Insulating effects of early childhood education

William Anthony Kull

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INSULATING EFFECTS OF EARLY CHILDHOOD EDUCATION

A Thesis
Presented to the
Faculty of
California State University
San Bernardino

In Partial Fulfillment
Of the Requirements for the Degree
Master of Arts
in
Criminal Justice

By
William Anthony Kull
March 2006
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ABSTRACT

The purpose of this study was to ascertain if formal early childhood education was related to the likelihood of later criminal activity. The secondary data analysis within this study did support inferences for four specific crime factors. This study found that preschool attendance lessened the incurrence of future criminal activity in the crime categories of total numbers of damage offenses, total numbers of theft offenses, total numbers of damage alone offenses, and total numbers of injury & theft offenses. Data was taken from a longitudinal study of 987 African-American children in Philadelphia conducted by Deborah Denno entitled the Biosocial Project. These numbers clearly show that preschool attendance has a negative effect on some categories of crime by lowering offense rates for total damage offenses, total theft offenses, total damage alone offenses, and total injury & theft offenses. These findings demonstrate preschool education as one intervention factor in predicting a child’s future social stability.
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CHAPTER ONE

INTRODUCTION

The Issue

According to the FBI crime reports published by the U.S. Department of Justice (1997), almost 3,000,000 children were arrested as juveniles in the United States for the single year of 1996. Nearly 3,000 juveniles were arrested for murder and 36,000 plus were arrested for robbery. For a short time the violent crime rate decreased slightly between 1994 and 1996 by 15% for those under 15 and by 12% for those over 15. But overall, between 1980 and 1996 violent juvenile crime escalated 60% for children under 15 years of age and 41% for children over 15. Fortunately, since its peak in 1979 and a second rise in 1991, crime has been steadily declining approaching the early 1960's rate (U.S. Department of Justice, 1999).

These crime statistics show that crime on the whole has gone down but violent crime by juveniles has increased. Questions then arise as to what creates the mindset in some children that disallows such criminal behavior? Brandon Welsh (2002) conducted a study with David Farrington and Lawrence Sherman examining just under seven hundred program
evaluations and found one program designed to deter crime did have a significant effect (Welsh, Farrington, & Sherman, 2002). That program was education. This thesis focuses on the earliest possible immersion into formal education by examining the effect of preschool enrollment on the likelihood of criminality.

It begins with an examination of the literature of human social development in three parts; psychological theories, neuroscience, and educational studies. The four major psychological theories include psychoanalytical theory, learning theory, humanistic theory, and cognitive theory. The literature of neuroscience investigates the organic changes in the reasoning protocols that affect behavior. Finally educational studies focus on the practical application of formal education, within the classroom, on social behavior. An examination of these various perspectives provides a strong foundation on which to base this study of the effect of early childhood education as a factor critical to the pro-social development of children.

While it is recognized that crime has many possible causes, social scientists often cling to explanations that have no realistic solutions. Wouldn’t it be surprising if
immersing children in the environment of formal preschool education was one of the best solutions?

At the onset, it is important to delineate deviant behavior and delinquency. Deviant behavior can be defined as behavior that differs sharply from acceptable normal behavior. It personifies the actions of one who does not behave within the proscribed standards of society's rules. Deviant behaviors are not necessarily illegal. Delinquency, on the other hand, is the term often used in the criminal justice system to define illegal acts, especially those perpetrated by young people.

How young should the children be that researchers investigate? Knowing when a person might deviate from normal societal values and start on the path to criminal activity is important when designing effective intervention strategies. According to Long, Wood, & Fecser (2001), some children can be identified as having behavioral problems when they enter the school system (kindergarten) at age four. The developmental period to investigate must be before the child reaches four.

It is important to define what environment means to the education of a child. Environment includes the totality of factors influencing the life of all organisms. The
environment includes the conditions that surround people and affect the way they live. According to the literature review included in this thesis of all the major developmental theories, the environment is the educational engineer of the human child's social self-control.

It is also important to understand the differences between informal education and formal education within this environment. Informal education is derived partly from the people a child is surrounded with every day including parents, relatives, siblings, and friends. What people say and do, what they watch on TV, and what they read informally educate children. Education encompasses anything a child's senses are exposed to. Informal educators overall have no training, no formal education, and no experience in child development. Formal education on the other hand includes teachers, administrators, and curriculums, and possibly trained parents.

Few studies have examined the effect of infusing formal education into a child's developmental environment from birth to four years of age on future criminal activity. The purpose of this thesis was to ascertain if children who are exposed to a preschool education are less likely to offend than those who are not.
CHAPTER TWO
LITERATURE REVIEW

This study examined literature of human behavioral development from the perspectives of psychological theories, neuroscience, and educational studies. Each depicted the environment a child is exposed to as the engineer of social behavior.

Psychological Theories

Psychology is the science of understanding human behavior. Developmental psychology is the science of understanding how a particular human acquired that behavior. Not all humans behave the same because not all humans are developmentally influenced by the same cultural, social, economic, or educational environment (formal or informal). Four major theories encompass this varied development: psychoanalytical theory, learning theory, humanistic theory, and cognitive theory. Each has a different perspective on why humans behave the way they do.

Psychoanalytical Theory

Psychoanalytical theory suggests that all behavior is regulated through unconscious drives and motives. There is
no real conscious decision made that is not forced by these unconscious desires. Every choice made by the individual, whether it is the color of clothes for that day or the person they choose to marry, is regulated by these drives and motivations. Emotions overwhelm the ability to reason becoming ruler of the decision-making process.

Sigmund Freud (1856 – 1939) as the founder of this theory felt that the foundation of irrational behavior lay in hidden sexual and aggressive desires. These hidden desires were the result of some past event that overshadowed the more socially acceptable reasoning protocols. According to Freud, a person rarely remembered such events because they occurred in the first 5 or 6 years of life. He felt that correct parental interaction was paramount to the development of the child’s personality which he believed became permanent by the age of five (Freud, 1935). Psychoanalytical theory therefore points to the influence of both the environment and parental interaction in creating the future social behavior of the child. These influences have an unconscious effect on this future behavior.

It is important here to note the difference between personality and temperament. Personality is the totality of
emotions and responses in reactions to the environment. Temperament is the underlying disposition that modulates this activity and subsequent social behavior (McCall, in Goldsmith et al., 1987).

Freud categorized the mind into three components: the id, the ego, and the superego. The id was the primal unconscious drive of wants and needs. It demanded attention be given to every desire. This was the first driving decision maker in the infant. As the child grew, the ego developed as the arbitrator between these demands and the burdens of the real world. By the age of 4 or 5, the super ego developed as the child began to internalize the parent’s moral standards. This superego became the deciding force of right and wrong. At this point in the child’s development, the ego took over the role as the mediator between the id and the superego. Each strove for superiority and the battle could become frightening.

To cope with this fright a person might seek refuge in one of three defense mechanisms: regression, repression, or displacement. Regression was when the person retreated to a simpler time of their life. A preteen might start wetting the bed or a child in first grade may go back to a baby bottle. Repression was a defense mechanism that pushed the
memory of the event back into the subconscious mind. The environmental event that spawned this repression created a roadblock to clear decision making in the future. Displacement set the emotional response toward another person or object because the original was too threatening or not available (Freud, 1935).

One of the young protégés of Freud was Erik Erikson. He expanded some aspects of Freud’s psychoanalytical conceptualizing a psychosocial theory of development that emphasized social and cultural influences on behavior. He felt that no society could fully prepare the child for the social and cultural realities of adulthood (Erikson, 1963).

Erik Erikson expanded Freud’s stages of development to a total of eight that emphasized environmental influences (Erikson, 1963). Pertinent to this study, the first three stages occurred from birth to age six: Trust vs. Mistrust, Autonomy vs. Shame and Doubt, and Initiative vs. Guilt.

Trust vs. Mistrust entailed a period where babies learn to trust that their basic needs will be cared for. They learn trust (or mistrust) in someone that will listen and attend to their demands of food, warmth, cleanliness, and physical contact.
Autonomy vs. Shame and Doubt according to Erikson (1963), was when the child learned to be self sufficient in walking, talking, eating, and toilet necessities. If they were unable to perform these duties, they felt shame and doubt in themselves, which in turn created a desire to change.

Initiative vs. Guilt was a period when the child began to emulate adult activities and seek approval or disapproval of these actions. The environment each child was exposed to became the informal educator of social behavior.

Erikson believed there was not just an either/or basis to these three developmental stages. There were many possible levels to each stage, with most people finding a middle ground in their development (Erikson, 1963). The environment the child was exposed to at this early age was the educator of future reasoning protocols.

**Learning Theory**

While psychoanalysis focused on stage development, learning theory set laws of behavior that could be attributed to any age. The two basic tenets of all learning theories are that there is a stimulus that initiates a response, and that this response becomes a learned
behavior. This process starts from the time one is born and evolves through the entire lifespan. The more often the stimulus and resulting response, the more internalized the behavior. The less the stimulus, the less the response will become learned. Lessening the stimulus over a period of time will lessen the learned response. Old responses can be changed by instituting an alternative stronger stimulus, over a longer period of time, eliciting a new learned response. This learning process entails two different methods: classical and operant.

Ivan Pavlov (1849-1936) developed the theory of classical conditioning. This method of conditioning allowed the person to respond to both a neutral stimulus and a real stimulus. It is also known as respondent conditioning. It is learning by association. Everyone has experienced this type of conditioning. If a person’s mouth watered at the mere thought of their favorite food, they were responding to the neutral stimulus of the thought itself and not the actual taste of the food. The neutral stimulus was psychologically connected (associated) with the actual taste of the food. It was a behavior that had been learned and had become an automatic one, without conscious thought. According to behavioral theorists this process continued
throughout the lifespan. The more internalized the response, the more permanent it tended to become.

Operant conditioning was formulated by B. F. Skinner (1904-1990). From the response to a behavior, a person could initiate similar future responses by performing the same behavior. The person could operate (operant) in such a way as to elicit like responses. The person could also decide to not operate in a particular way if the response was negative. Operant conditioning was a method utilizing rewards and punishments to elicit the correct responses. The stronger and more frequent the reinforcement of either positive or negative responses, the more likely the response became internalized (Skinner, 1953). Learning theorists believe strongly in positive reinforcers over negative ones. The more harsh and frequent the negative reinforcements occur, the more likely the individual will become aggressive or apathetic (Skinner, 1972).

These stimuli and subsequent responses are varied and many. Over a period of years, exposure to a multitude of possibly changing positive and negative reinforcements molds a wide variety of complex behaviors in human beings (Bijou & Baer, 1978). Children must be aware of themselves and how others perceive them to care what others think.
Very young children have no sense of self-concept. It is not until the end of early childhood that these reinforcements have impact on shaping behavior (White, 1965). By that time the environment has set the mold. Breaking this mold becomes increasingly more difficult with age.

Social learning theorists believe people could be educated through less direct stimuli. For example, an early age child forms behaviors through observation of others in his/her family environment (Bandura, 1977). Children model (imitate) almost any behavior they observe (Hetherinton & McIntyre, 1975).

Gerald Patterson (1967) of the Oregon Social Learning Center studied thousands of out-of-control children and their families. His study found that out-of-control children behave incorrectly at least three times as often as other children do (Patterson, 1980). The family members of these children parallel these rates of adverse behavior. These behaviors also tend to escalate into more violent forms of aggression. Parents of such children have a propensity to positively reinforce this behavior by either giving in to it or by not responding at all (Patterson, Littman, Bricker, 1967; Patterson, 1980; 1982). Such
children are likely to mature into delinquents and future criminals (Hirschi, 1969).

Learning theories parallel psychoanalytical theories on the importance of environmental influences in forming behavior. Both agree that the immediate environment of the very young child’s family is the main engineer of the child’s personality and social normalcy.

**Humanistic Theory**

Humanistic theory is optimistic, believing that people are inherently good, striving to attain their full potential. If, as they mature, individuals are well fed, loved, respected, and safe, they will become healthy, socially adjusted adults (Maslow, 1968). Children will choose good over bad according to Abraham Maslow (1968), because it is good for positive growth. He formulated the hierarchal pyramid of psychological needs. If these needs were provided, the child could not help but become psychologically healthy and socially normal. The base of his pyramid began with basic survival needs like food, water, and shelter. The next tier comprised safety, security, and stability. The third included love, belonging, affiliation, and acceptance. The forth step included self-esteem, success, and status. The top of the
pyramid was the self-actualization of the total personality (Maslow, 1968). In essence, humanistic theory believed the more healthy the environment (physically, psychologically, and spiritually) of a human being, the more healthy the overall human being. As with psychoanalytical theories and learning theories, the early age environment became the greatest influence on future behavior.

Cognitive Theory

The basis of cognitive theory centers on the structure and development of thought processes and how this structure dictates behavior. Jean Piaget (1896-1980) believed how children think was more important than what they thought. He felt that the structure and the process of thinking (the how) dictated the performance of what was thought (Piaget, 1962). Piaget formulated four stages of cognitive development. In the sensorimotor stage (birth - 2), infants utilize only their five senses and how these represent their surroundings. Motor skills enable them to test, feel, and manipulate this physical environment. In the preoperational stage (ages 2-6), the child can interact with objects cognitively without physically handling them. Their logic (reasoning ability) is just developing. The concrete operational stage (ages 7-11) includes the early
school years. Children at this level, according to Piaget (1962), can think logically, but only about the physical world. The formal operational stage (ages 12 on) child can think logically most of the time, consciously consider the concept of logic, and create new thought patterns.

One important concept of Piaget's cognitive theory was his idea of schema. A schema is a paradigm of thinking. It is a frame of reference that the decision-making process filters through before acting (Piaget, 1962). The environment the child is exposed to, informally or formally educated from birth on, forms the structure of this schema. It is the how a person thinks that guides the what a person thinks. It becomes the scheme of how the person thinks the world operates and how he/she is supposed to operate within it.

Throughout a person's life schema encounters moments of disequilibrium. These are the moments when the conditions do not parallel the existing schema. Confusion sets into motion the need to re-establish the equilibrium by modifying the old schema into one that fits the current conditions. To Piaget (1962), this is how intelligence evolves. Schemas are constantly being challenged through new experiences. The person organizes thoughts, compares
the new information from experience, links the old and new ideas together, and adapts a new schema. This adaptation occurs through assimilation and accommodation. Assimilation just adds new information to the existing schema.

Accommodation is more radical. It creates a need to develop a new schema by adjusting to the new information. Piaget (1962) believed these cognitive processes (schema formation) to be active from birth. Cognitive theory agrees with psychoanalytical theory, learning theory, and humanistic theory that the environment is the primary educator of future behavior.

Neuroscience

Whereas cognitive theory ponders the mental structure and processes of thought as an insight into behavior, Neuroscience studies the physical structure of the developing brain synaptic pathways and how these affect mental thought. These synaptic pathways form a protocol of reasoning that creates a mindset of how one makes decisions. Piaget’s (1962) schema of how the child thinks parallels the physical formation of synaptic pathways theorized in neuroscience.
Purves et al. (2001) in their book on neuroscience described the physical development of a person’s brain from birth to the age of 25. While the greatest mass of neurons in the brain has been formed by the age of 10, the brain has not yet completed the physical formation of the neural pathways that control behavior until the 25th year. In the first four weeks of life after conception, the brain is forming 500,000 neurons per minute. In the first and second trimester, these neurons are reaching out to each other forming connections (synapses) at over 2,000,000 per second. In the last few weeks before birth, the synapses begin to compete with each other for different functions within the brain (Imbert, 1985, Parmelee & Sigman, 1983).

The sound of a mother’s voice is imprinted before birth and even though vision is the last to develop, a child will recognize it’s mother’s face by the second day. At the three month stage the child will recognize the different expressions on the mother’s face (Barrera & Maurer, 1981a, 1981b). By age two the brain nearly doubles in size and weight. The first 18 months a child’s brain innocently accepts everything through sensory input. Everything is internalized because the new baby has yet to form reasoning protocols (White, 1965). Information is
taken in as true (whether it is or not) and synaptic connections are formed with this information. A reason to learn (stimulus) doesn’t develop until later (Skinner, 1953). It is not until the age of 18-24 months, that the child has the beginnings of representational thought (Piaget, 1962). Nevertheless, the foundations of those thought patterns have already been structured.

In these first few months of life, the synaptic connections form pathways of reasoning protocols. Those that get frequent positive reinforcement take on permanence. Those that do not, atrophy and die away (Purves et al. 2001). These reasoning protocols are related to, but not the same as memories. Memories of a traumatic event at age two will not be consciously remembered at age four, but the effect of it will direct future protocols and subsequently, future behavior. Freud and Erikson may have been correct believing past events create unconscious drives that motivate future behavior.

The primitive brain is recording memories at birth in the area of the amygdala, a part of the limbic system of the newly growing brain. From the very moment of birth, babies have started culminating memories (Schneider & Bjorklund, 1998).
Up to the age of four, the learning curve of the child is exponentially greater than that of an adult. Children learn complex motor skills in this short period. They become reasonably fluent in a foreign language (crying is their first native language). In addition, they learn astonishing self-control in their social skills. According to Darwin (1874), by age four, if the child is showing no signs of self-control in their social skills, it is likely that they will never develop it fully. These social skills can be either positive (normal) or negative (deviant) depending on the environment to which they have been exposed (Thompson, 1998).

According to neuroscience the skills of social self-control become partially hardwired into the synaptic pathways. Psychoanalysts believed this self-control became apparent with the formation of the superego between ages 4 and 6 (Freud, 1963). Learning theorists believe that the sense of self-control was through environmental conditioning. Humanists believe self-control to be a product of innate desires to attain the ideal self image personified by their environment. Cognitive theorists believe that the environment creates a picture of reality that the person struggles to maintain. The majority of the
psychological theories agree on the environment as the main educator of human social development.

Educational Studies

Educational studies examine the practical application of psychological theories and neuroscience. A case in point would be the program New York City has implemented to re-educate problem children. District 75 in New York City is where the 22,000 problem children that have moderate to severe emotional and behavioral problems are relocated. A staff of 11,000 supports this division. They are specially trained to handle difficult children and formally educate them toward more socially acceptable behavior. This group is under the program heading "Life Space Crisis Intervention." Children that have already developed a self-concept labeled as socially irrational are placed in the program. The task before the teaching staff is to re-program the reasoning protocol that has already been internalized through the informal environmental education of parental, cultural, and peer influences (Long, Wood, & Fecser, 2001).

As the New York's District 75 intervention program demonstrates, recognizing behavioral problems at the
earliest age possible is very important for the success of intervention strategies. In an Australian study of 828 subjects, it was found that one of the best predictors of future crime was the social competence of the subject by age 3 (Stevenson & Goodman, 2001). Aggression is a potentially negative social trait. In one longitudinal study of 3,792 Australian children, Bor, Najman, & O'Callaghan (2001) found that parent training and preschool education was one of the best programs to deter aggression. They noted the level of aggression at age 5 was the best predictor of aggression by age 14.

How adults perform in the social interaction with children may be critical to the development of correct behavioral adjustment to entering school (Grusec & Goodnow, 1994). The evidence suggests that much of the influence of adult nature comes from the parents, but teachers also have some influence. Teachers define the types of behavior accepted in the classroom, social standards, and the level of academic performance that is required. They set goals for the students by defining what is correct and what is not. Good teachers set guidelines for the students to reach these goals. If the teacher's communication skills are good, they may have a more positive influence on students
whose goals and values are not within the normal parameters. Teachers who align their goals and values with the parents are more effective in influencing the children in more positive social norms (Skinner & Belmont, 1993; Wentzel, 2002).

Training teachers in this direction is important in establishing effective social guidance for the children in their care. While many teachers feel it is positive to have a caring attitude with their students, most have not been trained to integrate social skills instruction with their core curriculum (Weinstein, 1998). They also have difficulty recognizing when minor behaviors are the precursor to more extreme actions. Most behaviors are minor at first involving whining and complaining. These escalate into more egregious actions like throwing objects or physical assault. Few teachers are trained to recognize this escalation (Skula and Albin, 1994).

Most interaction outside the classroom with peers is considered to be potentially negative (Berndt, 1999). However, under the guidance of a trained instructor, students help each other in both social skills and academic goals (Seiber, 1979). Students personify the expected social norms set by the teacher and influence this correct
behavior to their peers (Schunk, 1987). Students in this environment exhibit a positive peer influence by communicating with each other to clarify the teacher's instructions (Cooper, Ayers-Lopez, & Marquis, 1982). This cooperation between the students involves sharing and helping each other to conform to the expected rules and norms set by the environment overseen by the teacher (Ames & Ames, 1984). Students care what their fellow students think about them. In the environment of a controlled classroom, that caring initiates growth in socially normative behaviors and academic progress (DuBois, Felneer, Brand, Adan, & Evans, 1992; Wentzel, 1994). Children are often very vocal in their expectations of how other children should behave. They observe each other and tend to ignore other students who do not behave in the correctly proscribed manner. They also chastise fellow students privately for inappropriate behavior (Seiber, 1979).

According to Wentzel (1998), this encouragement from fellow students is stronger than the influence of their teachers and parents. This support is strong enough that students define those who help them in both the academic and social realms as being friends they look up to (Wentzel, 1996). This influence of their peers has been
shown to be positive only when the group has taken on the same values and social norms as their teachers and parents. When there is positive influence from both teachers and parents who support the child, the potentially negative influences of the environment can be overcome. The stability of these relationships between children, parents, and teachers is important (Heath & McLaughlin, 1993).

Is formal education the panacea for many of the ills facing youth today? Reynolds, Temple, & Robertson (2001) found that is does indeed have a positive influence on lifetime outcomes. They did a longitudinal study of low-income 989 children from 25 different federally mandated preschool sites. Those children that attended the intervention programs tended to complete high school, continue to higher levels in college, and have lower levels of school dropouts. They had fewer violent arrests and fewer juvenile arrests. The boys fared better than the girls in attaining higher levels of education. Fewer boys dropped out than girls. They found that the attendance in one of these intervention-based classrooms had better outcomes in both the educational and social arenas up to the age of 20 years old.

How long and how early a child is exposed to a formal
education is important. One study looked at children’s' participation from preschool through the third grade in the Child Parent Center and Expansion Program in Chicago. This federally funded program was started in 1967. Self-reported data of 829 students was examined for frequencies of delinquency. Those who participated the longest and with the most intensity had lower delinquency rates from ages 12 to 16. There was a marginal reduction in delinquency rates at ages 15 and 16 for those who minimally participated (Reynolds, Chang, & Temple, 1998).

All of the educational studies show that formal education, with teachers, parents, and students working together, does encourage the child toward pro-social behavior. Yet, all these studies address the issue after it has become an obvious behavioral problem within the school system. None studied the influence of formal education from birth on, before they developed behavioral problems.

Literature Evaluation

The studies of psychology, neuroscience, and education contributed greatly to the summation of knowledge on human behavior. From the psychological perspective, psychoanalytical theory was first to bring the concept of
stage development. It formulated the concept that unconscious drives influence all behavior. Erik Erikson added the environment as the main engineer of behavioral characteristics. Learning theory added the concept of conditioning and that behavior is learned from modeling the behavior of others, yet they have been criticized for not accepting the possible influences of either the unconscious mind or cognitive reason on behavior (Cairnes, 1983). Humanistic theories emphasized that everyone has an innate inner drive to become fully functional human beings rising to their best potential. Maslow (1968) believed that once the basic needs for survival were met, each person could be set free to grow in love, self esteem, and culminate in the self-actualization as a human being. Cognitive theory brought us the concept of the way one thinks directs what one thinks, and so how one behaves. Piaget (1962). Few behavioral psychologists adhere strictly to one theory. Most have adopted an eclectic approach that encompasses the most accepted tenets of each. All agreed that the environment was the primary educator of human behavior.

Neuroscience, in part, is the ongoing study of the brain’s organic formation of synaptic pathways and how that physical formation controls behavior. The brain is the most
complex organ of the human body and scientists are barely scratching the surface in understanding it. But what is known today about how these synaptic reasoning pathways are physically formed by the environment is important to understanding why some children find anti-social actions to be perfectly reasonable behavior.

Educational studies have been shown to be the proving ground of psychological theory and neuroscience. Educators are on the front line everyday with children of both pro and anti-social behavior. If it works, it’s proven in this environment. Educators use the only tool they have at their disposal for behavior modification: education.

In essence, psychology, neuroscience, and educational studies were all correct in that human behavior is an exceedingly complex entity that is influenced through the environmental stimulus of both informal and formal educators.

Hypothesis

The purpose of this study was to ascertain if formal preschool education was related to the likelihood of criminality. This study postulated: If enforced socialization required at the formal preschool level is
related to crime reduction, then immersing children into the structure of a preschool nursery will lower future criminality in the following categories of behavior:

- Total number of arrests
- Total number of complaints
- Total number of damage complaints
- Total damage offenses
- Total injury offenses
- Total theft offenses
- Total alone offenses
- Total injury alone offenses
- Total injury & damage offenses
- Total injury & theft offenses
- Total injury, theft & damage offenses
- Total non-index offenses
- Total theft alone offenses
- Total theft & damage offenses
- Number of remedial disciplinary codes in school
- Offender - Yes/No?
- Injury offender? - Yes/No?
- Theft offenses? - Yes/No?
CHAPTER 3
METHODOLOGY

This research utilized secondary data analysis of information collected by Deborah W. Denno for her study of biosocial factors related to crime and delinquency, 1959-1962 (Denno, 1998). Denno’s biosocial project focused on the child related variables at age 7. Variables of both the mother and child described prenatal health, pregnancy and delivery complications, SES (socioeconomic status), the child’s birth order, verbal and spatial intelligence, and offenses in both school and legal settings. She was able to predict from her study 25% of future adult male criminality and 19% of female future criminality. Her study found that two types of variables influenced juvenile crime: biological and environmental. She found crime to be related directly to family instability through the lack of behavioral control endemic with neurological disorders.

One variable Denno collected was the attendance of nursery preschool. This current study examined that variable as a possible environmental change that influenced the familial instability mentioned in Denno’s findings. Did this change from the environment of the family to the...
environment of the nursery preschool have and influence on possible criminality.

Secondary data analysis was selected due to the expense, time, and manpower needed to conduct surveys of the appropriate size for this study were beyond the means currently available (Hakim, 1987; Kish, 1965; Stewart & Kamins, 1993).

In selecting secondary data analysis as the research method, several criteria were considered in choosing the appropriate database. Sources of the data relevant to the study undertaken by this project, sampling frame, sample size, method of sampling, and the reliability and validity of the data sampled were all deliberated (Hakim, 1987; Kish, 1965; Stewart & Kamins, 1993).

Very few criminal justice researchers have studied the effects of formal early childhood education on future crime. Early intervention did have a significant effect in lowering future delinquency as noted in the Perry Preschool program, the Syracuse University Family Development research Program, the Yale Child Welfare Research program, the Houston Parent-Child Development Center (Zigler, 1992), and the United States Government sanctioned Head Start Program (Vaughn, Colvin, Azria, & Kryzik, 2001). None of
these main studies, however, collected data on subjects from birth to age 21. This secondary data analysis of Denno’s available source data does have data on subjects from this period.

Sample

This research project utilized the sample data previously collected by Deborah W. Denno. Denno’s data set is particularly relevant because it was a longitudinal study that included a large sample of initially poor, at-risk African-American children (n=987) followed from birth to age twenty-one.

Data collected for Denno’s project came from three sources: the Collaborative Perinatal Project, Philadelphia police records, and the Philadelphia public school records. Medical and demographic data were collected during the Collaborative Perinatal Project at the University of Pennsylvania Hospital in conjunction with the University of Pennsylvania from 1959-1969. The Philadelphia police records and the Philadelphia public schools records were collected by the Center for Studies in Criminology and Criminal Law from 1978-1980.
Denno’s sampling frame included a list of 2,958 African-American children registered by the Pennsylvania University Hospital whose mothers participated in the Collaborative Perinatal Project in the years 1959-1962. These subjects were self-selected by their parent(s) through inclusion in inexpensive maternity care at Pennsylvania University Hospital. Of those 2,958 children registered at birth, the final 987 utilized in Denno’s collection of data were those traceable through local school and police records up to the age of twenty-one (Denno, 1985).

Instrumentation

This study utilized eighteen dependant variables and one independent variable (see Appendix B). The independent variable was the formal education of nursery preschool attendance.

Fifteen of the dependent variables were of ratio level measurements. Three of these variables were nominal level measurement with answers: Yes or No. One variable selected (number of remedial disciplinary codes in school) was collected from school records that pertained to those children that had any disciplinary action recorded for
improper behavior. The rest of the dependant variables were collected from Philadelphia police records. The independent variable was collected directly from records of the Collaborative Perinatal Project at the University of Pennsylvania Hospital during the period 1959-1969 (Denno, 1998).

Limitations

Limitations were inherent in the selection of this data set. First the selection of the sample by Denno created an external validity problem that denied generalizability to the greater population. Selecting this group through the voluntary registration by their mothers diminished the concept of random sampling. However, the importance of this particular sample is in their shared membership as a high-risk group of lower economic status African-American youth.

Finally, this sample selection showed an experimental mortality of the original 2,958 subjects that died, relocated, or could not be found, ending up with the remaining 987 of the sub sample.
Methods Summary

This study utilized two statistical methods (Chi square and t-test) for analyzing the relationship between the eighteen dependant variables (criminal activity) and the independent variable Nursery Preschool Attendance - Yes/No.

Because the independent variable and three of the dependant variables are nominal, Chi square was selected to compare the expected frequencies with the observed frequencies (Frankfort-Nachmias & Nachmias, 2000). The t-test was used to determine the relationship between the independent variable, Nursery Preschool Attendance, and the fifteen ratio level dependant variables depicting criminal activity.
CHAPTER FOUR
ANALYSIS

Results

All bivariate analyses utilized two-tailed t-tests of significance at the .05 level. Of the 800 in the sample, 81 attended preschool and 719 did not.

The chi square analysis was problematic in that the Injury Offender, Theft Offender, and Offender variables had an expected count of less than five. The expected count was .01. Too few to enable reasonable analysis.

It was found that the formal education of nursery preschool was a factor in deterring crime in four particular areas. Total Damage Offenses had a two-tailed T-test significance of .028 (p < .05). df = 798, t = -1.770. Attendance in preschool had a significant deterrent effect on total damage offenses compared to those children who did not attend. Total Theft Offenses also was significant in a negative relationship with Preschool Attendance at a two-tailed T-test significance of .038 (p < .05). Both Total Damage Alone and Total Injury & Theft Offenses had the same two-tailed T-test significant factor of .000 (p < .05).

These numbers clearly show that Preschool Attendance has a
negative effect on some categories of crime by lowering offense rates for Total Damage Offenses, Total Theft Offenses, Total Damage Alone Offenses, and Total Injury & Theft Offenses.

Discussion

Human social development relies on the capacity for learning. The physical and mental capacity to learn is a direct product of stimulus by both biological and social environments. This stimulus exposure creates permanent changes in the brain of both the structure of the neural pathways and the chemical bioreactions. This permanent change process is called memory. Whether the memory is at the conscious or subconscious level matters not. Memory still generates behavioral responses. There can be little doubt that exposure to the environment is the primary educator of human behavior.

It is perplexing that there is a lack of studies which have examined the most influential time periods for this exposure between birth and four. It is further disturbing that criminologists delve into the problem only when it becomes a criminal matter. By this time the damage is already done. Re-programming the human brain is not like
that of a computer. There is no re-formatting of the human brain. The difficulty of re-programming is exponentially more difficult than just getting the social education right the first time. The difficulty lies in the social makeup of society. It is more difficult to obtain a driver's license than is to become a parent. The potential for damage being an inept parent may far exceed that of an inept driver. But the picture of government controlling who gets to have children is abhorrent to virtually all in society. Even setting conditions of passing rudimentary parenting skills is anathema. Yet without adequate parenting skills the home environment of the child is suspect.

The exposure to the stimulus of this environment is, however, the primary educator of future behavior. If education is socially inadequate, society pays in the long run. Untold billions of dollars are spent each year on supporting the criminal justice system. Other billions are lost in property. And even other losses are tallied in the tender of human lives. Yet our society blanches at any concept of governmental intervention in parenting skills.

Something can be done through education of parents and potential parents of possible weaknesses in their parenting skills. Programs could be initiated that first educate
parents to the serious expense to society that these parenting skills perpetuate. Secondly they could be educated as to the weaknesses of parenting skills that exacerbate the negative learning environment of the home. Finally, programs that educate parents in parenting skills that prepare their children to become socially stable, mature, and with good judgment, should be free to all. The cost of such a program would seem prohibitive until it is compared to the current cost of not having such a program. In fact there is a program that is already in place in all the school systems of America. It is called social studies. The curriculum, however, has very little to do with studying social behavior much less teaching it.

The statistical significance of this study and other educational studies support backing further funding and research in programs of early formal preschool education. These programs have shown to reduce crime and delinquency in children throughout their early teen years (the highest number of crimes are done in this age span with 17 being the peak age for delinquency) and up to and past the age of 20. It is not the panacea reported by one reviewed article but it is one of the best supported by the majority of educational researchers. Each parallel study that supports
this further, adds to the knowledge of the field and helps the development of new policies that actually do work.

Where is the money for the enrichment of these intervention preschool programs to come from? There are so many programs vying for a piece of this pie that the one with the greater potential should be in the forefront. Does the money go into programs for those who are already incarcerated to rehabilitate them or is it to be directed toward preschool intervention programs? Money directed toward a much more aggressive program than the Head Start program would reduce crime. Sending money toward formal preschool education that is social skills based would reduce crime more than building more prisons.

This plan is for the long term and has little political support today (Donahue & Siegelman, 1998). Senator Kohl stands out from the rest with his brief to the Senate backing programs that do work. He used the success of the Perry Preschool Project in the 1960s (precursor to the Head Start Program today) as an example of programs that need funding and further research as directions that actually do work in crime prevention (Kohl, 1996).

Is this idea of early age formal education to prevent criminal activity the monster Big Brother depicted in
George Orwell’s *1984* depiction of the future? Is government going to far? Alternatively, as the representative of society’s safety, is it not going far enough?
APPENDIX

VARIABLES LIST
### VARIABLES LIST

#### Independent Variable List

<table>
<thead>
<tr>
<th>Name</th>
<th>Independent Variable Label</th>
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<tbody>
<tr>
<td>AR_TOT</td>
<td>Total number of arrests</td>
</tr>
<tr>
<td>COMPLNTS</td>
<td>Total number of complaints</td>
</tr>
<tr>
<td>DAMAGE</td>
<td>Total number of damage complaints</td>
</tr>
<tr>
<td>DISCIP</td>
<td>Number of remedial disciplinary codes</td>
</tr>
<tr>
<td>DNUM_TOT</td>
<td>Total damage offenses</td>
</tr>
<tr>
<td>INJURY</td>
<td>Injury offender? - Yes/No?</td>
</tr>
<tr>
<td>INUM_TOT</td>
<td>Total injury offenses</td>
</tr>
<tr>
<td>OFFENDER</td>
<td>Offender - Yes/No?</td>
</tr>
<tr>
<td>THEFT</td>
<td>Theft offenses? - Yes/No?</td>
</tr>
<tr>
<td>TNUM_TOT</td>
<td>Total theft offenses</td>
</tr>
<tr>
<td>TOT_D</td>
<td>Total alone offenses</td>
</tr>
<tr>
<td>TOT_I</td>
<td>Total injury alone offenses</td>
</tr>
<tr>
<td>TOT_ID</td>
<td>Total injury &amp; damage offenses</td>
</tr>
<tr>
<td>TOT_IT</td>
<td>Total injury &amp; theft offenses combined</td>
</tr>
<tr>
<td>TOT_ITD</td>
<td>Total injury, theft &amp; damage offenses combined</td>
</tr>
<tr>
<td>TOT_NI</td>
<td>Total non-index offenses</td>
</tr>
<tr>
<td>TOT_T</td>
<td>Total theft alone offenses</td>
</tr>
<tr>
<td>TOT_TD</td>
<td>Total theft &amp; damage offenses combined</td>
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<td>---------------------------------------------------------------</td>
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<td>Nursery preschool attendance - Yes/No?</td>
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References


