs in groups, such as a platoons or squads. This group orientation is carried over into other aspects of programming, such as attendance in school, despite differences in education levels among juveniles. For the most part, most of the programs place a heavy emphasis on military components, however; some variation does exist in the incorporation of the military philosophy (Gover et al., 1999a; 1999b).

Correctional personnel are faced with new issues now that boot camps have been expanded to juvenile populations. For example, adult programs primarily target nonviolent offenders, but nonviolent juveniles are much less apt to be incarcerated. In fact, Gover et al.'s (2000a) comparison of juvenile boot camps to traditional correctional facilities found that boot camps were admitting juvenile offenders who had significantly less serious offending histories. It may be that boot camps have widened the net of control to house offenders who would have otherwise received probation had boot camp not been available. Therefore, net-widening and the associated costs have become a critical issue for juvenile programs. The deceptively seductive idea of providing discipline and structure for disruptive juveniles means there is a real threat

that large numbers of juveniles will be placed in boot camps, regardless of whether it is a suitable alternative to traditional dispositions.

The Controversial Nature of the Military Philosophy Within a Correctional Environment

Boot camps are controversial for a variety of reasons (Correia, 1997; Gover et al., 2000a; Lutze and Brody, 1999; MacKenzie and Souryal, 1995a; MacKenzie and Parent, 1992; Mathlas and Mathews, 1991; Morash and Rucker, 1990; Sechrest, 1989; Welch, 1997). Much of the controversy has to do with an instinctive reaction toward the military atmosphere. There are three approaches to the military model debate. One perspective exhibited by many knowledgeable correctional experts is a "Machiavellian" point of view (MacKenzie and Souryal, 1995a). These individuals expect little direct benefit from the military atmosphere of the boot camp programs, but are willing to support the concept to achieve two ends: early release for nonviolent offenders and additional funding for treatment programs (both inside and outside prison). According to this perspective, the popularity of the boot camps with policy makers and the public allows correctional departments to provide offenders with early release and treatment that would not have otherwise been available.

Opponents of boot camps fear dangers associated with this correctional option. Many psychologists who are experienced in both corrections and behavioral change take this position when examining boot camp programs. They believe that the potential dangers of the military model are too great to compromise for early release or funds for treatment. Furthermore, they argue that boot camps cannot provide a mechanism for

treatment because many of the characteristics of the programs, such as outward verbal abuse and physical confrontation are incompatible with the goals of rehabilitation. For example, according to Morash and Rucker (1990), correctional boot camps

> ...promote an aggressive model of leadership and a conflict-dominated style of interaction that could exacerbate tendencies toward aggression...and potentially result in a number of other negative outcomes, such as feelings of isolation, helplessness, and continued antisocial behavior (p. 211).

Since increased aggression is not a desired outcome of correctional boot camps, opponents of these programs continue to question their use. The confrontational interactions may be particularly damaging to the mental health of some individuals such as those who were victims of child abuse. Morash and Rucker (1990) contend that "aspects of the boot camps may actually inflict damage on participants, since they provide settings conducive to high levels of unpredictability and contrived stress" (p. 213).

Many boot camp programs allow the correctional staff to maintain complete dominance over inmates (Lutze and Murphy, 2000). This program characteristic is evident from the numerous stories presented by the media showing drill instructors yelling insults in the faces of inmates, and requiring immediate physical exercise for program violations. The form of communication used by boot camp staff typically involves control, confrontation, and dominance (Lutze and Murphy, 2000). Critics of these programs are concerned that the high amount of discretion given to staff creates a potentially dangerous abusive environment. Research on the effectiveness of drug treatment programs, for instance, from the 60's and 70's indicate that a confrontational

approach may be emotionally damaging and inflict negative impacts on self-esteem (Sechrest, 1989). Lutze and Brody (1999) examined the issue of whether common practices used in boot camps, such as the use of coercive summary punishments and verbal confrontation, violate the Eighth Amendment for being cruel and unusual punishment. Their findings suggest that some of the military practices used in boot camps may be subject to litigation for violating inmates' Eighth Amendment rights. As pointed out by Welch (1997), the use of boot camps can be questioned on a conceptual level because research has not provided evidence that scaring and intimidating offenders leads to pro-social behavior. Moreover, boot camps are criticized for providing an ultramasculine prison environment that promotes an exaggerated image of masculinity (Lutze and Murphy, 2000; Welch, 1997). In fact, Morash and Rucker (1990) contend that boot camps' sex-role stereotyped environment prevents pro-social adjustment by encouraging aggression.

Others, however, argue that the military atmosphere is an effective model for changing offenders. Proponents of boot camps suggest that the structured nature of the programs keep offenders focused and committed to the treatment aspects of the program (Osler, 1991). Boot camp programming often focuses on improving offenders' self-esteem, self-respect and respect for others, improving decision making, setting realistic goals, and teaches them to re-evaluate their lives so that they will live without committing crime when released.

Persons who have worked in drug treatment programs -- where strict rules, discipline, and confrontational interactions are common -- seem to be more comfortable

with the military model. Military personnel assert that the leadership model of basic training provides new and appropriate techniques for correctional programming. Of course, many of those responsible for the development and implementation of individual boot camp programs are committed to and believe in the viability of this approach. They argue that the stress created in boot camp may shock the inmates and make them amenable to change and so that they can take advantage of the treatment and aftercare programs offered. Further, the military atmosphere of boot camp may enhance the effectiveness of treatment by keeping the offenders physically and mentally healthy while enabling them to focus on their education, treatment, and therapy.

Evaluations of Juvenile Boot Camps

Despite the fact that advocates of the programs believe the military atmosphere will successfully change juvenile offenders, the research to date does not support this perspective. Existing research on adult and juvenile boot camp programs has not found any significant differences in recidivism rates of those who serve time in boot camps in comparison to traditional facilities. One rigorous evaluation using random assignment conducted by the California Youth Authority (CYA) found no differences in recidivism rates of juveniles who were confined to the LEAD boot camp programs and juveniles confined to other facilities. Evaluation results revealed that 78% of juveniles who were confined to the boot camp were rearrested compared to 77% of rearrested juveniles who were not confined to the boot camp (Bottcher et al., 1996). The CYA decided to close the LEAD programs on the basis of these results.

In another experimental evaluation conducted by the Office of Juvenile Justice and Delinquency Prevention (OJJDP) and the Bureau of Justice Assistance (BJA), juveniles were randomly assigned to boot camps and control groups in three sites in 1993 (Peters et al., 1997). The findings from this evaluation do not provide promising support for boot camps as an effective correctional option for juveniles. In all three sites, youth in the boot camps recidivated more quickly than the youth in the control groups after being released from confinement. Furthermore, juveniles in one site recidivated at a significantly higher rate (72%) than juveniles in the control group (50%). However, after following the juveniles for five years, recidivism rates for both groups were approximately the same. Juveniles released from the second and third sites were rearrested at approximately the same rates as juveniles in the control groups.

Evaluations of Adult Boot Camps

Researchers have not yet conducted experimental studies on the effectiveness of adult boot camps and have instead used quasi-experimental control groups to compare recidivism rates. MacKenzie (1997) reviewed seven adult boot camp evaluations and concluded that overall, there are no significant differences in recidivism rates for those who serve time in boot camps in comparison to traditional facilities.

Of the quasi-experimental research examining differences in recidivism rates, the only slightly promising results are findings by MacKenzie et al. (1995). In their analysis, they found that adults who were confined to boot camps that had follow-up programming, high levels of therapeutic programming, and were required to volunteer

for the program recidivated at lower rates on some measures of recidivism. This study also found lower recidivism rates for adults who completed the program compared to recidivism rates of boot camp participants who were dismissed from the program (either voluntarily dropping out or for misbehavior) prior to completion. These findings indicate that boot camps can be used to "signal" which offenders will have difficulty completing probation or parole. From this perspective, offenders who remain in the program and complete it are at less risk for recidivism than those who are dismissed. This post-hoc analysis suggests what is offered within the program is more important than if the program is labeled a boot camp.

There are several studies that have examined the impact of boot camp programs on inmates' pro-social attitudes and adjustment while confined to an institution (Burton et al., 1993; MacKenzie and Shaw, 1990). Antisocial cognitions are one of the strongest predictors of recidivism (Cullen and Gendreau, 1989; Jessness, 1983). For example, MacKenzie and Souryal (1995b) found some indication that adults who participated in boot camp programs developed more positive attitudes about the program and felt more favorable about their experiences compared to those in traditional prisons. Similar findings were reported by MacKenzie et al., (1993). Lutze (1996a, 1996b) also reported that inmates in boot camp programs felt more positive about their experience in the program and were better adjusted than inmates in traditional prisons. Boot camp inmates, however, reported higher levels of feelings of isolation and helplessness (Lutze and Murphy, 2000). These findings are in line with Morash and Rucker's (1990) arguments that because of the ultramasculine environments in boot camps, inmates are

forced to deal with their stressful period of incarceration in a predominantly masculine way, such as engaging in direct conflict, or by withdrawing emotionally. In addition, more recent studies found mixed results on the impact of boot camp programs on attitudinal change (Lutze, 1998; Lutze and Marenin, 1997; McCorkle, 1995). Thus, there is no strong evidence that boot camps will have a different impact on participants' behavior when they return to the community.

After reviewing the results of the adult and juvenile boot camp research, MacKenzie (1997) concluded that there was no evidence that the military atmosphere, structure, and discipline of correctional boot camps significantly reduced the recidivism of releasees in comparison to other correctional sanctions.

Overall, the research evidence on boot camps for juvenile offenders is mixed. Preliminary longitudinal research suggests that boot camps may at least not make recidivism worse than traditional options and may be slightly more cost-effective due to the shortened length of confinement. However, the interpretation of these findings is a subject of debate. Despite the controversial role of boot camps, however, no published research has examined their impact on juveniles' mental health. This is an important issue to examine. If critics are correct juvenile boot camps should have negative psychological consequences. If proponents are correct than juveniles should experience positive psychological consequences as they pass through the boot camp experience. The impact that boot camps have compared to traditional institutions on juveniles' psychological adjustment is extremely relevant to the design and implementation of appropriate rehabilitation modalities. This issue is particularly important among

juvenile delinquents who have experienced severe levels of child maltreatment. After all, the experience of a 'drill instructor' screaming in a youth's face for violating a program rule may trigger their past emotions associated with their negative home environment and produce heightened levels of anxiety and depression. In contrast, however, the self-esteem enhancing role of physical exercise may improve the mental health of juveniles regardless of their past childhood experiences. This issue will be addressed in the present study.

CHAPTER FIVE: RESEARCH METHODOLOGY

Hypotheses

Numerous studies have reported the adverse psychological consequences for individuals who have experienced child maltreatment. For example, there is an established association between anxiety, depression, and past experiences of childhood maltreatment (Blumenthal et al., 1998; Silvern et al., 1995). Based on the findings from this body of research, it is known that childhood maltreatment can lead to short and long-term adjustment problems for children and adolescents. However, less is known about these relationships among institutionalized juveniles in terms of their adjustment to a correctional environment. In other words, does childhood maltreatment have a significant influence on juveniles' psychological adjustment within correctional institutions? Building on the past literature the following hypotheses are tested:

H1a: Child maltreatment will have a significant and positive impact on anxiety and depression levels among institutionalized juveniles, holding other variables constant.

H1b: Child maltreatment will have a significant and positive impact on the change in anxiety and depression levels over time among institutionalized juveniles, holding other variables constant.

Boot camps have been a controversial option since they were first developed for adults in 1983 (MacKenzie and Souryal, 1995; Morash and Rucker, 1990). Despite this controversy, boot camps have been a popular and rapidly growing correctional option

for juvenile offenders (Gover et al., 2000a). Skeptics are, however, critical of the appropriateness of boot camps' emphasis on the military philosophy, especially for juveniles who have come from disadvantaged home environments. These critics suggest that institutions for youth should focus more on treatment and therapy through a non-confrontational approach. This issue is particularly relevant for juvenile offenders who come from an abusive home environment. The confrontational approach of the boot camp may inhibit positive psychological adjustment and rehabilitation. Juveniles who were maltreated in the past may have more difficulty adjusting to boot camps than to the less regimented environment of traditional institutions. In an effort to examine this issue, the following hypotheses are tested:

H2a: Juveniles who experienced prior childhood maltreatment and are confined to boot camp programs will have significantly higher levels of depression and anxiety compared to juveniles confined to traditional institutions.

H2b: Juveniles who experienced prior childhood maltreatment and are confined to boot camp programs will have significantly greater increases in depression and anxiety over time compared to juveniles confined to traditional institutions.

Procedure

The data used in this study were collected between April 1997 and August 1998 for a National Institute of Justice (NIJ) funded study: 'National Evaluation of Juvenile Correctional Facilities' (96-SC-LX-0001). Researchers from the Evaluation Research Group at the University of Maryland conducted the study. The current research is

funded by the National Institute of Justice Graduate Research Fellowship Program (1999-IJ-CX-0051). The purpose of the NIJ project was to examine differences in conditions in confinement between traditional institutions and boot camps programs for juveniles (for a discussion of the study's overall findings, see Gover et al., 2000a; Gover et al., 2000b; MacKenzie et al., 1998; Mitchell et al., 1999; Mitchell et al., 2000a; Mitchell et al., 2000b; Styve et al., 2000).

University of Maryland researchers conducted site visits to each of the 48 correctional facilities included in the study. During the site visits, juveniles completed a confidential self-report survey consisting of 266 questions that measured information regarding demographics, previous delinquent behavior, and attitudes and experiences about their current institutionalization (see Appendix A). The survey responses obtained during the site visits represent 'time 1.' Prior to their involvement in the study, juveniles were told that their participation in the research was completely voluntary and that they would not be individually identified. All juveniles who participated in the research signed a 'Voluntary Consent Form' that was approved by the Human Subjects Review Board at the University of Maryland (see Appendix B). University of Maryland researchers administered surveys to groups of 15 to 20 juveniles in classroom-type settings. After survey materials were distributed to juveniles the purpose of the research was carefully explained by the researchers. Juveniles watched a video-taped version of the survey which provided specific instructions for survey completion, hence standardizing the survey administration process. In addition to the video assisting juveniles who had reading disabilities, researchers also assisted juveniles in completing

the surveys. Juveniles completed the questionnaire in approximately one hour to one hour and fifteen minutes.

Maryland researchers trained a staff member at each facility to administer juvenile surveys at a second point in time. These individuals were referred to as 'Juvenile Advocates' and were typically a member of the facility's treatment staff such as a psychologist, mental health case worker/social worker, or counselor who were conscientious regarding issues of confidentiality. The purpose of a second survey administration (referred to as 'time 2') was to see whether juveniles' attitudes and beliefs changed after they had been institutionalized for several months. This research uses the longitudinal sample of juveniles who completed surveys at both time 1 and time 2 collected for the study described above.

Measures

Variable Creation

Summated scales were developed from these data (see Spector, 1992) to capture the perceptions of the institutional environment, prior child maltreatment and other risk factors, and psychological adjustment (anxiety and depression). Principal components factor analysis was used to identify the individual items that make up the scales. Varimax factor rotation analysis with pair-wise deletion of missing cases was performed.[14] Items were dropped if they did not load on a factor as .30 or greater. The

[14] Varimax rotation was used because it was assumed the most interpretable factor has numerous high and low loadings but few intermediate values (Comrey and Lee, 1992).

internal consistency of the items was determined by Cronbach's alpha reliability test (see Appendix C for Scale Tables). All reliability scores were within an acceptable range, therefore the scale scores were computed while controlling for missing data.[15] For scales and variables where less than 20% of cases were missing, these cases were assigned mean values.

Dependent Variables

Psychological Adjustment. Psychological adjustment was measured though a six-item and a five-item summated scale measuring anxiety and depression, respectively. The measures taken during the first wave of data collection represent the first set of dependent variables [ANXIETY1] and [DEPRESS1]. Anxiety scale items were adapted from widely used self report measures, the State-Trait Anxiety Scale of the State-Trait Anxiety Inventory (Spielberger et al., 1970) and the Jesness Inventory (Jesness, 1983).[16] Juveniles were asked to respond Yes (=2) or No (=1) to questions that

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This occurs because the variance of the variables are maximally spread apart.

15 Scales were computed by adding the scores of the questions in the scale together for each individual then dividing by the number of questions in that scale. If an individual failed to answer more than 20% of the questions contained in the scale, the case was excluded from the overall analysis. If the individual answered more than 80% of the questions but fewer than 100% of the questions, the number of questions answered were considered in the scale information. There was less than 10% missing data for all of the juvenile scales.

16 To develop the anxiety scale, a review was conducted of instruments used in prior research to assess the impact of child maltreatment on psychological adjustment. These instruments, which have documented internal consistency, test-retest reliability, and

asked them if they felt calm, upset, anxious, nervous, or worried. Responses were summed and divided by six (the total number of items) to form an index (Alpha = .71) that represents juveniles' anxiety levels. Higher scores indicate greater symptom severity (range 1 to 2).

The depression scale items were developed by the instrument's authors and were primarily adapted from the widely used Beck Depression Inventory (Beck, 1978; Beck et al., 1961) and Jesness Inventory (Jesness, 1983) self-report instruments.[17] Juveniles were asked to respond to a series of five questions that measured their level of depression. Examples of questions include "in the past few weeks I have felt depressed and very unhappy" and "these days I just can't help wondering if anything is worthwhile anymore." Likert response options to these questions ranged from strongly agree to strongly disagree (Strongly Agree=1; Agree=2; Not Sure=3; Disagree=4; Strongly Disagree=5). Responses were summed and divided by five (the total number of items) to create an index (Alpha=.76) that represent juveniles' levels of depression. This scale

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high construct validity, include the Children's Manifest Anxiety Scale (Castaneda et al., 1956), Revised-Children's Manifest Anxiety Scale (RCMAS; Reynolds and Richmond, 1978), Child Behavior Checklist (Romano and Nelson, 1988), and the Trauma Symptom Checklist Anxiety subscale (TSC-33; Briere and Runtz, 1989)

17 To develop the depression scale, a review was conducted of instruments used in prior research to assess the impact of child maltreatment on psychological adjustment were examined. These instruments, which have documented internal consistency, test-retest reliability, and high construct validity, include the Children's Depression Inventory (CDI; Kovacs and Beck, 1977; Kovacs, 1985) and the Trauma Symptom Checklist Depression subscale (TSC-33; Briere and Runtz, 1989). From the review of these instruments, items were developed that would be appropriate for institutionalized juvenile offenders. Specifically, items were selected and modified that could be easily interpreted by youth with low reading comprehension abilities.

was reverse coded so that higher scores indicate greater symptom severity.

Since the *anxiety* and *depression* scales were made up of summated responses, these measures represent a continuum of levels for both self reported anxiety and depression.

The second set of dependent variables were measured during the second wave of data collection: *anxiety* [ANXIETY2] and *depression* [DEPRESS2]. In order to measure the change in anxiety and depression over time (the change in psychological adjustment from time 1 to time 2), measures of anxiety and depression during the first wave of data collection will be used as control variables in change score models for time 2. This approach converts the second wave predictors of anxiety and depression into change scores (Finkel, 1995). Therefore, a positive effect will indicate that anxiety or depression has increased between the first and second wave of data collection (see Menard, 1991 for a discussion of related methods).

Independent Variables

Since prior literature has noted the importance of importation factors related to individual background characteristics on a youth's psychological adjustment to secure institutional settings, several theoretically relevant variables are included in this study (Gover et al., 2000b; Wooldredge, 1999; Jacobs, 1974; Irwin and Cressey, 1962). In addition, to control for the influence of the institutional environment on these youths' psychological adjustment, this study includes several theoretically relevant perceptual measures of the institutions themselves.

Demographic Characteristics. The demographic variables include age and race. Age of the respondent [AGE] was asked as an open-ended question and represents a continuous variable. Juveniles' race was dummy coded (0=No; 1=Yes) according to four groups: Black, Hispanic, and Other, with White being the excluded group.

Individual Risk Factors. The individual measures that juveniles' import into the institution include: child maltreatment [MALTREAT], prior alcohol abuse [ALCOHOL], prior drug abuse [DRUGS], peer criminality [PEERCRIM], family criminality [FAMCRIM], number of prior arrests [NOARREST], age at first arrest [AGEFIRST], and number of previous commitments [PREVCOM]. To control for the seriousness of juveniles' current offense and sentence length, respondents were asked open-ended questions about their current charge [OFFENSE] and length of their sentence [SENTENCE]. From these responses, discrete and continuous variables were created.

Scale development for child maltreatment was guided by the recognition that maltreatment is not a unidimensional construct. Therefore, child maltreatment [MALTREAT] was measured with a nine-item scale adapted from the Conflict Tactics Scales (CTS) (Straus, 1979) and the revised Conflict Tactics Scales (CTS2) (Straus et al., 1995) that captured the extent to which juveniles were neglected, physically abused, sexually abused, or whether they witnessed violence between family members.[18]

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[18] The Conflict Tactic Scale (CTS) was developed in 1979 by Murray Straus at the University of New Hampshire. The CTS is the most widely used quantitative measure of family violence (DeKesseredy and Schwartz, 1998). The CTS2, a revised version of

Juveniles were asked to respond to these items on a five-point Likert scale from 1 to 5 (1=Never; 2=Rarely; 3=Sometimes; 4=Often; and 5=Frequently). The survey instrument operationalized each response option to provide consistent measurement in responses.[19] Responses were summed and divided by 9 (the total number of items) to form an index (Alpha = .85). Higher scores represent higher levels of child maltreatment.

In addition to the measure of child maltreatment [MALTREAT], the index also was divided into four separate measures: neglect (a single item measuring the extent to which a juvenile was unfed, unwashed, or generally unsupervised at home on some regular basis as a young child) [NEGLECT], witnessing inter-familial violence (a summated Likert scale consisting of two items measuring whether a juvenile witnessed one parent physically harm the other parent or witnessed a family member physically harm another family member) [WITNESS], physical abuse (a summated Likert scale consisting of five items measuring whether a juvenile was slapped, hit, burned, bruised,

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the CTS, was developed in 1995 by Straus et al., (1997) to addresses criticisms of the CTS that emerged from over a decade of research. For the current study, the parent-child version of the Physical Aggression Scale was adapted to measure the amount of intra-family violence witnessed by the child and the amount of violence experienced by the child. The CTS has been modified by researchers in the past to assess violence against children (Stets, 1991). In addition, items developed by the instrument's authors were added to measure sexual abuse and neglect. The operational definitions provided for each item's response provide a measure of severity.

[19] Response options were operationalized as follows: a) never; b) rarely = behavior occurred once or twice during childhood; c) sometimes = behavior occurred one to five times a year; c) often = behavior occurred once a month; d) frequently = behavior occurred more than once a month.

cut, or experienced other forms of physical abuse) [PHYSICAL],[20] and sexual abuse (a single item measuring how often a juvenile was touched in a sexual way or forced to have sex by an adult or older child when they did not want this to happen) [SEXUAL]. These variables were constructed to examine the separate influences of these items on psychological adjustment. These variables were dummy scored '0' if the juvenile did not have any prior experience with that particular dimension of family violence and '1' if they experienced that particular maltreatment dimension at least once during childhood.

Prior alcohol abuse [ALCOHOL] was measured with a five item dichotomous scale (1=Yes; 2=No). Examples of items from this scale include: "Have you ever gone to school while you were under the influence of alcohol?" and "Have you ever stolen money from friends or family to buy alcohol without them knowing?" Responses were summed and divided by five (the total number of items) to form an index (Alpha = .70). Lower scores indicate lower degrees of alcohol abuse.

Similar to prior alcohol abuse, prior drug abuse [DRUGS] was measured with a five item dichotomous scale (1=Yes; 2=No). Examples of items from this scale include: In the six months before you entered this juvenile facility, did you use a lot of drugs, get high often, or have a drug problem?" and "Has anyone, including someone at school, talked to you because they were concerned that you have a problem with drugs?"

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[20] Physical abuse includes being slapped, hit (punched with a closed fist or an object such as a belt, brush, etc.), burned, bruised, or cut, and does not include less serious forms of physical punishment.

Responses were summed and divided by five (the total number of items) to form an index (Alpha= .73). Lower scores indicate a lower degrees of drug abuse.

Peer criminality was measured by a four item Likert scale that captured the extent to which juveniles' friends were involved in illegal behavior, gangs, or prior incarceration [PEERCRIM]. Responses ranged from 1 to 5 (1=None; 2=Few; 3=Some; 4=Most; and 5=All) and were summed and divided by 4 (the total number of items) (Alpha = .71). Higher scores indicate higher levels of peer involvement in criminal activities.

Family criminality [FAMCRIM] was measured with a four item summated scale that asked the respondent to report on whether their family members had been previously incarcerated, had prior gang involvement, or had received treatment for prior drug or alcohol abuse. These questions had three response choices (Yes=1; No=2; Uncertain=3). The response of 'Uncertain' and 'No' were collapsed together and recoded as '2' to reflect the absence of family criminality (Alpha = .65). This scale was then recoded in the reverse so that lower scores indicate lower degrees of family involvement in crime.

Number of prior arrests [NOARREST], number of prior commitments [PREVCOM], age at first arrest [AGEFIRST], and current sentence length [SENTENCE] were asked as open-ended questions. These four variables are continuous in measure. Current offense was recoded into a categorical offense scale to represent the seriousness of their crime (1=General Delinquency; 2=Property Offense; 3=Drug Offense; 4=Violent Offense). The category 'General Delinquency' included

minor offenses, probation violations, status offenses, escape/AWOL, CHINA, menacing, resisting arrest and driving offenses. The category 'Violent' included robbery, assault, weapon related offenses, arson, sexual contact, stalking, restraining order violation, and domestic violence offenses. Juveniles' self reported sentence length [SENTENCE] was recorded in terms of months.

Conditions of Confinement. To control for the effects of the institutional environment, the following four theoretically relevant perceptual measures of the facilities' conditions of confinement were included in this analysis: institutional control (CONTROL), activity (ACTIVITY), justice (JUSTICE), and freedom (FREEDOM).[21] These conditions of confinement variables were five-item summated Likert scales (1=Never; 2=Rarely; 3=Sometimes; 4=Often; and 5=Always). Control measured the level of security exerted over residents' activities and security used to keep residents in the facility (Alpha = .71). Activity measured the level and variety of activities available to inmates (Alpha =.77). Justice measured the perceived appropriateness and fairness of discipline procedures for misbehavior (Alpha=.77). Freedom measured the provision of choice of activities and movement of residents (Alpha =.66). In addition to the perceptual measures, the type of facility was also included as an independent variable

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[21] Conditions of confinement factors have been found to influence psychological adjustment. These institutional conditions are said to deprive juveniles of basic needs that cause psychological maladjustment (Gover et al., 2000b; MacKenzie and Goodstein, 1986; Zamble and Porporino, 1988; Wooldredge, 1999).

representing a deprivation factor. Since critics suggest that boot camps facilities may be less amenable to psychological adjustment, the dummy variable [BOOT] was included to represent whether the respondent was confined to a boot camp (=1) or traditional facility (=0).

The amount of time juveniles had been institutionalized was also included as a control variable (Goodstein and Wright, 1991). Juveniles were asked in an open-ended question how long they had been confined to the correctional facility that they were currently in. This was coded as a continuous variable measured in months for the time 1 survey administration [BEENIN1] and for the time 2 survey administration [BEENIN2]. These variables were recorded in terms of months.

This study attempts to isolate the influence of experiencing child maltreatment on youthful offenders' psychological adjustment to secure institutions, independent of other importation and deprivation variables. The advantage of these data are that they provide a strong examination of the influence of the self reported experience of child maltreatment on institutional adjustment using a large, multi-site sample of confined youth, measured at two points in time.

Analytic Strategy

To begin the analyses on the effect of childhood maltreatment on psychological adjustment, data will first be presented in descriptive form. Second, contingency tables will be analyzed to examine the co-occurrence of various dimensions of childhood maltreatment. Third, bivariate correlations between the independent and dependent

variables and a Variance Inflation Factor (VIF) test will be employed to detect the presence of collinearity among the independent variables. Last, multivariate regression models will be utilized to test the hypotheses.

Since the dependent variables in this study (anxiety and depression) represent ordinal level scales, ordinary least square regression analysis will be used to examine the independent influence of child maltreatment on self reported measures of anxiety and depression (Neter et al., 1983). Multivariate regression analyses provide estimates of each explanatory variable on the dependent variable while controlling for the influence of the other predictors. The regression coefficients from the model will reveal the amount of change in the dependent variable that will result from a one unit increase in the independent variable while holding the other independent variable constant.

The second set of dependent variables will examine the influence of child maltreatment on psychological adjustment within juvenile correctional facilities over time, holding constant the influences of criminal history, perceptions of the environment, and other importation and deprivation control variables. The same multivariate regression method (ordinary least squares) previously described will be employed with measures of anxiety and depression at time 2. Measures of anxiety and depression during the first wave of data collection will be used as control variables (lagged value of dependent variable), which will convert the independent predictors of the time 2 measures of anxiety and depression into change scores. This method will allow this study to examine whether child maltreatment has an independent effect on psychological adjustment within juvenile correctional facilities over time.

Finally, to examine how child maltreatment affects *anxiety* and *depression* for juveniles in boot camps compared to traditional facilities, separate ordinary least square regression models will be estimated for the sample of boot camp youth and the sample of traditional facility youth. The coefficients for maltreatment between these two models will then be compared using a coefficients difference test, to see if child maltreatment has a different influence on anxiety and depression in boot camps compared to traditional facilities. This method is a preferable method to examining basic interaction effects, because it does not assume that the intercept term is the same in both samples and has been highlighted in recent empirical research (Paternoster et al., 1998).

Limitations of Study

The primary limitation to this study is the issue of sample attrition and the two-wave longitudinal design. This two-wave sampling frame relied on the juvenile advocates to collect the data at time 2. As a result, the issues of casual inference and sample selection bias are endemic in this study. The research staff did its best effort to survey groups of boot camp and comparison facility youth shortly after their admission to these facilities (time 1), and then have the juvenile advocates re-survey the youth at time 2. The issue of missing data or sample selection bias (Heckman, 1979) is problematic in this study's design because of the inability of the research team to ensure that all youth were re-surveyed that remained in the facility, and the unknown issues about why youth dropped out of the sample. This issue is especially important with

boot camp youth since these programs are more selective about who they admitted to their facilities (Gover et al., 2000).

Preliminary comparison analyses were conducted to examine whether the missing data or 'sample dropouts' (i.e., those who were not re-surveyed at time 2) in the boot camp sample would potentially effect the change over time multivariate analyses. These preliminary analyses indicated that 229 male boot camp youth who had been in the facility for a period of one month or less at time 1 were not re-surveyed at time 2. This indicates that approximately 48% of the sample that could have potentially been re-surveyed at time 2 (N=474) by juvenile advocates were not. To examine whether these missing cases were different from boot camp youth re-surveyed at time 2 (N=245) all independent and dependent variables were compared between these two groups. In terms of dependent variables, there were no significant differences between those who were not re-surveyed and those who were re-surveyed at time 2 in boot camps on measures of anxiety or depression at time 1. Comparisons of all independent variables also revealed no substantive differences between these two groups in terms of age, risk factors (child maltreatment, age at first arrest, number of prior arrests, number of previous commitments, peer criminality, family criminality, offense), and perceptions of the environment (control, activity, justice, freedom).[22] The only variable that differed

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[22] The same set of analyses were also conducted with traditional facility youth. Youth who had been in the facility for a period of one month or less at time 1 and were not re-surveyed were compared to those who were resurveyed at time 2. Thirty-three percent of the sample that could have potentially been re-surveyed at time 2 by juvenile advocates were not (N=122). A comparison of dependent and independent variables

substantively between the two groups was that for black youth (30% re-surveyed v. 39% not re-surveyed). Therefore, these analyses suggest that with the available adjustment, risk factors, criminal history, and perceptions of the environment measures used in this study that sample attrition in boot camps does not appear to be problematic. However, this does not mean that the issue of sample selection bias is negated. After all, there may be other unmeasured factors related to race, for example, that were not captured and are intrinsically different between those who were re-surveyed at time 2 and those who were not re-surveyed in boot camps at time 2. Unfortunately, due to the method of longitudinal data collection this is an issue that cannot be resolved from empirical analyses. Therefore, the change over time analyses in this study should be interpreted with caution.

In addition to the issue of sample selection bias, there is also a limitation in this study to drawing causal inferences with only a two-wave longitudinal sample (Finkel, 1995). Despite the fact that static change score models are efficient and control for change over time threats, such as regression to the mean and state dependence (e.g. behavior at one point in time is likely to impact behavior at a later point in time), there are still major limitations on causal inference in using only a two-wave panel model (Finkel, 1995). First, if a reciprocal relationship exists between the independent and dependent variables then ordinary least squares will produce "biased and inconsistent parameter estimates" (Finkel, 1995: 21). Second, if there is substantial measurement

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between these two groups also indicated no substantive differences.

error between the dependent variables over time (e.g., depression and anxiety are not reported with the same level of honesty at time 1 and time 2), then the lagged dependent variable will not serve as the appropriate control variable and introduces bias into the change over time model. Third, unmeasured variables that are correlated independent variables may lead to autocorrelation in the dependent variables error terms over time (Finkel, 1995). These issues of reciprocal relationship and measurement error in the dependent variable can be remedied partially by collecting additional waves of data (e.g. time 3). The issue of unmeasured variable bias, however, is endemic in "all empirical research" (Finkel, 1995: 22). Therefore, when interpreting the results from the change over time analysis one should be aware of the limitations of sample attrition and two-wave panel models.

An additional limitation to this study is that it relies solely on self reported data. Therefore there is a threat to the validity of these data. There are very few studies that combine data obtained through self-reports and official records. Retrospective designs measuring effects of early trauma show stronger relationships than actually exist (Malinosky-Rummell and Hansen, 1993; Widom, 1989b; Berger et al., 1988; Hemenway et al., 1994; Kemper et al., 1994). Additionally, these self reported measures of child maltreatment do not allow one to examine the specific time period in which these incidents occurred.

Retrospective studies inherently suffer from problems of possible distortions in recall. For example, people may not recall events that actually did occur. Others, who are currently experiencing the most psychological problems, may be more prone to

recall negative experiences in their family history (Henning et al., 1996).

Past research, however, has demonstrated that when one includes age of occurrence, the type of abuse, and perceptions of the punishment the validity of retrospective self-reported data diminishes due to under-reporting (e.g., Briere and Conte, 1993; Feldman-Summers and Pope, 1994; Rausch and Knutson, 1991; Rosenthal, 1988). Research by McGee et al. (1995), however, suggests that the limitations of the self reported measures of childhood maltreatment are not as problematic as many researchers suggest.

An additional limitation is that current study will not determine whether childhood maltreatment preceded depression or anxiety in time (Doerner, 1987; Straus, 1991). It is possible, for example, that juveniles could have high depression or anxiety prior to their exposure to childhood maltreatment. It is also possible that these factors occurred concurrently. Therefore, based on these limitations, this study established one of the three criteria necessary to impute a causal relationship, that of association.

Another limitation to this study is that the sample is comprised of males only. Prior research has demonstrated a higher prevalence of sexual abuse among female offenders. Unfortunately, the original research design from which these data were collected did not include institutions housing females offenders only.[23] Data collected from female offenders were obtained from convenience sampling, making this sample

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[23] Of the 48 institutions included in this study, only five were co-ed institutions. For the longitudinal sample, this resulted in only 34 females. This sample is too small and non-representative to be included in the present study.

of females un-generalizable. Also, this study would be enhanced by the inclusion of institutional records and interviews with treatment staff in addition to the self reported measures of psychological adjustment (anxiety and depression). This is not possible due to the confidential assurances guaranteed with the original collection of these data.

Significance of Study

Despite these limitations, the reliability of data in this context, and the generalizablity of the sample, provides a unique opportunity to examine these issues. This study provides a first step in analyzing these issues from which future policy could greatly benefit. For example, critics would argue that boot camps' harsh, confrontational environments are inappropriate for juveniles who have a past history of abuse. Since half of the juveniles in this research are confined to boot camp programs, it will be possible to determine if juveniles who were exposed to childhood maltreatment in the past adjust differently to boot camps, compared to traditional facilities. In addition, studying these issues with samples of institutionalized juveniles can potentially enhance the effectiveness of juvenile justice intervention efforts to directly address the effects of these experiences (Canestrini, 1994). These interventions could improve juveniles' adjustment within a correctional environment and facilitate successful reintegration when these same juveniles return to the community.

CHAPTER SIX: RESULTS

Sample Description

The data utilized in this study represents a longitudinal sample of 509 juveniles confined to 48 correctional facilities. Twenty-two of these facilities are traditional institutions, such as training schools or detention facilities (N=262), while the remaining 26 facilities are boot camp facilities (N=245).[24] Table 1 presents the descriptive statistics for the sample. The average age of these juveniles is approximately 16 years old. Thirty-seven percent of the sample are 15 years old or younger, 27% are 16 years old, and 37% are 17 years old or older. Twenty-six percent of the sample are Black, 40% are White, 17% are Hispanic, and 18% are in the 'other' racial category.[25] All of the juveniles in the sample are male.

Juveniles were an average age of 13 when they were first arrested for breaking the law, had an average of 8 prior arrests, and 3 prior commitments to juvenile facilities. Nineteen percent of the sample reported that they committed a general delinquent offense for their current commitment, 34% reported that they committed a property offense, 15% reported that they committed a drug offense, and 32% reported a violent offense. The overall average sentence length reported by juveniles was 28 months.[26]

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[24] Two juveniles did not report the type of institution they were confined to.

[25] 'Other' = Native American, Asian/Pacific, or Bi-racial.

[26] Many juvenile justice systems sentenced juvenile offenders to an indeterminant length

Juveniles in boot camps reported an average sentence of 21.8 months and juveniles in traditional facilities reported an average sentence of 31.5 months.

At the time of the first survey administration, juvenile respondents had been institutionalized for an average of 3.4 months. At the time of the second survey administration, juvenile respondents had been institutionalized for an average of 7.2 months.

The mean child maltreatment scale score is 1.62 on a five point scale (5=High), indicating that the majority of the sample experienced low levels of overall maltreatment. The mean score for the alcohol abuse measure is 1.65 and 1.54 for drug abuse (on a scale of 1 to 2, with 1 indicating higher alcohol and drug abuse). Most of the sample reported high levels of peer criminality. The average score for the measure of criminal peers is 3.33 on a scale of 1 to 5, with 5 indicating higher levels of peer criminality. The average score on the measure of family criminality is 1.21 on a scale of 1 to 2, with 2 representing higher levels of family criminality. This indicates that respondents on average did not have family members involved in crime.

According to the four conditions of confinement measures (all on a scale of 1 to 5, with 5 being high), on average juveniles perceived their institutional environments as having high levels of activity and justice. The average score on the activity measure is 3.82. The average score on the justice measure is 3.02. Juveniles also perceived their

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of time in confinement. In facilities where juveniles were completing an indeterminant sentence, facility staff assisted juveniles in answering the question 'What is your sentence for this offense, in months?' Juveniles completing indeterminant sentences reported the average length of stay in the facility they were confined to.

environments as being controlled. The average score on the control measure is 3.73. Finally, the average score on the freedom measure is 2.13, indicating that juveniles perceived their institutional environments as restrictive.

Measures of adjustment indicated that juveniles' anxiety and depression levels slightly decreased over time. The average score for anxiety is 1.44 at time 1 and 1.40 at time 2 (on a scale of 1 to 2 with two being high). The average depression score is 3.18 at time 1 and 2.98 at time 2 (both measured on a 5 point scale with 1 being low).

Co-Occurrence of Maltreatment

Previous research is criticized for not examining specific consequences associated with different dimensions of maltreatment. To address this issue using these data prevalence rates for the four maltreatment dimensions were examined (see Table 2). Overall, 75% of the sample report physical abuse (N=383), 54% report witnessing family violence (N=274), 20% report prior neglect (N=102), and 11% reported sexual abuse (N=56).

Only thirty-five percent (N=133) of those who were physically abused experienced this form of maltreatment alone. In other words, 65% of those who were physically abused experienced additional forms of child maltreatment. Twelve percent (N=34) of those who witnessed family violence only experienced this form of maltreatment. In other words, 88% of those who witnessed family violence experienced additional forms of child maltreatment. Five percent (N=4) of those who were neglected only experienced this form of maltreatment. In other words, 95% of those

who were neglected experienced additional forms of child maltreatment. Seven percent (N=4) of those who were sexually abused only experienced this form of maltreatment. In other words, 93% of those who were sexually abused experienced additional forms of child maltreatment (See Table 2).

Together these descriptive findings indicate that in this sample there is substantial co-occurrence among different dimensions of maltreatment. Since physical abuse was the most prevalent dimension, it was used as the base rate to compare its overlap with other dimensions of child maltreatment. Eighty-four percent of those who witnessed family violence were also physically abused. Eighty-eight percent of neglected youth were also physically abused. Eighty-eight percent of sexually abused youth were also physically abused (See Table 2).

Given these high rates of co-occurrence among dimensions of maltreatment, it was not possible to examine the independent influences of each dimension on adjustment in a multivariate analysis.

Diagnostics

Prior to examining the relationship between child maltreatment and psychological adjustment, first it is necessary to examine the extent to which the independent and dependent variables are interrelated. Table 3 displays the overall bivariate correlation matrix. Overall, from an inspection of this matrix, it does not appear that there is a collinearity problem among these variables - with the exception of prior drug and alcohol abuse ($r = .620$; $p < .05$). The high correlation between prior

drug and alcohol abuse is not surprising given the fact that these questions were asked in the same manner and that substance abusers tend to use both alcohol and drugs (Dembo et al., 1994). Because of this collinearity, these two measures were collapsed into one measure of substance abuse for the multivariate analysis. Correlations among the other variables appear to be in theoretically predicted directions. These correlations, therefore, provide some evidence of construct validity.

A few of the estimated bivariate correlations between independent predictors and dependent measures are of interest. In terms of the bivariate relationships between anxiety and individual risk factor measures, juveniles' self reported measures of maltreatment ($r = .141$; $p < .05$), alcohol abuse ($r = .109$; $p < .05$), and drug abuse ($r = .116$; $p < .05$) are significantly associated with higher levels of self reported anxiety. Also, younger juveniles reported higher levels of anxiety ($r = -.122$; $p < .05$). There is a weak but statistically significant association between sentence length and anxiety ($r = .102$; $p < .05$). Juveniles who had longer sentences are slightly more anxious. With the exception of sentence length, these individual risk factors are also significantly related to depression in the same theoretically predicted direction. Specifically, juveniles' self reported measures of maltreatment ($r = .205$; $p < .05$), alcohol abuse ($r = .178$; $p < .05$), and drug abuse ($r = .156$; $p < .05$) are significantly associated with higher levels of self reported depression. Younger juveniles reported high levels of depression ($r = -.124$; $p < .05$). Also, higher levels of association with criminal peers ($r = .103$; $p < .05$) and family criminality ($r = .133$; $p < .05$) are related to higher levels of depression.

In terms of the bivariate relationship between juveniles' anxiety and conditions

of confinement measures, juveniles' who perceive their environments as having more activity ($r = -.212$; $p < .05$), justice ($r = -.280$; $p < .05$), and freedom ($r = -.177$; $p < .05$) report significantly lower levels of anxiety. In terms of self reported depression, activity ($r = -.147$; $p < .05$), justice ($r = -.168$; $p < .05$), and control ($r = -.190$; $p < .05$) are significantly associated with lower levels of depression. Additionally, there is a weak but statistically significant association between the length of time juveniles are confined in the facility and their self reported depression ($r = .124$; $p < .05$). Juveniles who spent more time in the facility report higher levels of depression.

Although not the focus of this study, a few additional bivariate correlations are worth noting. The bivariate correlations indicate that peer criminality and family criminality are significantly correlated with each other ($r = .374$; $p < .05$) and other risk factors. For example, both family criminality and peer criminality are significantly associated with self reported measures of alcohol and drug abuse. Additionally, peer criminality and family criminality are significantly associated with juveniles' number of prior arrests. Higher levels of family criminality and criminal peers are associated with higher levels of alcohol abuse and drug abuse. These correlations are in the theoretically predicted direction according to empirical literature (Warr and Stafford, 1991; Elliot, 1994). The statistically significant bivariate associations between family criminality, peer criminality, and the number of prior arrests are also in the theoretically predicted direction (Farrington, 1989).

Often in the development of multiple regression models, the contribution of each variable depends on other variables in the model, raising the concern of

multicollinearity. Therefore, simple bivariate correlations are not a preferred method of diagnosing multicollinearity. A common diagnostic tool used to assess the degree of multicollinearity in the independent variables is the Variance Inflation Factor (VIF).[27] The VIF measures the proportion of variation in the slope of each independent variable that is increased by multicollinearity. As a matter of convention VIF values above 4.0 indicate a serious collinearity problem (Fox, 1991). Since none of the VIF scores exceed 4.0, collinearity does not appear to be a problem for the variables used in this study (see Table 4).

Multivariate Analysis

Ordinary least squares (OLS) regression models are estimated on both anxiety and depression during the first wave of data collection. Additionally, ordinary least squares static change score regression models are estimated to examine the change in anxiety and depression between the first and second wave of data collection (Finkel, 1995). This method includes the lagged dependent variable from time 1 in the prediction model to account for the influence of the independent variables on the change in the dependent variable between waves of data collection (see Finkel, 1995 for a discussion of the benefits of this method in panel research).[28] Finally, separate

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[27] The VIF is a mathematic re-expression of the Auxiliary R^2 – VIF = $1/1-R^2$.

[28] This is a common method used in two wave panel studies to examine change (see e.g., Angew and White, 1992; Mazerolle, 1997).

regression models are estimated for youth in boot camps and traditional facilities to examine how child maltreatment influences anxiety and depression within these two types of institutional settings. For these split models, a difference of coefficients test is employed to examine the influence of the interaction between child maltreatment and the type of institution on anxiety and depression and their change over time (Paternoster et al., 1998). For all of these statistical models, a positive effect is interpreted as increasing the level of self reported anxiety or depression among juveniles. In addition to the unstandardized coefficients, the standardized Betas are displayed and interpreted. For all models, a significant effect is reported for variables that are significant at the conventional .05 level, and a marginal effect is reported for variables that are significant at the .01 level.

Due to the collinear relationship between measures of prior alcohol and drug abuse, these scales were collapsed into one measure representing prior substance abuse [SUBSTANC]. In addition, to control for skewness, several of the independent variables (number of prior arrests, sentence length, length of time in facility at time 1 and time 2) were transferred into their natural logs. Juveniles' time-in-the-facility at the second wave of data collection was calculated by adding the amount of time between wave 1 and wave 2 survey administrations to the self report measure of time-in-the-facility at the first wave of data collection.

The Influence of Independent Factors on Anxiety and Depression at Time 1

The first model estimates juveniles' anxiety levels during the first wave of data

collection (Model 1). The R Square is examined to assess the goodness of fit of the model. The data indicate that the independent variables in the mode account for 17% of the variation in juveniles' self reported anxiety. The remaining 83% of the variation suggests that there are unspecified factors not included in the model that are important in the explanation of anxiety levels for institutionalized youth. Also, the F-test indicates that the model performs significantly better than the naive or intercept only model.

The results of regression model 1 are presented in Table 5. Juveniles' age, prior substance abuse, and prior childhood maltreatment are significantly related to self reported anxiety levels. In addition, perceptions of the institutions levels of activity and justice are also significantly related to anxiety levels. Older juveniles are significantly less anxious ($b = -.028$; $p<.05$). Interpreted in terms of standardized coefficients, for every one standard deviation increase in age anxiety decreases by .120 standard deviation units. Juveniles who experienced higher levels of child maltreatment are significantly more anxious ($b = .055$; $p < .05$). Interpreted in terms of standardized coefficients, for every one standard deviation increase in maltreatment anxiety increases by .120 standard deviation units. Juveniles who reported higher levels of prior substance abuse are also significantly more anxious ($b = .171$; $p < .05$). Interpreted in terms of standardized coefficients, for every one standard deviation increase in substance abuse, anxiety increases by .156 standard deviation units. In contrast, juveniles who perceive their institutional environments as more active are significantly less anxious. Interpreted in terms of standardized coefficients, for every one standard deviation increase in activity, anxiety decreases by .163 standard deviation units.

Juveniles who perceive their institutional environment as having higher levels of justice are also significantly less anxious ($b = -.075$; $p < .05$). Interpreted in terms of standardized coefficients, for every one standard deviation increase in justice anxiety decreases by .191 standard deviation units. Together, these findings indicate that child maltreatment significantly impacts juveniles' anxiety levels, holding other importation and deprivation variables constant. Other importation and deprivation factors, however, also have statistically significant independent effects on anxiety.

The second model estimates juveniles' depression levels during the first wave of data collection (Model 2). The R Square indicates that the independent variables in the model are accounting for 14% of the variation in juveniles' self reported depression. Also, the F-test indicates that this model performs significantly better than the naive or constant only model.

The results of regression model 2 are presented in Table 6. Juveniles' age, prior substance abuse, and prior childhood maltreatment are significantly related to self reported depression levels. In addition, perceptions of institutional levels of justice and length of time spent in the institution are also significantly related to depression. Older juveniles are significantly less depressed ($b = -.075$; $p<.05$). Interpreted in terms of standardized coefficients, for every one standard deviation increase in age depression decreases by .107 standard deviation units. Juveniles who experienced higher levels of maltreatment are significantly more depressed ($b = .219$; $p < .05$). Interpreted in terms of standardized coefficients, for every one standard deviation increase in maltreatment depression increases by .160 standard deviation units. Juveniles who reported higher

levels of prior substance abuse are significantly more depressed (b = .502; p < .05). Interpreted in terms of standardized coefficients, for every one standard deviation increase in substance abuse depression increases by .155 standard deviation units. In contrast, juveniles who perceived their institutional environment as having higher levels of justice are significantly less depressed (b = - .149; p < .05). Interpreted in terms of standardized coefficients, for every one standard deviation increase in justice depression decreases by .129 standard deviation units. Finally, juveniles who have been institutionalized for longer periods of time report are significantly more depressed (b = .127; p < .05). Interpreted in terms of standardized coefficients, for every one standard deviation increase in length of time-in-the-facility depression increases by .117 standard deviation units. Together, these findings indicate that child maltreatment significantly impacts juveniles' depression levels, holding other importation and deprivation variables constant. Other importation and deprivation factors, however, also have statistically significant independent effects on depression.

The Change in Anxiety and Depression

The third model estimates the change in juveniles' anxiety levels from the first wave of data collection to the second wave of data collection (Model 3). The R Square indicates that the independent variables in the model are accounting for 22% of the variation in the change in juveniles' self reported anxiety over time. The F-test indicates that this model performs significantly better than the naive or constant only model.

The results of regression model 3 are presented in Table 7. These findings suggest that anxiety at time 1 predicts anxiety at time 2. According to this model, the only statistically significant predictor of the change in anxiety between time periods is prior commitments to juvenile facilities. The results indicate that when controlling for juveniles' anxiety levels at time 1, each additional number of prior commitments produced a statistically significantly change in self reported anxiety levels between time 1 and time 2 ($b = -.013$; $p < .05$). Interpreted in terms of standardized coefficients, for every one standard deviation increase in prior commitments, juveniles' anxiety changes (relative decrease) by -.12 standard deviation units at time 2. Controlling for anxiety at time 1, prior commitments reduced anxiety at time 2. Although the experience of prior childhood maltreatment did not have a significant impact on the change in anxiety levels over time, child maltreatment did have a significant influence on anxiety levels at time 1 (Model 1).

The fourth model estimates the change in juveniles' depression from the first wave of data collection to the second wave of data collection (Model 4). The R Square indicates that the independent variables in the model are accounting for 20% of the variation in the change in juveniles' self reported depression over time. The F-test indicates that this model performs significantly better than the naive or constant only model.

The results of regression model 4 are presented in Table 8. The results indicate that being Black compared to White, prior maltreatment, juvenile perceptions of activity levels in institutions, and being in a boot camped compared to a traditional institution

are significantly related to the change in self reported depression over time. The model indicates that Black youth (compared to White) are significantly more likely to experience a relative increase in the change in depression over time ($b = .265$; $p < .05$). Interpreted in standard deviation units, being Black leads to a .11 standard deviation unit (relative) increase in depression over time. The results also indicate that after controlling for depression at time 1, each additional increase in the level of childhood maltreatment produced a significant and positive change in depression between time 1 and time 2 ($b = .204$; $p < .05$). Controlling for depression at time 1, every one standard deviation increase in child maltreatment increased depression by .14 standard deviation units between time 1 and time 2. In addition, juveniles who perceived their institutional environment as more active experienced a significant and negative change in depression between time 1 and time 2 ($b = -.156$; $p < .05$). When controlling for depression at time 1, every one standard deviation increase in perceptions of institutional activity produced a -.12 standard deviation unit decrease in depression over time. The model also indicates that youth confined to a boot camp, compared to a traditional facility, are more likely to experience a significant change in depression between time 1 and time 2 ($b = -.247$; $p < .05$). When controlling for depression at time 1, being in a boot camp leads to a -.12 standard deviation change in depression over time. These findings suggest that boot camp institutions significantly reduces juveniles' relative depression levels over time compared to traditional facilities.

The Influence of the Interaction Between Facility Type and Maltreatment on Anxiety and Depression

To examine the second hypothesis that juveniles who experienced prior childhood maltreatment would adjust differently depending on the type of institution they are in, the interaction of child maltreatment and facility type on anxiety and depression is examined. To examine whether the influence of child maltreatment on anxiety and depression is invariant by facility type, this study's sample was split into two independent groups by facility type (boot camps v. traditional facilities) and separate models are estimated (Models 5 and 6).

The results for the split regression models for time 1 are displayed in Table 9. Child maltreatment had a marginally significant influence on anxiety in boot camps (b = .064; $p<.10$ two-tailed) but not in traditional facilities. A difference of coefficients test was employed to examine whether the effect of child maltreatment on anxiety at time 1 was actually significantly stronger in boot camps. There is consensus in the empirical literature of "the appropriateness of this coefficient - comparison strategy in examining what is essentially an interactive effect" (Paternoster et al., 1998: 860). To examine whether the coefficient for child maltreatment is significantly different in boot camps compared to traditional facilities, the following difference test is employed:

$$Z=\frac{\beta_1-\beta_2}{\sqrt{SE\beta_1^2+SE\beta_2^2}} \qquad (1)$$

The results displayed in Table 10 indicate that there is not a statistically significant interactive effect of facility type and child maltreatment on anxiety (Z = .582). In other words, the influence of child maltreatment is invariant by facility type. Boot camp youth with histories of child maltreatment are not significantly more anxious than those in traditional institutions. All other comparisons of statistically significant coefficients also indicate null findings, suggesting that there are not unique interactions between the type of institutions and the other variables measured in this study (see Table 9).[29]

The results for the split regression models for depression in time 1 are displayed in Table 10 (models 7 and 8). These results indicate that child maltreatment has a significant influence on depression in boot camps (b = .244; $p<.05$) but only a marginally significant influence in comparison facilities (b = .137; $p<.10$). The difference of coefficients test between these models, however, indicates no statistically significant difference in child maltreatment on depression by facility type. In other words, child maltreatment does not have a significantly different influence on depression in boot camps compared to traditional facilities. All other significant coefficients are also compared across models and indicate no statistically significant difference on depression.[30] These results indicate that for the measures employed in this

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[29] The Other, activity, and justice variables are significant in the boot camp model and the age, substance abuse, number of prior arrests, sentence length, and justice variables are significant in the traditional facility model. According to a difference of coefficients test, these variables are not significantly different across models.

[30] The substance abuse and justice variables are significant in the boot camp model and the age and substance abuse variables are significant in the traditional facility model.

study there are not unique attributes by facility type.

Next, change score models are estimated to see if there were interactive effects of facility type on the changes in adjustment (models 9 and 10). Since facility type did not have a statistically significant effect on anxiety in the main-effects model, the interaction between maltreatment and facility type on anxiety is not explored.[31] Only the interactive influence between maltreatment and facility type on depression is examined. Separate change score regression models are estimated for each group. The results from the split regression models (Models 9 and 10) are displayed on Table 11. Child maltreatment is the only variable that is statistically significant in both the boot camp and traditional facility models. A difference of the estimated coefficients test is employed to examine whether child maltreatment had the same effect on the change in depression across facility types. A comparison of the child maltreatment coefficients across models results in a z-value of 0.07, indicating that there is not a statistically significant difference in the influence of child maltreatment on the change in depression within boot camps and comparison facilities. These findings, therefore, suggest that the hypothesized negative psychological influences of boot camps on youth who have experienced child maltreatment may be overstated. These results also indicate that no

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According to a difference of coefficients test, these variables are not significantly different across models.

[31] A split model was estimated (not displayed) and indicated no statistically significant effects of child maltreatment in the change in anxiety in either boot camps or comparison facilities.

other coefficients between models are significantly different.[32] Together these results indicate that there are no significant interactions between the measured independent variables and the type of institution.

The central focus of this study was to examine the influence of childhood maltreatment on psychological adjustment for institutionalized juvenile offenders. Given the findings from the regression models estimating juveniles' anxiety and depression during the first wave of data collection, the first hypothesis is supported (H1a). Child maltreatment has a significant and positive impact on anxiety and depression levels among institutionalized juveniles, holding other variables constant. According to the findings from the regression models estimating the change in anxiety and depression, the second hypothesis is partially supported (H1b). Child maltreatment has a significant and positive impact on the change in depression levels over time among institutionalized juveniles, holding other variables constant. Child maltreatment does not significantly influence the change in anxiety over time for institutionalized juveniles. Given the findings from the split regression models estimating the influence of the interaction between facility type and maltreatment on anxiety and depression, the third hypothesis (H2a) is not supported. Juveniles who experienced prior childhood maltreatment and are confined to boot camp programs do not have significantly higher levels of depression and anxiety compared to juveniles confined to traditional

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[32] The Black variable was significant in the boot camp model and the activity variable was significant in the traditional model. According to a difference of coefficients test, these variables were not significantly different across models.

institutions.[33] According to the results of the regression models estimating the influence of the interaction between facility type and maltreatment on the change in depression, the fourth hypothesis (H2b) is not supported. Juveniles who experienced prior childhood maltreatment and are confined to boot camp programs do not experience a statistically significant increase in depression over time compared to juveniles confined to traditional institutions.[34]

Sensitivity Analysis

The findings from the change score models on depression suggest that boot camp institutions significantly reduces juveniles' relative depression levels over time compared to traditional facilities. The interactive effects (split models) in the change score models, however, suggested that facility type did not have a significant interaction with any of the other independent variables. These findings, coupled with the fact that boot camp juveniles on average had been in the facility for a shorter period of time during the first wave of data collection (1.5 months in boot camps v. 5.1 months in

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[33] Although maltreatment was statistically significant in the boot camp split model for both anxiety and depression at time 1, a difference of coefficients test revealed that the influence of maltreatment for boot camps was not statistically significantly different from the influence of maltreatment on anxiety and depression for juveniles in traditional facilities (see Tables 9 and 10).

[34] Although maltreatment was statistically significant in the boot camp split model for the change in depression, a difference of coefficients test revealed that the influence of maltreatment for boot camps was not statistically significantly different from the influence of maltreatment for juveniles in traditional facilities (see Table 11).

traditional facilities), suggests that a sensitivity analysis should be conducted. How sensitive are the change in depression findings to the differences in length of confinement between boot camps and traditional facilities? It is possible that the apparent differences in the change in depression between boot camps and traditional facilities is due to the fact that juveniles in boot camp facilities were confined for shorter periods of time on average during the first wave of data collection. Some research suggests that adult inmates experience higher levels of stress during their initial period of confinement, and learn to cope with their new environment after the passage of time in the institution (Zamble and Porporino, 1988; Wormith, 1984). For example, Gendreau et al., (1979) found inmates' self-esteem improved after a period of confinement. MacKenzie and Goodstein (1985) reported lower anxiety and depression among inmates confined for longer periods of time compared to inmates confined for shorter periods of time.

To examine this confinement issue separate regression analyses were conducted using a smaller sample of youth who had been institutionalized for a period of two months or less during the first wave of data collection. The results from the anxiety and depression models in the reduced sample for time 1 (not reported here) mirror those reported earlier in the full sample. The results of change over time regression for the reduced sample (model 11) are presented in Table 12. The findings for the change in depression are very similar to those reported in the change score analyses for the full sample, with the exception of facility type. Boot camps no longer have a significant influence on the change in depression. The results indicate that being Black compared

to White, age, childhood maltreatment, and time in the facility are significantly related to the change in self reported depression over time. Perceptions of institutional activity and prior substance abuse were significant at the $p<.10$ level. The model indicates that Black youth (compared to White) are significantly more likely to experience an increase in depression over time ($b = .304$; $p < .05$). Interpreted in standard deviation units, being Black leads to a .14 standard deviation unit (relative) increase in depression over time. The model also indicates that age produced a statistically significant and negative change in depression over time ($b = -.096$; $p < .05$). Interpreted in standard deviation units, every one standard deviation increase in age produced a -.12 standard deviation unit (relative) decrease in depression over time. The results also indicate that after controlling for depression at time 1, each additional increase in the level of childhood maltreatment produced a significant and positive change in depression between time 1 and time 2 ($b = .285$; $p < .05$). Interpreted in standard deviation units, every one standard deviation increase in child maltreatment produced a .19 standard deviation unit (relative) increase in depression between time 1 and time 2. In contrast to the full sample model, juveniles who spent longer periods of time in confinement at time 2 experienced a significant decrease in depression between time 1 and time 2 ($b = -.459$; $p < .05$). Interpreted in standard deviation units, every one standard deviation increase in length of time in-the-facility produced a .15 standard deviation unit (relative) decrease in depression between time 1 and time 2. In contrast to the earlier findings for the full sample, however, there were no statistically significant differences by facility type. Juveniles who entered boot camps and traditional facilities within two months of the

first wave of data collection did not differ significantly in their depression over time. These findings suggest that when the amount of time youth have been institutionalized is taken into account, changes in adjustment (depression) are not significantly influenced by the type of institution juveniles are confined to.[35]

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[35] Separate split models for the restricted sample were also estimated for youth in traditional and boot camp facilities. The results (not reported here) are consistent with the full sample and indicate that there are no significant interactions between facility type and maltreatment, or any of the other independent variables.

CHAPTER SEVEN: DISCUSSION AND CONCLUSION

Using a longitudinal sample of 509 juveniles confined to 48 correctional institutions, ordinary least squares regression analysis examined the impact of child maltreatment on juvenile maladjustment. The finding from this research provides the field with new information regarding the relationship between childhood maltreatment and juveniles' adjustment within correctional institutions. There are three main findings from this study. First, incarcerated youth with histories of childhood maltreatment had higher levels of both anxiety and depression at time 1, holding other individual and institutional related factors constant. Additionally, youth with maltreatment histories experienced increased depression over time during their confinement. Finally, the combined influence of facility type and maltreatment on adjustment indicated that depression did not get better or worse over time for juveniles in boot camps compared to traditional facilities. In other words, the relationship between maltreatment and depression did not vary by facility type. Two main conclusions are drawn from this research. Maltreatment has a strong and consistent influence on institutionalized juveniles' mental health. Also, boot camps are not more harmful to the mental health of juveniles who have maltreatment histories compared to traditional facilities.

In addition to these main findings and conclusions, this study reported several findings that are consistent with prior research. For example, this study found a high prevalence of childhood maltreatment among institutionalized juveniles. The prevalence rate reported by this study is actually higher than the rate reported by other

studies. Specifically, 86% of juveniles in this sample experienced some form of maltreatment at least once during their childhood. Previous self-report studies have reported rates between 51% and 69% (Howling et al., 1990). The higher rate found by this study may be attributed to the study's inclusive definition of maltreatment which included four different dimensions (physical abuse, sexual abuse, neglect, and witnessing violence in the family).

Given the high rates of maltreatment reported by institutionalized juveniles in this study, it is not surprising that high rates of co-occurrence among various forms of maltreatment dimensions were also reported. This finding is consistent with prior research (Appel and Holden, 1998; Browne and Herbert, 1997; Jouriles and Le Compte, 1991). Although there is a considerable interest in identifying different outcomes associated with various dimensions of maltreatment (National Research Council, 1993), high rates of co-occurrence among maltreatment dimensions make this a difficult area to study. The high rates of co-occurrence found in the current study prohibited an analysis of whether neglect, witnessing intra-familial violence, experiencing physical abuse, or experiencing sexual abuse have similar or different influences on juveniles' psychological adjustment. This methodological problem has also been noted in prior research (Manly et al., 1994).

Prior literature has documented the negative psychological consequences associated with child maltreatment using samples of children and adolescents from the community and from domestic violence shelters. Negative long-term consequences of maltreatment have also been documented using samples of adults. This study extends

the generalizability of these findings to juvenile offenders confined to a large number of correctional institutions (N=48). Specifically, maltreatment had a significant influence on juveniles' adjustment after spending an average of 3.4 months in a correctional facility and on their adjustment over time (after approximately 7.4 months in confinement). These findings point to the fact that general mental health issues are particularly important when one examines institutionalized juvenile delinquents. Not only are delinquents at a greater risk of experiencing various forms of child maltreatment and associated psychological dysfunctions, they are also at risk for increased psychological duress when placed in the secure environment of a correctional facility. According to previous research, responses to traumatic situations, such as child maltreatment, do not necessarily occur immediately after the experience but can instead occur over a period of time (Cummings, 1998). Therefore, children who experienced maltreatment during childhood are at risk for a variety of developmental, emotional, and behavioral consequences over time (Margolin and Gordis, 2000).

Implications for Theory

This study measured the influence of selected importation and deprivation factors on the levels of self-reported anxiety and depression among a longitudinal sample of institutionalized juveniles. It is important to identify juveniles with high levels of anxiety and depression because extreme emotional reactions to confinement may interfere with rehabilitation programs.

Both importation and deprivation factors had a significant influence on measures

of juveniles' adjustment at time 1. Levels of anxiety were significantly influenced by prior childhood maltreatment, age, substance abuse, perceived levels of institutional activity, and perceived levels of institutional justice. Levels of depression at time 1 were significantly influenced by prior childhood maltreatment, age, substance abuse, perceived levels of institutional justice, and the length of time juveniles were confined to the facility. These findings are consistent with prior literature in noting that older inmates are more able to cope with the pains of confinement (MacKenzie, 1987; Sykes, 1958). Prior research has also found a relationship between substance abuse and inmates' maladjustment (Mills et al., 1998). As discussed above, the influence of childhood maltreatment provides further support for the importation theory and suggests that different prior life experiences affect self-reported anxiety and depression.

In addition to the influence of these importation variables, two deprivation measures had a significant influence on juveniles' adjustment. Variations within perceived levels of institutional activities and justice exerted a statistically significant influence on adjustment. As expected, juveniles who perceived their environments as being more just and providing more opportunities for activity adjusted to their environments better. These findings provide support for the deprivation theory in that juveniles' perceptions of their institutional environment affect their levels of anxiety and depression.

The findings also indicated that juveniles' who have been confined longer were more depressed at time 1. This finding is consistent with deprivation theories of institutional adjustment. Prior research suggests that inmate attitudes vary according to

their length of confinement, and tends to support the notion that longer time in a facility is associated with increased antisocial attitudes (Garabedian, 1963; Wellford, 1967; Wheeler, 1961).

Importation and deprivation theory measures were also related changes in psychological adjustment over time. However, there was more support for these measures in predicting changes in depression. The only importation factor that had a significant influence on changes in anxiety was prior institutional commitments. Juveniles who had a higher number of previous commitments experienced a statistically significant decrease in anxiety between time 1 and time 2. Factors that influenced depression over time included prior maltreatment, being Black, perceptions of institutional activity, and facility type. Black juveniles had increased levels of depression, compared to White juveniles. The influence of race is also consistent with prior literature in noting that the importance of race as a co-variate of adjustment. Prior research has found that Black inmates have more difficulty adjusting to the correctional environment compared to White inmates (Harer and Steffensmeier, 1996; Innes, 1998). Research, for example, has found minority inmates are significantly more depressed than White inmates (Goodstein and MacKenzie, 1984).

The type of facility also exerted a statistically significant influence on juveniles' adjustment. Specifically, boot camp environments (compared to traditional facilities) substantially decreased levels of depression among juvenile offenders. This finding is contrary to what boot camp critics would expect (Morash and Rucker, 1990). While some criticize boot camp environments for having a confrontational atmosphere due to

the incorporation of the military philosophy, it appears that juveniles spending periods of confinement in boot camps actually adjust better over time than juveniles in traditional institutions. However, this conclusion should be interpreted with caution since the sensitivity analysis did not reveal significant findings for the influence of facility type on the change in depression over time. According to the sensitivity analysis, the significant finding for the influence on facility type on the change in depression can be attributed to the amount of time juveniles had been institutionalized at the time of the first survey administration. Since youth in traditional facilities were confined for an average of four months longer than youth in boot camps at time 1, adjustment scores for traditional facility youth indicate that they had more time in the facility to adjust to their environment.

Altogether, these results suggest that neither the importation or the deprivation theory alone adequately explained how an institutionalized juvenile adjusted to the pains of confinement. The strongest model of institutional adjustment appears to be one that incorporates tenants from both importation and deprivation theories. In support of the first proposed hypothesis, however, the higher the level of self-reported child maltreatment the greater the level of both anxiety and depression. These findings, therefore, indicate that regardless of the theoretical explanation, child maltreatment is a particularly strong antecedent to psychological adjustment within juvenile correctional institutions. Overall, the findings from this research are consistent with studies that explain institutional adjustment through an integration of importation and deprivation theories. This study indicates further support for the notion that both importation and

deprivation factors work together in explaining how juveniles adjust to living in an institutionalized setting. Moreover, these findings highlight the importance of prior childhood maltreatment (importation theory) on institutionalized youths' initial measures of anxiety and depression as well as their change over time. This finding indicates the importance of pre-institutional experiences in determining a youth's psychological adjustment during confinement. These results were obtained across a geographically diverse set of institutions. Therefore, these findings appear to be generalizable to both boot camps and traditional facilities housing youthful offenders from a variety of social demographic backgrounds. In contrast to other single site or single state studies, these findings are applicable to all delinquents who could potentially be sentenced to confinement in a boot camp program. These results, therefore, indicate that both importation and deprivation factors are widely useful theoretical constructs for explaining how juveniles adjust to living in correctional settings.

Implications for Policy

The findings from this study suggest several policy implications. First, this study's findings point to the need for specific therapeutic programming within juvenile correctional systems that target youths with histories of child maltreatment. Previous research has found child maltreatment to have long-term negative psychological effects on individuals (Margolin and Gordis, 2000). Maltreatment is clearly a prior life experience that should be addressed as a major component of therapeutic programming. Since child maltreatment is highly prevalent among institutionalized youth and

negatively impacts initial and long-term adjustment during periods of confinement, preventive interventions should be designed to address this population of incarcerated youth. To this end, appropriate screening and assessment tools must be used to identify juveniles who have past histories of maltreatment. More importantly, after youth with these histories are identified a priority should be placed on providing effective treatment interventions that enable these youth to learn to cope with their past experiences and reduce their likelihood of future negative psychological consequences, such as anxiety and depression. If anxiety and depression are not appropriately treated, individuals with maltreatment histories may experience secondary consequences, such as a disruption in their progression through age-appropriate developmental tasks (Boney-McCoy and Finkelhor, 1995).

According to anecdotal information noted by researchers during site visits at institutions during the time 1 data collection, child maltreatment was not an area that facilities specifically targeted in their therapeutic programming. The most common areas targeted by therapeutic programming were anger management and life skills training. While these are also important areas for treatment intervention, the findings from this study urge juvenile justice personnel to revamp therapeutic programming in correctional settings to also include treatment interventions focused on issues related to child maltreatment. Institutionalized treatment interventions for maltreated youth should include both individual and group therapy. Both therapeutic modalities should emphasize the importance of juveniles' expressing and exploring their feelings (Berliner and Wheeler, 1987) regarding their prior maltreatment experiences in order to reduce

feelings of anxiety (Kendall et al., 1992) and depression (Kolko et al., 1998; Lewinsohn et al., 1990). Various individual and group treatment approaches include self-support techniques, building affect-regulation skills, cognitive interventions, exploration of desensitization of trauma and emotional processing (Briere, 1992). Group therapy approaches have been found to provide a forum for anxiety relief and provide opportunities for interpersonal learning and improved social adjustment (Alexander et al., 1991).

Findings from this study also suggest that boot camps programs are not as antithetical to positive adjustment as critics would suggest (Morash and Rucker, 1990). Moreover, youth who experienced child maltreatment were not significantly more depressed or anxious in boot camps compared to traditional facilities. These findings, therefore, suggest that boot camps are not more harmful for youth with histories of child maltreatment. Instead, greater levels of child maltreatment appear to have equally deleterious consequences on youths' psychological adjustment in both facility types. Anecdotal information noted by researchers during the time 1 data collection confirm these findings. For example, it was observed that youth nearing the end of their boot camp stay had high levels of outward self-confidence and self-esteem. Observations at traditional facilities did not indicate this same pattern. While these observations do not provide quantitative assessment of actual psychological adjustment, they do provide some qualitative support for the empirical findings in this study.

Together, findings from this research indicate that juvenile correctional institutions should place a priority on developing effective treatment interventions that

target youth with serious histories of child maltreatment. Since child maltreatment is an antecedent of both psychological maladjustment and general antisocial behavior, this is a particularly important risk factor to address during correctional confinement. Not only can proper treatment interventions help these youth learn to cope with their past experiences and reduce their psychological duress, but they may also have the additional benefit of reducing their likelihood of committing future criminal acts after being released from custody. Additionally, effective treatment interventions for incarcerated youth with histories of child maltreatment may also reduce the likelihood of these youth committing the same acts of violence against their future partners and children. If treatment interventions can effect any of these outcomes they are more than worth their financial investment. Proper assessment and treatment of youth with histories of severe child maltreatment could produce immediate and long-term benefits for incarcerated youth.

Summary

The findings from this study indicate important theoretical and practical issues. In terms of theoretical issues, it is clear that child maltreatment is an important importation factor in the etiology of institutional adjustment for adolescents. At the same time, however, adolescents' perceptions of the institutions themselves are also important in explaining institutional adjustment. It is not surprising to find that both prior home experiences and current perceptions of one's living arrangement would influence a youth's anxiety and depression. In terms of practice, this study suggests that

those who criticize boot camp environments for being anti-therapeutic for juvenile offenders and their psychological well-being, may be over stating the differences between traditional juvenile institutions and juvenile boot camps. For those juveniles who are able to progress positively through the boot camp regiment, there may be psychological benefits that discount for the lack of counseling and other therapeutic programming in these facilities (Gover et al., 2000a). The fact that youth who have experienced severe forms of child maltreatment have adjustment difficulties in both boot camps and traditional facilities highlights the need for effective institutional interventions. While clinical trial research indicates a strong effect of early childhood preventive interventions on child abuse and neglect (Olds et al., 1997), less is known about the impacts of institutional interventions aimed at helping youth cope with the pains associated with being raised in abusive and neglectful homes. Clearly, findings from this study highlight the importance of child maltreatment in both the etiology of institutional adjustment and the need for effective institutional interventions.

Future Research

This study attempted to address the issue of child maltreatment and its impact on institutional adjustment for youthful offenders - both from a cross sectional and longitudinal analysis. There are several questions raised by this study that would benefit from future research. First, there is clearly a limitation of relying solely on self-reported data. The issues of memory recall and temporal order prevent this study from distinguishing correlation from causality. Future research examining the role of child

maltreatment in both the etiology of delinquency and the adjustment to institutional settings would benefit from combining both official (e.g. child protective services and juvenile court) and self-reported data. This would permit the assessment of the antecedent influences of child maltreatment, and the degree to which recent experiences versus early childhood experiences explain juveniles' psychological adjustment to correctional institutions. Additionally, this research also raises the question: To what extent does psychological adjustment explain the behavior of youth once they are released from secure institutions? It seems practical to suggest that the less a juvenile is properly adjusted the less amenable he or she is to rehabilitative treatment and the more likely he or she is to recidivate. But in reality research has not clearly supported this statement. Future research would benefit from examining prospectively the impact of child maltreatment on institutional adjustment and the combined influence of these two factors on long-term behavioral outcomes. Such research would help social scientists gain a clearer understanding of the developmental pathways of child maltreatment on antisocial behavior and where appropriate preventive interventions could be designed to mediate its devastating social and psychological consequences (see Ohlin and Tonry, 1989 for examples).

Table 1. Descriptive Statistics (N=509)

	Variable	Mean	Std Dev.	Minimum	Maximum
Demographics	AGE	15.94	1.38	11.00	19.00
	WHITE	.40	.49	.00	1.00
	HISPANIC	.17	.3739	.00	1.00
	BLACK	.26	.43	.00	1.00
	OTHER	.18	.38	.00	1.00
Risk Factors	MALTREAT	1.62	.71	1.00	5.00
	ALCOHOL	1.65	.32	1.00	2.00
	DRUGS	1.54	.34	1.00	2.00
	PEERCRIM	3.33	1.04	1.00	5.00
	FAMCRIM	1.21	.34	1.00	2.00
Criminal History	NOARREST	7.70	6.32	.00	26.00
	AGEFIRST	12.84	2.21	5.00	18.00
	PREVCOM	3.01	2.72	.00	11.00
	OFFENSE	2.60	1.13	1.00	4.00
	SENTENCE	28.06	40.59	.00	120.00
Cond. of Confinement	CONTROL	3.73	.73	1.89	5.00
	ACTIVITY	3.82	.82	1.00	5.00
	JUSTICE	3.02	.84	1.00	5.00
	FREEDOM	2.13	.79	1.00	4.57
	BOOT	0.48	.50	0.00	1.00
	BEENIN1	3.37	5.70	.10	66.00
	BEENIN2	7.42	6.96	.50	72.00
Adjustment Measures	ANXIETY1	1.44	.32	1.00	2.00
	ANXIETY2	1.40	.29	1.00	2.00
	DEPRESS1	3.18	.98	1.00	5.00
	DEPRESS2	2.98	1.02	1.00	5.00

Table 2. Prevalence and Co-Occurrence of Maltreatment (N=509)

	Experienced at Least Once		Only Dimension Experienced		Also Physically Abused	
Physical Abuse	75%	(N=383)	35%	(N=133)	N/A	
Witnessing	54%	(N=274)	12%	(N=34)	84%	(N=228)
Neglect	20%	(N=102)	5%	(N=5)	88%	(N=89)
Sexual Abuse	11%	(N=56)	7%	(N=4)	88%	(N=49)

Table 3. Bivariate Correlations

	Y1	Y2	Y3	Y4	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14	X15	X16	X17	X18	X19	X20	X21
ANXIETY2	1.000																								
DEPRESS2	.360*	1.000																							
ANXIETY1	.407*	.220*	1.000																						
DEPRESS1	.283*	.360*	.528*	1.000																					
AGE	-.013	-.001	-.122*	-.124*	1.000																				
WHITE	.028	-.008*	.076	-.029	.069	1.000																			
HISPANIC	.031	-.040	-.088*	-.060	.072	-.364*	1.000																		
BLACK	-.097*	.063	-.042	-.002	-.028	-.478*	-.265*	1.000																	
OTHER	.044	.001	.037	.097*	-.127*	-.377*	-.209*	-.274*	1.000																
MALTREAT	.057	.201*	.141*	.205*	.055	.000	-.052	-.111*	.179*	1.000															
ALCOHOL	.138*	.145*	.109*	.178*	.001	.126*	-.008	-.199*	.075	.180*	1.000														
DRUGS	.168*	.121*	.116*	.156*	.063	.158*	.014	-.237*	.055	.119*	.620*	1.000													
FEBRCRIM	.092*	.097*	.026	.103*	.011	-.169*	.232*	-.159*	.094*	.117*	.415*	.470*	1.000												
FAMCRIM	.110*	.094*	.057	.133*	-.030	-.068	.125*	-.179*	.170*	.203*	.336*	.330*	.374*	1.000											
NOARREST	-.034	.073	-.078	.038	.038	-.108*	.100	-.082	.134*	.144*	.243*	.222*	.329*	.261*	1.000										
AGEFIRST	-.041	-.065	.044	.061	-.016	-.026	.016	-.048	.072	-.001	-.043	-.069	-.038	-.041	-.072	1.000									
PREVCOM	-.053	.035	-.001	.037	-.013	-.006	-.047	-.008	.155*	.209*	.178*	.220*	.253*	.240*	.329*	-.001	1.000								
OFFENSE	-.025	.010	.000	.040	.075	-.126*	.079	.007	-.015	.019	-.058	-.040	-.030	.012	-.077	-.014	-.123*	1.000							
SENTENCE	.057	.048	.102*	.038	.020	.075	-.125*	-.217*	.274*	.139*	.127*	.053	.093	.209*	.100*	.101*	.162*	-.115*	1.000						
CONTROL	-.067	-.197*	-.038	-.190*	.032	.075	.030	.028	-.158*	-.159*	-.251*	-.189*	-.280*	-.265*	-.175*	-.022	-.181*	-.038	-.037	1.000					
ACTIVITY	-.064	-.201*	-.212*	-.147*	.031	.061	.027	-.062	-.033	-.055	-.034	-.031	-.038	-.006	-.064	-.040	-.018	-.008	-.030	.570*	1.000				
JUSTICE	-.137*	-.120*	-.208*	-.168*	.092*	.025	.067	-.129	.050	-.005	.004	-.005	.047	.014	.060	-.043	.042	.000	-.027	.155*	.455*	1.000			
FREEDOM	-.008*	.028	-.177*	-.015	.061	-.109*	.001	.019	.116	.061	.081	.039	.147*	.101*	.130*	-.022	.120*	.052	.053	-.245*	.076	.466*	1.000		
BERNIN1	.065	.169*	.028	.124*	.008	-.119*	.027	-.022	.151*	.129*	.104*	.004	.109*	.177*	.121*	.079	.066	.110*	.078	-.158*	-.188*	.018	.192*	1.000	
BOOT	.014	-.163*	.007	.048	-.003	.080*	.010	.042	-.170*	-.133*	-.149*	-.099*	-.084	-.191*	-.267*	.270*	-.165*	-.071	-.119*	.005*	.191*	-.174*	-.449*	-.317*	1.000

* Correlation is significant at $p < 0.05$ level (2-tailed).

Table 4. Test of Multicollinearity

Variable	Variance Inflation Factor
AGE	1.22
BLACK	1.44
HISPANIC	1.41
OTHER	1.34
MALTREAT	1.16
ALCOHOL	1.82
DRUGS	1.93
PEERCRIM	1.64
FAMCRIM	1.46
NOARREST	1.53
AGEFIRST	1.52
PREVCOM	1.27
OFFENSE	1.08
SENTENCE	1.24
CONTROL	1.57
ACTIVITY	1.51
JUSTICE	1.73
FREEDOM	1.70
BOOT	1.67
BEENIN1	1.20

Table 5. Regression Model for Anxiety at Time 1 (Model 1)

Variable	b	Beta	t-ratio
Age	-.028*	-.120	-2.523
Hispanic	-.048	-.056	-1.099
Black	-.029	-.038	-.745
Other	-.002	-.003	-.055
Maltreatment	.055*	.120	2.596
Substance Abuse	.171*	.156	-2.885
Peer Criminality	.001	.005	.081
Family Criminality	-.017	-.018	.356
Number Prior Arrests	-.038	-.097	-1.759
Age at first Arrest	-.003	-.019	-.340
Previous Commitments	-.002	-.020	-.425
Current Offense	.004	.015	.339
Sentence Length	.015	.054	1.122
Control	.030	.068	1.270
Activity	-.066*	-.163	-3.102
Justice	-.075*	-.191	-3.387
Freedom	-.009	-.021	-.369
Boot Camp	.066	.101	1.765
Length of Time in Facility (T1)	.007	.019	.354
Constant	2.464		9.877
R Square	0.17		

*p≤.05

Table 6. Regression Model for Depression at Time 1 (Model 2)

Variable	b	Beta	t-ratio
Age	-.075*	-.107	-2.199
Hispanic	-.054	-.021	-.406
Black	.125	.056	1.068
Other	.093	.036	.702
Maltreatment	.219*	.160	3.402
Substance Abuse	.502*	.155	2.796
Peer Criminality	.023	.024	.428
Family Criminality	.014	.005	.098
Number Prior Arrests	-.050	-.044	-.780
Age at first Arrest	-.017	-.039	-.699
Previous Commitments	-.010	-.029	-.582
Current Offense	.024	.028	.623
Sentence Length	-.038	-.048	-.977
Control	-.090	-.069	-1.263
Activity	-.040	-.033	-.623
Justice	-.149*	-.129	-2.239
Freedom	.011	.009	.151
Boot Camp	.123	.064	1.087
Length of Time in Facility (T1)	.127*	.117	2.149
Constant	.135		.179
R Square	0.14		

*p≤.05

Table 7. Regression Model for Anxiety at Time 2 (Model 3)

Variable	b	Beta	t-ratio
Anxiety Time 1	.370*	.410	8.934
Age	.011	.050	1.073
Hispanic	.032	.040	.819
Black	-.032	-.046	-.925
Other	.032	.040	.827
Maltreatment	-.009	-.022	-.478
Substance Abuse	.073	.074	-1.395
Peer Criminality	.010	.035	.646
Family Criminality	.034	-.040	-.790
Number Prior Arrests	.005	.014	.254
Age at first Arrest	-.004	-.034	-.634
Previous Commitments	-.013*	-.118	-2.512
Current Offense	-.010	-.038	-.865
Sentence Length	-.006	-.025	-.508
Control	-.020	-.050	-.956
Activity	.021	.056	1.082
Justice	-.018	-.050	-.901
Freedom	-.014	-.038	-.700
Boot Camp	-.020	-.033	-.611
Length of Time in Facility (T2)	-.001	-.002	-.030
Constant	1.069		4.339
R Square	.216		

*p≤.05

Table 8. Regression Model for Depression at Time 2 (Model 4)

Variable	b	Beta	t-ratio
Depression Time 1	.275*	.264	5.826
Age	-.031	-.042	-.899
Hispanic	.071	.027	.535
Black	.265*	.114	2.251
Other	.111	.041	.839
Maltreatment	.204*	.143	3.121
Substance Abuse	.246	.073	1.355
Peer Criminality	.036	.037	.673
Family Criminality	-.111	-.038	-.756
Number Prior Arrests	-.019	-.016	-.297
Age at first Arrest	-.001	-.003	-.057
Previous Commitments	-.018	-.049	-1.033
Current Offense	.028	-.031	-.693
Sentence Length	.011	.014	.283
Control	-.031	-.023	-.432
Activity	-.156*	-.124	-2.409
Justice	-.011	-.009	-.170
Freedom	-.065	-.050	-.917
Boot Camp	-.247*	-.122	-2.243
Length of Time in Facility (T2)	.055	.030	.579
Constant	1.043		1.341
R Square	.203		

*p≤.05

Table 9. Regression Models for the Interaction Effect of Maltreatment and Facility Type on Anxiety (Models 5 and 6)

	Boot Camp (N=245)		Traditional (N=262)		Difference
Variable	b	SE	b	SE	Z Value
Age	-.017	.02	-.032**	.013	.65
Hispanic	-.097	.065	.027	.062	
Black	-.064	.056	-.009	.055	
Other	-.126*	.074	.072	.054	
Maltreatment	.065*	.038	.039	.026	.58
Substance Abuse	-.126	.089	-.249**	.079	1.03
Peer Criminality	.004	.027	-.015	.024	
Family Criminality	.015	.018	.061	.062	
Number Prior Arrests	-.002	.036	-.067**	.026	1.44
Age at first Arrest	.006	.016	-.010	.009	
Previous Commitments	.009	.011	-.008	.007	
Current Offense	.007	.020	.009	.017	
Sentence Length	.000	.001	.001**	.001	-1.0
Control	.037	.039	.028	.032	
Activity	-.088**	.034	-.038	.028	1.11
Justice	-.086**	.031	-.060*	.033	.58
Freedom	.013	.037	-.04	.032	
Length of Time in Facility (T2)	.013	.037	.007	.022	
Constant	2.16		2.7		
R Square	.18		.23		

**p≤.05
*p≤.10

Table 10: Regression Models for the Interaction Effect of Maltreatment and Facility Type on Depression (Models 7 and 8)

	Boot Camp (N=245)		Traditional (N=262)		Difference
Variable	b	SE	b	SE	Z Value
Age	-.033	.060	-.082*	.042	
Hispanic	-.146	.192	.074	.194	
Black	.080	.167	.103	.173	
Other	-.024	.217	.103	.171	
Maltreatment	.344**	.112	.137*	.081	1.51
Substance Abuse	.534**	.264	.569**	.251	-.09
Peer Criminality	-.098	.080	.092	.076	
Family Criminality	-.079	.239	.055	.196	
Number Prior Arrests	.049	.105	-.141	.083	
Age at first Arrest	-.026	.047	-.036	.029	
Previous Commitments	-.009	.031	-.009	.021	
Current Offense	.012	.060	.038	.054	
Sentence Length	-.001	.002	.002	.002	
Control	-.065	.114	-.102	.099	
Activity	-.136	.102	.047	.089	
Justice	-.188**	.092	-.089	.103	-.71
Freedom	.142	.111	-.145	.099	
Length of Time in Facility (T2)	.204	.109	.059	.068	
Constant	.471		.041		
R Square	.18		.16		

**p≤.05
*p≤.10

Table 11. Regression Models for the Interaction Effect of Maltreatment and Facility Type on the Change in Depression (Models 9 and 10)

	Boot Camp (N=245)		Traditional (N=262)		Difference
Variable	b	SE	b	SE	Z Value
Depression Time 1	.230	.071	.314	.065	
Age	.002	.063	-.060	.041	
Hispanic	.118	.171	.079	.184	
Black	.345*	.202	.079	.167	1.09
Other	.275	.226	-.083	.166	
Maltreatment	.251*	.119	.151*	.079	.07
Substance Abuse	.395	.278	.155	.244	
Peer Criminality	.019	.084	-.009	.073	
Family Criminality	-.159	.249	-.059	.188	
Number Prior Arrests	.057	.111	-.066	.081	
Age at first Arrest	.023	.049	-.001	.028	
Previous Commitments	-.001	.033	-.023	.020	
Current Offense	-.015	.065	-.043	.052	
Sentence Length	-.055	.065	.093	.057	
Control	-.119	.119	.084	.096	
Activity	-.141	.107	-.165*	.086	-.176
Justice	.034	.097	-.089	.100	
Freedom	-.163	.115	-.001	.096	
Length of Time in Facility (T2)	.084	.184	.061	.109	
Constant	1.934	1.356	.531	.964	
R Square	0.19		0.22		

*p≤.05

Table 12. Reduced Sample Regression Model for Depression at Time 2 (Model 11) (N=294)

Variable	b	Beta	t-ratio
Depression Time 1	.192*	.189	3.368
Age	-.096*	-.119	-1.991
Hispanic	.296	.111	1.75
Black	.304*	.139	2.197
Other	.032	.011	.176
Maltreatment	.285*	.189	3.155
Substance Abuse	.418	.127	1.875
Peer Criminality	.023	.024	.359
Family Criminality	-.221	-.069	-1.041
Number Prior Arrests	.007	.040	.578
Age at first Arrest	.039	.081	1.206
Previous Commitments	-.020	-.054	-.839
Current Offense	-.069	-.075	-1.340
Sentence Length	.001	.047	.760
Control	-.127	-.094	-1.353
Activity	-.146	-.113	-1.773
Justice	-.078	-.066	-.968
Freedom	-.007	-.006	-.086
Boot Camp	-.203	-.095	-1.436
Length of Time in Facility (T2)	-.459*	-.152	-2.511
Constant	.308		.293
R Square	.230		

*p≤.05

Appendix A. Juvenile Survey Instrument: "National Evaluation of Juvenile Correctional Facilities"

NATIONAL EVALUATION OF JUVENILE CORRECTIONAL FACILITIES

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NATIONAL EVALUATION OF JUVENILE FACILITIES©

A. How old are you? ..... _____ Years old

B. What is your date of birth? ..... _____ Month _____ Day _____ Year

C. What is the longest time that you have worked at the same job? ..... _____ Months _____ Years

D. What is the current offense that you were convicted of? ..... _____

E. What is your sentence for this offense? ..... _____ Years _____ Months

F. How long have you been in this facility? ..... _____ Years _____ Months

G. When do you expect to leave this facility? .... _____ Years _____ Months

H. How old were you when you were first arrested? *(This is the first time that you were actually booked and finger-printed.)* ..... _____ Years old

I. How many times have you been arrested? .... _____ Times

J. How many times have you been arrested for violent crimes (crimes against people)? ... _____ Times

K. Including your current conviction, how many times have you been committed to a county, state or federal juvenile facility? ..... _____ Times

L. When you were growing up, with whom did you live most of the time. Include anyone who was present at the time such as parents, sisters, brothers, grandparents.

_____ _____

_____ _____

M. When you are released from this facility, with whom or where will you live?

_____ _____

In this survey, when we say "facility" we mean the institution or place where you are currently living.

INFORMATION ABOUT YOU

These questions will ask for information about your background. After each item, we will list appropriate responses. Please darken the correct circle on the response sheet and not in this booklet.

1. Are you male or female?	Male (a)	Female (b)					
2. What is your race?	Hispanic (a)	African American (b)	Native American (c)	Asian/ Pacific (d)	White (e)	Other (f)	
3. What is your marriage status?	married (a)	seperated (b)	divorced (c)	never married (d)			
4. Do you have children?	yes (y)	no (n)					
5. If YES, did they live with you before you came to this facility?	yes (y)	no (n)	does not apply (x)				
6. If YES, but they did NOT live with you, how often did you see them before coming to this facility?	never (a)	rarely (b)	sometimes (c)	often (d)	always (e)	doesn't apply (x)	
7. What type of area did you live in before coming to this facility?	Large city (a)	Town near large city (b)	Medium/ small city (c)	Town in rural area (d)			
8. Before coming to this facility, did you spend time for this offense in another facility?	yes (y)	no (n)					
9. Before coming to this facility, were you involved with a gang?	yes (y)	no (n)					

SCHOOL

	under 5th	6-8th	9-10th	11-12th	GED	more
10. What is the highest grade that you have completed in school?	(a)	(b)	(c)	(d)	(e)	(f)

For items numbered 11 through 15, please respond (y) for yes and (n) for no.

	yes	no
11. Have you ever attended college or courses in vocational training?	(y)	(n)
12. Were you enrolled in a school prior to being committed for the present offense?	(y)	(n)
13. Prior to coming to this facility, did you attend most of your classes almost everyday?	(y)	(n)
14. Have you ever gone to school while you were under the influence of alcohol?	(y)	(n)
15. Have you ever gone to school high on drugs?	(y)	(n)

For items numbered 16 through 23, please indicate whether you experience these feelings:
(a) never, (b) rarely, (c) sometimes, (d) often, (e) always

	never	rarely	sometimes	often	always
16. I like school.	(a)	(b)	(c)	(d)	(e)
17. Finishing my homework is important to me.	(a)	(b)	(c)	(d)	(e)
18. I respect my teachers.	(a)	(b)	(c)	(d)	(e)
19. Getting good grades is important.	(a)	(b)	(c)	(d)	(e)
20. I don't care what my teachers think of me.	(a)	(b)	(c)	(d)	(e)
21. It would make me feel bad if my teacher criticized me.	(a)	(b)	(c)	(d)	(e)
22. I get into trouble at school like being suspended or expelled.	(a)	(b)	(c)	(d)	(e)
23. A good education is important.	(a)	(b)	(c)	(d)	(e)

WORK

24. Were you employed during the 6 months before you entered a facility for your current offense?	yes (y)	no (n)				
25. If YES, how many hours did you usually work per week?	1-10 (a)	11-20 (b)	21-30 (c)	31-40 (d)	doesn't apply (e)	
26. If NO, were you in another facility immediately before coming here?	yes (y)	no (n)	doesn't apply (x)			

For items 27 through 32, please indicate whether you experience these feelings about your most recent job or about a job you plan to have in the future:(a) never, (b) rarely, (c) sometimes, (d) often, (e) always

	never	rarely	sometimes	often	always
27. The most important things that happen to me involve my job.	(a)	(b)	(c)	(d)	(e)
28. I enjoy thinking about where I will work in the future.	(a)	(b)	(c)	(d)	(e)
29. Doing well at work is important to me.	(a)	(b)	(c)	(d)	(e)
30. I would not take a higher level job since it usually means more things to worry about.	(a)	(b)	(c)	(d)	(e)
31. A good job is an easy job.	(a)	(b)	(c)	(d)	(e)
32. I feel good when I do my job well.	(a)	(b)	(c)	(d)	(e)

YOUR FAMILY

If you were not raised by your mother or father, please answer the questions about the person who did raise you.

For items 33 through 36, please respond (y) yes, (n) no or (u) uncertain.

	yes	no	uncertain
33. Have any of your family members been incarcerated for 30 days or longer?	(y)	(n)	(u)
34. Have any of the people you lived with prior to entering a facility for this offense ever been treated for a problem with drugs or alcohol?	(y)	(n)	(u)
35. Have any of the people you lived with prior to entering a facility for this offense ever abused drugs or alcohol?	(y)	(n)	(u)
36. Are any of your family members involved with a gang?	(y)	(n)	(u)

For items 37 through 44, please indicate whether you experience these feelings or beliefs :

	never	rarely	sometimes	often	always
37. My parents had rules that I had to follow at home. ..	(a)	(b)	(c)	(d)	(e)
38. When I was away from home, my parents knew where I was and when I would be back.	(a)	(b)	(c)	(d)	(e)
39. I would like to be like my parents.	(a)	(b)	(c)	(d)	(e)
40. I feel comfortable talking to my parents if I have a problem.	(a)	(b)	(c)	(d)	(e)
41. I feel bad when I do something my parents wouldn't like.	(a)	(b)	(c)	(d)	(e)
42. I can count on my parents to stick by me.	(a)	(b)	(c)	(d)	(e)
43. I want my children to respect me.	(a)	(b)	(c)	(d)	(e)
44. It is important for people to spend time with their families.	(a)	(b)	(c)	(d)	(e)

YOUR FUTURE

For items 45 through 54, please respond (y) yes, (n) no or (u) uncertain.

	yes	no	uncertain
45. I have made plans to find a job or have already found a place to work when I leave here.	(y)	(n)	(u)
46. I have set goals for myself.	(y)	(n)	(u)
47. I have planned a place to live when I leave here.	(y)	(n)	(u)
48. I have had a chance to get organized with the school I plan to attend when I leave here.	(y)	(n)	(u)
49. I have had a chance to meet with my future probation officer.	(y)	(n)	(u)
50. Almost everything I do here is in groups.	(y)	(n)	(u)
51. I hardly ever have one-on-one meetings with the staff.	(y)	(n)	(u)
52. I have had little help on particular problems I will face when I leave.	(y)	(n)	(u)
53. If I need drug or alcohol treatment, I have had a chance to make plans for future treatment.	(y)	(n)	(u)
54. I have received individual counseling here.	(y)	(n)	(u)

YOUR OLD FRIENDS

Prior to your arrest, think about your closest group of friends or the friends that you hung out with the most before you came to a juvenile facility. For questions numbered 55 through 58, answer (a) none, (b) few, (c) some, (d) most, (e) all

	none	few	some	most	all
55. How many of these friends have EVER been in trouble with the law?	(a)	(b)	(c)	(d)	(e)
56. How many of these friends have EVER been incarcerated for 30 days or longer?	(a)	(b)	(c)	(d)	(e)
57. How many of these friends were involved with a gang?	(a)	(b)	(c)	(d)	(e)

	yes	no	uncertain
58. Did these friends often use drugs or alcohol? *(This would be more than four times per week)*?	(y)	(n)	(u)

DRUGS AND ALCOHOL

We would now like you to think about the six months before you entered this facility. For the items numbered 59 through 64, indicate if you have used any of these substances.

	yes	no
59. alcohol (beer, wine, hard liquor)	(y)	(n)
60. tobacco (cigarettes, chewing tobacco, etc.)	(y)	(n)
61. marijuana/hashish (pot, weed, grass, reefer, blunts)	(y)	(n)
62. crack/powder cocaine	(y)	(n)
63. inhalants (paint thinner, glue, white-out, whippits, poppers) ...	(y)	(n)
64. other drugs	(y)	(n)

DRUGS AND ALCOHOL (continued)

For items numbered 65 and 66, the response choices are: (a)under age 9 (b) ages 10-11 (c) ages 12-14 (d) ages 15-16 (e) ages 17 and above (f) never

	under 9	ages 10-11	ages 12-14	ages 15-16	ages 17 & above	never
65. How old were you when you first had more than a sip of alcohol?	(a)	(b)	(c)	(d)	(e)	(f)
66. How old were you when you first tried drugs?	(a)	(b)	(c)	(d)	(e)	(f)

For items 67 through 76, please respond (a) yes or (b) no

	yes	no
67. Have you ever stolen money from friends or family to buy drugs without them knowing?	(y)	(n)
68. Have you ever stolen money from friends or family to buy alcohol without them knowing?	(y)	(n)
69. Have you ever received treatment for alcohol abuse?	(y)	(n)
70. In the six months before you entered a juvenile facility did you drink heavily, get drunk often, or have a drinking problem?	(y)	(n)
71. Has anyone (including someone at school) ever talked to you because they were concerned that you may have a problem with alcohol?	(y)	(n)
72. Has anyone (including someone at school) ever told you that you have a problem with drugs?	(y)	(n)
73. Have you ever received treatment for drug abuse?	(y)	(n)
74. In the six months before you entered a juvenile facility, did you use a lot of drugs, get high often or have a drug problem?	(y)	(n)
75. Do you think that using drugs interferes with important things like family relations and homework?	(y)	(n)
76. Do you think that there is nothing wrong with using drugs or alcohol?	(y)	(n)

YOUR CHILDHOOD

For items 77 through 85, think back to your childhood for how often each of the following behaviors occurred. If you were not raised by your mother or father, please answer the questions about the person who did raise you. Rate the occurrence of the behaviors as: (a) never occurred, (b) rarely occurred (behavior occurred once or twice during your childhood), (c)sometimes occurred (behavior occurred one to five times a year), (d) often occurred (behavior occurred once a month), or (e) frequently occurred (behavior occurred more than once a month).

	never	rarely	sometimes	often	frequently
77. How often did your mother or father slap you?	(a)	(b)	(c)	(d)	(e)
78. How often did your mother or father hit you? .... *(Hit = punching with a closed fist or using an object such as a belt, brush, etc. to hit).*	(a)	(b)	(c)	(d)	(e)
79. How often were you burned by your mother or father? *(Burning = damaging skin with scalding water, hot iron, cigarette butt, etc.).*	(a)	(b)	(c)	(d)	(e)
80. How often did you have bruises, cuts, or other evidence of punishment by your mother or father? ..	(a)	(b)	(c)	(d)	(e)
81. How often were you scared or afraid of getting physically hurt by your mother or father?	(a)	(b)	(c)	(d)	(e)
82. Would you say that you were unfed, unwashed, or generally unsupervised at home on some regular basis as a young child?	(a)	(b)	(c)	(d)	(e)
83. How often did you witness one of your parents physically harm the other parent?	(a)	(b)	(c)	(d)	(e)
84. How often did you witness a member of your family physically harm another family member *(do not include violence between both parents)*?	(a)	(b)	(c)	(d)	(e)
85. How often were you personally ever touched in a sexual way or forced to have sex by an adult or older child when you did not want this to happen *(include family members and people outside of your family)*?	(a)	(b)	(c)	(d)	(e)

YOUR OPINIONS

Items numbered 86 through 90 describe how people think or feel. For each one of these, please indicate if you (a) STRONGLY AGREE, (b) AGREE, (c) ARE NOT SURE,(d) DISAGREE, (e) STRONGLY DISAGREE.

	strongly agree	agree	not sure	disagree	strongly disagree
86. At times I worry too much about things that don't really matter.	(a)	(b)	(c)	(d)	(e)
87. Sometimes, recently, I have worried about losing my mind.	(a)	(b)	(c)	(d)	(e)
88. I often feel angry these days.	(a)	(b)	(c)	(d)	(e)
89. In the past few weeks, I have felt depressed and very unhappy.	(a)	(b)	(c)	(d)	(e)
90. These days I can't help wondering if anything is worthwhile anymore.	(a)	(b)	(c)	(d)	(e)

For items 91 through 94, please indicate whether you experience these feelings or beliefs :

	never	rarely	sometimes	often	always
91. I would stick by my friends if we got into really bad trouble.	(a)	(b)	(c)	(d)	(e)
92. I can trust my close friends.	(a)	(b)	(c)	(d)	(e)
93. I have respect for my friends.	(a)	(b)	(c)	(d)	(e)
94. When my friends are doing something that I know is wrong, I join them anyway.	(a)	(b)	(c)	(d)	(e)

For items 95 through 114, please respond (y) yes or (n) no

	yes	no
95. Are some kids just born lucky?	(y)	(n)
96. Do you feel that most of the time it doesn't pay to try hard because things never turn out right anyway?	(y)	(n)
97. Do you think that cheering more than luck helps a team win?	(y)	(n)

YOUR OPINIONS (continued)

	yes	no
98. Do you feel that when you do something wrong there's very little you can do to make it right?	(y)	(n)
99. Most of the time do you find it useless to try your own way at home?	(y)	(n)
100. Are you the kind of person who believes that planning ahead makes things turn out better?	(y)	(n)
101. I feel calm.	(y)	(n)
102. I feel upset.	(y)	(n)
103. I feel anxious.	(y)	(n)
104. I feel nervous.	(y)	(n)
105. I am relaxed.	(y)	(n)
106. I am worried.	(y)	(n)
107. I like to take chances.	(y)	(n)
108. I like to do things that are strange or exciting.	(y)	(n)
109. I only do things that feel safe.	(y)	(n)
110. I am very careful and cautious.	(y)	(n)
111. I will say whatever comes into my head without thinking first.	(y)	(n)
112. I don't spend enough time thinking over a situation before I act.	(y)	(n)
113. I get into trouble because I don't think before I act.	(y)	(n)
114. I say and do things without considering the consequences.	(y)	(n)

YOUR OPINIONS (continued)

For items numbered 115 through 149, please indicate whether you believe the statement to be TRUE or FALSE.

		true	false
115.	I worry too much about doing the right things.	(t)	(f)
116.	I am smarter than most people I know.	(t)	(f)
117.	A person never knows when he will get mad, or have trouble.	(t)	(f)
118.	A person is better off if he doesn't trust people.	(t)	(f)
119.	Most police are pretty dumb.	(t)	(f)
120.	A person like me fights first and asks questions later.	(t)	(f)
121.	If I could, I'd just as soon quit school or my job right now.	(t)	(f)
122.	I don't care if people like me or not.	(t)	(f)
123.	I have a real mean streak in me.	(t)	(f)
124.	Most of the time I can't seem to find anything to do.	(t)	(f)
125.	It's fun to give the police a bad time.	(t)	(f)
126.	I really don't have very many problems to worry about.	(t)	(f)
127.	If a bunch of you are in trouble, you should stick together on a story.	(t)	(f)
128.	I have a lot of headaches.	(t)	(f)
129.	I would usually prefer to be alone than with others.	(t)	(f)
130.	I would never back down from a fight.	(t)	(f)
131.	I have a lot of bad things on my mind that people don't know about.	(t)	(f)

YOUR OPINIONS (continued)

	true	false
132. Parents are always nagging and picking on young people.	(t)	(f)
133. At night when I have nothing to do I like to go out and find a little excitement.	(t)	(f)
134. A lot of women seem bossy and mean.	(t)	(f)
135. I am always kind.	(t)	(f)
136. I worry most of the time.	(t)	(f)
137. If you're not in with the right people, you may be in for some real trouble.	(t)	(f)
138. My mind is full of bad thoughts.	(t)	(f)
139. Sometimes when my family tells me not to do something, I go ahead and do it anyway.	(t)	(f)
140. I hardly ever feel excited or thrilled.	(t)	(f)

YOUR OPINIONS (continued)

	true	false
141. The people who run things are usually against me. ..	(t)	(f)
142. I like to read and study.	(t)	(f)
143. I often have trouble getting my breath.	(t)	(f)
144. For my size, I'm really pretty tough.	(t)	(f)
145. People hardly ever give me a fair chance.	(t)	(f)
146. Sometimes the only way to really settle something is to fight it out.	(t)	(f)
147. I am nervous.	(t)	(f)
148. Stealing isn't so bad if it's from a rich person.	(t)	(f)
149. I feel better when I know exactly what will happen from one day to the next.	(t)	(f)

We would like to know what you think about the conditions of your institution and the people in it. Items numbered 150 through 265 describe how people think or feel. For each one of these, please indicate if you have these feelings NEVER, RARELY, SOMETIMES, OFTEN, or ALWAYS.

In these items, the term "residents" refers to the other juveniles or kids who live at this facility.

CONTROL

	never	rarely	sometimes	often	always
150. Residents' living spaces are searched.	(a)	(b)	(c)	(d)	(e)
151. Residents are searched (either a strip search or pat down).	(a)	(b)	(c)	(d)	(e)
152. Staff members ignore conflicts among residents.	(a)	(b)	(c)	(d)	(e)
153. Residents do what the staff members here tell them to do.	(a)	(b)	(c)	(d)	(e)
154. Nothing will happen to a resident if they break a rule.	(a)	(b)	(c)	(d)	(e)
155. Residents criticize staff members without getting in trouble for it.	(a)	(b)	(c)	(d)	(e)
156. If residents argue with each other, they will get into trouble.	(a)	(b)	(c)	(d)	(e)
157. Staff members check up on the residents regularly.	(a)	(b)	(c)	(d)	(e)
158. Residents can get weapons at this facility.	(a)	(b)	(c)	(d)	(e)
159. Residents can escape from this facility.	(a)	(b)	(c)	(d)	(e)
160. Visitors can bring drugs into this facility for residents.	(a)	(b)	(c)	(d)	(e)

SAFETY AND SECURITY

	never	rarely	sometimes	often	always
161. I am concerned with being hit or punched by other residents.	(a)	(b)	(c)	(d)	(e)
162. I am afraid of other residents at this institution.	(a)	(b)	(c)	(d)	(e)
163. Residents say mean things to other residents at this institution.	(a)	(b)	(c)	(d)	(e)
164. Residents use weapons when they fight.	(a)	(b)	(c)	(d)	(e)
165. Residents fight with other residents here.	(a)	(b)	(c)	(d)	(e)
166. Residents are sexually attacked in this institution.	(a)	(b)	(c)	(d)	(e)
167. Residents are extremely dangerous here.	(a)	(b)	(c)	(d)	(e)
168. Residents have to defend themselves against other residents in this institution.	(a)	(b)	(c)	(d)	(e)
169. Residents fear staff at this institution.	(a)	(b)	(c)	(d)	(e)
170. Staff say mean things to residents.	(a)	(b)	(c)	(d)	(e)
171. Residents are in danger of being hit or punched by staff here.	(a)	(b)	(c)	(d)	(e)
172. Residents say they have been hurt by staff here.	(a)	(b)	(c)	(d)	(e)
173. Staff grab, push or shove residents at this institution.	(a)	(b)	(c)	(d)	(e)
174. I am afraid of staff at this institution.	(a)	(b)	(c)	(d)	(e)
175. If a resident believes he will be hurt by another resident, the staff will protect him.	(a)	(b)	(c)	(d)	(e)
176. My property is safe here.	(a)	(b)	(c)	(d)	(e)

SAFETY AND SECURITY (cont.)

	never	rarely	sometimes	often	always
177. There are gangs here.	(a)	(b)	(c)	(d)	(e)
178. It is safer for residents who ARE members of a gang.	(a)	(b)	(c)	(d)	(e)
179. Staff have caught and punished the real trouble makers among residents.	(a)	(b)	(c)	(d)	(e)
180. There are enough staff to keep residents safe here.	(a)	(b)	(c)	(d)	(e)
181. Staff prevent violence among residents.	(a)	(b)	(c)	(d)	(e)
182. Staff prevent forced sex among residents.	(a)	(b)	(c)	(d)	(e)
183. There would be fewer fights between residents if there were more staff members.	(a)	(b)	(c)	(d)	(e)
184. I feel safer here than if I were out on the street.	(a)	(b)	(c)	(d)	(e)

RISKS TO RESIDENTS

	never	rarely	sometimes	often	always
185. Insects, rodents and dirt are a problem here.	(a)	(b)	(c)	(d)	(e)
186. There is a bad odor or poor air circulation.	(a)	(b)	(c)	(d)	(e)
187. Residents know what to do in case of a fire.	(a)	(b)	(c)	(d)	(e)
188. There are things lying around that could help a fire spread.	(a)	(b)	(c)	(d)	(e)
189. People could get hurt because the place is so dirty.	(a)	(b)	(c)	(d)	(e)
190. Many accidents happen here.	(a)	(b)	(c)	(d)	(e)
191. Most of the jobs we have to do are safe.	(a)	(b)	(c)	(d)	(e)

ACTIVITY

	never	rarely	sometimes	often	always
192. A counselor is available for me to talk to if I need one.	(a)	(b)	(c)	(d)	(e)
193. I have things to do that keep me busy here.	(a)	(b)	(c)	(d)	(e)
194. I spend time on school work.	(a)	(b)	(c)	(d)	(e)
195. I have enough time to do my homework.	(a)	(b)	(c)	(d)	(e)
196. I can find something to do here at night.	(a)	(b)	(c)	(d)	(e)
197. I watch a lot of television here.	(a)	(b)	(c)	(d)	(e)
198. I am encouraged to plan for what I will be doing when I leave here.	(a)	(b)	(c)	(d)	(e)
199. I get exercise here.	(a)	(b)	(c)	(d)	(e)
200. There are things to do here when I am not in school.	(a)	(b)	(c)	(d)	(e)

CARE

	never	rarely	sometimes	often	always
201. Residents don't care about one another's feelings.	(a)	(b)	(c)	(d)	(e)
202. The staff encourage me to try new activities.	(a)	(b)	(c)	(d)	(e)
203. Additional help with school work outside of classroom hours is available to me.	(a)	(b)	(c)	(d)	(e)
204. Staff tease depressed residents.	(a)	(b)	(c)	(d)	(e)
205. Residents give other residents with personal problems a hard time.	(a)	(b)	(c)	(d)	(e)
206. The health care here is good.	(a)	(b)	(c)	(d)	(e)
207. Other residents are unfriendly.	(a)	(b)	(c)	(d)	(e)
208. No one will help me if I have a problem.	(a)	(b)	(c)	(d)	(e)
209. Staff care about residents here.	(a)	(b)	(c)	(d)	(e)
210. Staff and residents don't respect each other here.	(a)	(b)	(c)	(d)	(e)
211. Residents who have been here longer help the new residents when they arrive.	(a)	(b)	(c)	(d)	(e)

QUALITY OF LIFE

	never	rarely	sometimes	often	always
212. One thing bad about this place is that it's so noisy.	(a)	(b)	(c)	(d)	(e)
213. My living area here has a lot of space.	(a)	(b)	(c)	(d)	(e)
214. I have no privacy in my sleeping area.	(a)	(b)	(c)	(d)	(e)
215. I have privacy here in the shower/ toilet area.	(a)	(b)	(c)	(d)	(e)
216. The food here is good.	(a)	(b)	(c)	(d)	(e)
217. I get enough to eat here.	(a)	(b)	(c)	(d)	(e)
218. I can talk to my friends and family on the telephone here.	(a)	(b)	(c)	(d)	(e)
219. I can have visitors here.	(a)	(b)	(c)	(d)	(e)
220. It is hard for my family to come and visit me here.	(a)	(b)	(c)	(d)	(e)
221. The visiting areas are crowded here.	(a)	(b)	(c)	(d)	(e)
222. It is hard to talk with visitors because the noise is too loud here.	(a)	(b)	(c)	(d)	(e)
223. I can read and/or study without being bothered here.	(a)	(b)	(c)	(d)	(e)
224. I can be alone when I want to here.	(a)	(b)	(c)	(d)	(e)

STRUCTURE

	never	rarely	sometimes	often	always
225. I have a set schedule to follow each day here.	(a)	(b)	(c)	(d)	(e)
226. I am required to study at certain times here.	(a)	(b)	(c)	(d)	(e)
227. I know what will happen if I break a rule here.	(a)	(b)	(c)	(d)	(e)
228. My living area looks messy here.	(a)	(b)	(c)	(d)	(e)
229. Many residents look messy here.	(a)	(b)	(c)	(d)	(e)
230. Staff change their minds about the rules here.	(a)	(b)	(c)	(d)	(e)
231. Different staff here have different rules so you never know what you are supposed to do.	(a)	(b)	(c)	(d)	(e)
232. I know when I can take a shower here.	(a)	(b)	(c)	(d)	(e)
233. I know when the recreation facilities are available for me to use here.	(a)	(b)	(c)	(d)	(e)
234. I could be transferred out of this institution at any time.	(a)	(b)	(c)	(d)	(e)
235. Staff here let me know what is expected of me.	(a)	(b)	(c)	(d)	(e)

JUSTICE

	never	rarely	sometimes	often	always
236. Residents are punished even when they don't do anything wrong.	(a)	(b)	(c)	(d)	(e)
237. Staff use force when they don't really need to.	(a)	(b)	(c)	(d)	(e)
238. I can file a grievance (formal complaint) against staff members.	(a)	(b)	(c)	(d)	(e)
239. I am aware of the grievance process.	(a)	(b)	(c)	(d)	(e)
240. Problems between staff and residents can be worked out easily.	(a)	(b)	(c)	(d)	(e)
241. It doesn't do any good to file a grievance against staff members.	(a)	(b)	(c)	(d)	(e)
242. Something bad might happen to me if I file a grievance.	(a)	(b)	(c)	(d)	(e)
243. I usually deserve any punishment that I receive.	(a)	(b)	(c)	(d)	(e)
244. Punishments given are fair.	(a)	(b)	(c)	(d)	(e)
245. Staff treat residents fairly.	(a)	(b)	(c)	(d)	(e)
246. I can talk to my lawyer when I want.	(a)	(b)	(c)	(d)	(e)

FREEDOM

	never	rarely	sometimes	often	always
247. I can practice whatever religion I choose in.	(a)	(b)	(c)	(d)	(e)
248. I have to work even if I do not want to.	(a)	(b)	(c)	(d)	(e)
249. Residents choose the type of work they do here. ...	(a)	(b)	(c)	(d)	(e)
250. I can read whenever I want.	(a)	(b)	(c)	(d)	(e)
251. I have a certain time that I must go to bed.	(a)	(b)	(c)	(d)	(e)
252. I can listen to music when I want.	(a)	(b)	(c)	(d)	(e)
253. Residents have a say about what goes on here.	(a)	(b)	(c)	(d)	(e)
254. All entrances and exits of living units are locked. ..	(a)	(b)	(c)	(d)	(e)
255. I can go where I want when I want to in this facility.	(a)	(b)	(c)	(d)	(e)
256. Residents are encouraged to make their own decisions.	(a)	(b)	(c)	(d)	(e)

PROGRAMS

	never	rarely	sometimes	often	always
257. My experiences here will help me find a job when I get out.	(a)	(b)	(c)	(d)	(e)
258. The things I do here help keep me focused on my goals for the future.	(a)	(b)	(c)	(d)	(e)
259. Being here helps me understand myself.	(a)	(b)	(c)	(d)	(e)
260. I learn things in the educational courses given here.	(a)	(b)	(c)	(d)	(e)
261. By trying new activities I am learning skills I can use when I leave.	(a)	(b)	(c)	(d)	(e)
262. Things I learn here will help me with future school work.	(a)	(b)	(c)	(d)	(e)
263. Substance abuse treatment services here help many residents.	(a)	(b)	(c)	(d)	(e)
264. The opportunities for religious services here help me become a better person.	(a)	(b)	(c)	(d)	(e)
265. I feel healthier since coming here.	(a)	(b)	(c)	(d)	(e)
266. The individual attention here has helped me.	(a)	(b)	(c)	(d)	(e)

Appendix B.
JUVENILE VOLUNTARY CONSENT FORM
National Evaluation of Juvenile Correctional Facilities

Researcher: Dr. Doris L. MacKenzie
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This is a study to look at the differences between institutions and boot camps. We want to know how these institutions affect you. We want to know about your experiences while you are here. The research is being done by people who work at the University of Maryland.

We are asking you to volunteer to be in the study. The study will not help you in any way. You will not receive any special benefits for participating. We will use what we learn in the study to help policy makers. It will help them decide what types of institutions are best for young people.

Your answers are considered confidential. We will use code numbers in place of names. We will not identify anybody by name. When we tell other people what we learn in the study, they will not be able to tell who you are.

You are being asked to be in this study. It is your decision. We want you to volunteer. You may drop out of the study at any time. You may refuse to answer any questions that you do not want to answer. The people in the institution have told us that there will be no problems for you if you decide not to participate in the study. You will not be punished if you do not agree to do the study. Also you will not lose any benefits if you do not agree to answer the questions.

We hope you will agree to be in the study. We will give you a paper and pencil survey. It will take about 45 minutes to finish. In a few months from now, we will give you another paper and pencil survey. It will also take about 45 minutes to finish. We will ask you many questions in the surveys. We want you to tell us about your experiences. We want to know what you think.

You will get a large envelope with the survey in it. If you do not want to be in the study, please put everything in the envelope. Also, when you finish the survey we will ask you to put everything back in the envelope.

PLEASE TURN PAGE OVER

Then, seal the envelope. Please put the white label across the seal so we will be able to see if anyone has opened the envelope before we get it. Give the envelope to the person who gave it to you. We want to be sure to tell you that some questions in the survey ask about physical or sexual abuse. IT IS OUR DUTY TO REPORT CHILD ABUSE. Therefore, we will report it to a treatment counselor at this institution if the abuse happened somewhere else. If the abuse happened in this institution, we will report it to some person outside the institution.

We will be videotaping some institutions and residents at some of these institutions. After editing, it will not be possible to identify individuals in the videos. All faces that are visible on the tape will be covered with black dots before the tapes are viewed by policy makers or persons other than University of Maryland researchers.

There are few risks to you if you agreed to do this study. One risk might be if someone sees your answers to the questions. We have done everything we can to be sure this does not happen. This survey was given to you by a person who works at the institution where you are staying. The person is working with Dr. Doris L. MacKenzie at the University of Maryland. Therefore, Dr. MacKenzie cannot guarantee that no one will see your responses.

In the big envelope, there is a small white envelope. Dr. MacKenzie's name and address are on the envelope. If you have any questions about the study, please write a letter to Dr. MacKenzie. Seal the letter to Dr. MacKenzie in the small white envelope and give it to the person who has signed this permission slip below.

I AGREE TO PARTICIPATE IN THIS STUDY

_____ _____

Sign Your Name Above if you give your consent Date

_____

Print Name of Participant (Guardian Representative completes)

THE ABOVE INDIVIDUAL HAS PERMISSION TO PARTICIPATE IN THIS STUDY

_____ _____

Signature or affidavit of Guardian Representative Giving consent Date

APPENDIX C

Child Maltreatment Items	Factor Score	Mean (SD)	Range	Correlation (Item to Total)
How often did your mother or father slap you? (Q77)	.728	2.06 (1.13)	1-5	.6289
How often did your mother or father hit you? (Q78)	.762	2.10 (1.19)	1-5	.6692
How often were you burned by your mother or father? (Q79)	.562	1.10 (0.48)	1-5	.4499
How often did you have bruises, cuts, or other evidence of punishment by your mother or father? (Q80)	.832	1.49 (0.96)	1-5	.7472
How often were you scared or afraid of getting physically hurt by your mother or father? (Q81)	.765	1.60 (1.11)	1-5	.6642
Would you say that you were unfed, unwashed, or generally unsupervised at home on some regular basis as a young child? (Q82)	.603	1.33 (0.87)	1-5	.4894
How often did you witness one parent physically harm the other parent? (Q83)	.641	1.63 (1.10)	1-5	.5430
How often did you witness a member of your family physically harm another family member? (Q84)	.640	1.77 (1.09)	1-5	.5346
How often were you touched in a sexual way or forced to have sex by an adult or older child when you did not want this to happen? (Q85)	.509	1.19 (0.68)	1-5	.3841
Total Scale: scale mean (SD)	1.62 (.71)			
Range	1-5			
Cronbach's alpha (N)	.8467 (2452)			

Juvenile Alcohol Abuse Scale Items	Factor Score	Mean (SD)	Range	Correlation (Item to Total)
Have you ever gone to school while you were under the influence of alcohol? (Q14)	.682	1.51 (.5)	1-2	.4610
Have you ever stolen money from friends or family to buy alcohol without them knowing? (Q68)	.643	1.78 (.41)	1-2	.4246
Have you ever received treatment for alcohol abuse? (Q69)	.602	1.73 (.44)	1-2	.3851
In the six months before you entered a juvenile facility, did you drink heavily, get drunk often, or have a drinking problem? (Q70)	.748	1.60 (.49)	1-2	.5336
Has anyone including someone at school ever talked to you because they were concerned that you may have a problem with alcohol? (Q71)	.680	1.75 (.43)	1-2	.4593
Total Scale: scale mean (SD)	1.65 (.32)			
Range	1-2			
Cronbach's alpha (N)	.6965 (2468)			

Juvenile Drug Abuse Scale Items	Factor Score	Mean (SD)	Range	Correlation (Item to Total)
Have you ever gone to school high on drugs? (Q15)	.721	1.32 (.47)	1-2	.5136
Have you ever stolen money from friends or family to buy drugs without them knowing? (Q67)	.648	1.69 (.46)	1-2	.4487
Has anyone including someone at school ever talked to you because they were concerned that you may have a problem with drugs? (Q72)	.727	1.60 (.49)	1-2	.5289
Have you ever received treatment for drug abuse? (Q73)	.611	1.67 (.47)	1-2	.4144
In the six months before you entered a juvenile facility, did you use a lot of drugs, get high often, or have a drug problem? (Q74)	.758	1.40 (.49)	1-2	.5570
Total Scale: scale mean (SD)	1.54 (.34)			
Range	1-2			
Cronbach's alpha (N)	.7317 (2467)			

Juvenile Peer Criminality Scale Items	Factor Score	Mean (SD)	Range	Correlation (Item to Total)
How many of these friends have EVER been in trouble with the law? (Q55)	.851	3.49 (1.19)	1-5	.6328
Have many of these friends have EVER been incarcerated for 30 days or longer? (Q56)	.825	2.94 (1.20)	1-5	.5839
How many of these friends were involved in a gang? (Q57)	.679	2.70 (1.52)	1-5	.4362
Did these friends often use drugs or alcohol? *(This would be more than four times per week)?* (Q58)*	.591	4.22 (1.46)	1-5	.3655
Total Scale: scale mean (SD)	3.33 (1.04)			
Range	1-5			
Cronbach's alpha (N)	.7051 (2443)			

Juvenile Family Criminality Scale Items		Factor Score	Mean (SD)	Range	Correlation (Item to Total)
Have any of your family members been incarcerated for 30 days or longer? (q33r)*		.674	1.75 (.92)	1-3	.4163
Have any of the people you lived with prior to entering a facility for this offense ever been treated for a problem with drugs or alcohol? (Q34r)*		.808	2.23 (.93)	1-3	.5401
Have any of the people you lived with prior to entering a facility for this offense ever abused drugs or alcohol? (Q35r)*		.776	2.08 (.96)	1-3	.4912
Are any of your family members involved in a gang? (Q36r)*		.516	2.43 (.87)	1-3	.2879
Total Scale:	scale mean (SD)	1.79 (.34)			
	Range	1-3			
	Cronbach's alpha (N)	.6515 (2438)			

Control Scale Items		Factor Score	Mean (SD)	Range	Correlation (Item to Total)
Staff members ignore conflicts among residents. (Q152)*		.529	3.76 (1.33)	1-5	.3713
Residents do what the staff here tell them to do.(Q153)		.544	3.71 (1.20)	1-5	.3864
Nothing will anything happen to a resident if they break a rule. (Q154)*		.395	3.64 (1.44)	1-5	.2595
Residents criticize staff members without getting in trouble for it. (Q155)*		.542	3.64 (1.38)	1-5	.3932
If residents argue with each other, they will get into trouble. (Q156)		.474	3.51 (1.35)	1-5	.3212
Staff members check up on the residents regularly. (Q157)		.487	3.97 (1.26)	1-5	.3344
Residents can get weapons at this facility. (Q158)*		.687	3.68 (1.53)	1-5	.5068
Residents can escape from this facility. (Q159)*		.506	3.16 (1.54)	1-5	.3249
Visitors can bring drugs into this facility for residents. (Q160)*		.673	3.85 (1.50)	1-5	.4872
Total Scale:	scale mean (SD)	3.73 (.73)			
	Range	1-5			
	Cronbach's alpha (N)	.7019 (2273)			

Activity Scale Items	Factor Score	Mean (SD)	Range	Correlation (Item to Total)
A counselor is available for me to talk to if I need one. (Q192)	.636	3.67 (1.39)	1-5	.4864
I have things to do that keep me busy here. (Q193)	.765	3.85 (1.26)	1-5	.6217
I spend time on school work. (Q194)	.629	3.43 (1.37)	1-5	.4719
I can find something to do here at night. (Q196)	.559	3.28 (1.53)	1-5	.4082
I am encouraged to plan for what I will be doing when I leave here. (Q198)	.623	4.07 (1.25)	1-5	.4692
I get exercise here.(Q199)	.601	4.42 (1.08)	1-5	.4335
There are things to do here when I am not in school. (Q200)	.747	4.00 (1.24)	1-5	.5918
Total Scale: scale mean (SD)	3.82 (.82)			
Range	1-5			
Cronbach's alpha (N)	.7715 (2316)			

Justice Scale Items	Factor Score	Mean (SD)	Range	Correlation (Item to Total)
Residents are punished even when they don't do anything wrong. (Q236)*	.631	2.72 (1.4)	1-5	.4902
Staff use force when they don't really need to. (Q237)*	.684	3.02 (1.44)	1-5	.5343
I can file a grievance (formal complaint) against staff members. (Q238)	.384	3.67 (1.56)	1-5	.3235
I am aware of the grievance process. (Q239)	.381	3.65 (1.57)	1-5	.3121
Problems between staff and residents can be worked out easily. (Q240)	.667	3.09 (1.36)	1-5	.5247
It doesn't do any good to file a grievance against staff members. (Q241)*	.166	2.78 (1.54)	1-5	.1095
Something bad might happen to me if I file a grievance. (Q242)*	.556	3.50 (1.46)	1-5	.4532
I usually deserve any punishment that I receive. (Q243)	.568	2.89 (1.29)	1-5	.4104
Punishments given are fair. (Q244)	.728	2.77 (1.33)	1-5	.5691
Staff treat residents fairly. (Q245)	.783	2.97 (1.32)	1-5	.6428
I can talk to my lawyer when I want. (Q246)	.486	2.29 (1.49)	1-5	.3838
Total Scale: scale mean (SD)	3.02 (.84)			
Range	1-5			
Cronbach's alpha (N)	.7721 (2254)			

Freedom Scale Items		Factor Score	Mean (SD)	Range	Correlation (Item to Total)
I have to work even if I do not want to. (Q248)*		.388	1.99 (1.32)	1-5	.2406
Residents choose the type of work they do here. (Q249)		.624	2.20 (1.39)	1-5	.4193
I can read whenever I want. (Q250)		.622	2.72 (1.47)	1-5	.4215
I can listen to music when I want. (Q252)		.705	1.60 (1.11)	1-5	.4815
Residents have a say about what goes on here. (Q253)		.596	2.24 (1.39)	1-5	.3809
I can go where I want when I want to in this facility. (Q255)		.575	1.49 (1.0)	1-5	.3484
Residents are encouraged to make their own decisions. (Q256)		.508	2.82 (1.48)	1-5	.3283
Total Scale:	scale mean (SD)	2.13 (.79)			
	Range	1-5			
	Cronbach's alpha (N)	.6596 (2305)			

Anxiety Scale Items		Factor Score	Mean (SD)	Range	Correlation (Item to Total)
I feel calm. (Q101)*		.618	1.27 (.45)	1-2	.4073
I feel upset. (Q102)		.710	1.39 (.49)	1-2	.5112
I feel anxious. (Q103)		.378	1.56 (.50)	1-2	.2393
I feel nervous. (Q104)		.688	1.37 (.48)	1-2	.5026
I am relaxed. (Q105)*		.728	1.37 (.48)	1-2	.5235
I am worried. (Q106)		.697	1.51 (.50)	1-2	.4970
Total Scale:	scale mean (SD)	T1: 1.44 (.32) T2: 1.40 (.29)			
	Range	1-2			
	Cronbach's alpha (N)	.7121 (2409)			

Depression Scale Items		Factor Score	Mean (SD)	Range	Correlation (Item to Total)
At times I worry too much about things that don't really matter. (Q86)		.573	2.74 (1.28)	1-5	.3961
Sometimes, recently, I have worried about losing my mind. (Q87)		.726	3.27 (1.47)	1-5	.5434
I often feel angry these days. (Q88)		.743	2.51 (1.33)	1-5	.5566
In the past few weeks, I have felt depressed and very unhappy. (Q89)		.739	2.63 (1.41)	1-5	.5475
These days I can't help wondering if anything is worthwhile any more. (Q90)		.758	3.25 (1.42)	1-5	.5741
Total Scale:	scale mean (SD)	T1: 3.18 (.98) T2: 2.98 (1.02)			
	Range	1-5			
	Cronbach's alpha (N)	.7564 (2363)			

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