CHILDHOOD NEGLECT AND ITS EFFECTS ON 
NEURODEVELOPMENT: SUGGESTIONS FOR 
FUTURE LAW AND POLICY

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I. INTRODUCTION

Child neglect is the most widespread type of child maltreatment in the United States,1 with the consequences of neglect believed to be more serious than those of abuse.2 Yet, neglect remains the least understood and least studied form of child maltreatment.3 What little information is known, confirmed through research, concludes that “neglect during early childhood . . . can produce pervasive developmental delay” and long term neurological abnormalities4 that

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3 ENCYCLOPEDIA OF CRIME AND PUNISHMENT, supra note 1, at 1.

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may “determine the child’s potential as an adult.” Currently, the legal system and policymakers have failed to respond to these findings, as they have yet to minimize neglect and its catastrophic effects on a developing child. This comment argues that neglect must be recognized as a social epidemic, and in response there must be a restructuring of the current system that attempts to address child neglect.

Part I of this comment will provide a brief history of the child welfare system in the United States, supplying context to current system and policies that attempt to deal with child neglect. Part II discusses federal legislation that provides the framework for all state-enacted child welfare laws. This comment will then look at how states implement these federal laws, with a closer examination of how the federally mandated definition of child neglect influences all child neglect policy. Part III of this comment will provide statistics on the current impact of neglect on children in the United States, as well as the financial consequences of child neglect on society as a whole. Part IV will discuss the consequences of neglect during early childhood on the brain, by first providing a brief explanation of brain functions and development, then by offering a description of neurodevelopmental principles, and lastly by discussing research on the effects of neglect on the developing brain in the areas of animal studies, clinical observations, and neurobiological findings. Finally, in Part V, this comment will analyze and suggest alternatives to the current system, beginning with a new operational definition of neglect that is child-centered and developmental needs-based and then will discuss alternatives to the current coercive investigative child welfare system.


7 See Weinstein, supra note 5, at 12.
II. CHILD WELFARE IN THE U.S.

The United States’ child welfare policy is based on English common law, in which children are considered the property of their parents, and intervention is only warranted when a parent is unable to properly “maintain, protect, or educate” their child.8 Throughout the nineteenth century, continuing into the twentieth, children who did not have parents or relatives to care for them were commonly referred to as “orphans” and became wards of the state.9 They were housed in institutions, such as orphanages or poor houses.10 In 1853, the Children’s Aid Society created the “foster care system” placing children from urban cities with “good Christian” families in rural America.11 With time, there was a shift within the population of children being “placed” in foster homes, from “orphans” and abandoned children who had no family, to children who were being “removed” from their parents due to the family’s economic status.12 Foster care became a mechanism to “save” children from parents who were unable to provide for them, shifting the focus away from the child’s needs and focusing instead on the parents’ shortcomings.13

As the foster care system grew, critics began questioning its methods and success.14 They mobilized and responded at a White House Conference in 1909, announcing that “children should never be removed from their parents for reasons of poverty.”15 It was recommended that the focus of child welfare should shift to keeping

10 Id. at 11–23.
11 Id.
12 See Theo Liebmann, What’s Missing From Care Reform? The Need for Comprehensive, Realistic, and Compassionate Removal Standards, 28 HAMLINE J. PUB. L. & POL’Y 141, 150–51 (2006) (stating that removal of children from their homes was based on the family’s economic status and not child maltreatment).
13 LINDSEY, supra note 9; see also Kelli Lane, Grounding Mother and Child in Their Intrinsic Relational Unit: An Analysis of Motherhood and the Parent-Child Relationship Within the Child Welfare System, 25 WOMEN’S RTS. L. REP. 145 (2004) (stating current child welfare policy and procedures continues to place focus on parents’ deficits, which has been termed a parent-focused system).
14 See LINDSEY, supra note 9, at 14.
15 Id. at 21.
families together by preventing situations that impoverished families faced.16 This movement was later termed “Family Preservation.” The policies created in reaction to this movement are in large part what our modern child welfare policies are modeled after.17

Both the federal government and the states responded to the call for “Family Preservation.” States began to provide assistance to children while they remained in the families’ homes through a needs-based public assistance program.18 In 1912, the federal government established The Children’s Bureau.19 With these federal and state programs implemented in the first quarter of the twentieth century, a gradual shift began in the responsibility of child welfare towards state government and away from private charitable organizations.20

The Great Depression brought about the institutionalization of the entire social welfare system, including child welfare.21 In 1935, Congress passed Titles IV and V of the Social Security Act creating “Aid to Families with Dependent Children,” a funding system that provided government assistance to families, as well as funding for state-run child welfare programs.22 These state-run programs transformed during the 1950s into professional state agencies that provided both foster care and supportive services to children and their families.23 State legislation was passed that gave state agencies broad responsibility for the welfare of children.24 These agencies continued to base their policies and procedures on “Family Preservation” by providing supportive and supplemental services,
such as counseling and financial assistance, and continuing to limit state intervention or substitute services.\textsuperscript{25} This continued to support the principle that if within a family “all went minimally well . . . there would be no need for state involvement.”\textsuperscript{26}

“Attention to child abuse, as distinct from child neglect and poverty, burst forth in the mid-1960s with the identification by doctors of ‘the battered child syndrome.’”\textsuperscript{27} In 1962, publication of The Battered Child Syndrome in the Journal of American Medical Association brought national public attention to the problems of child maltreatment, especially physical abuse.\textsuperscript{28} This publication was dramatic and provided clinical findings of child abuse describing multiple fractures in various stages of healing.\textsuperscript{29} The publication also explained that “the radiological manifestations of trauma are specific, and the metaphysical lesions in particular occur in no other disease of which we are aware.”\textsuperscript{30} The article criticized the medical profession’s failure to accept radiological signs of abuse and reported the discrepancies between the findings of radiological surveys of the children’s bodies with explanations provided by the parents.\textsuperscript{31} In response to public outcry, The Children’s Bureau developed a model reporting law requiring professions to report suspected cases of child abuse.\textsuperscript{32} By 1970, mandatory child abuse reporting regulations were passed and implemented by all fifty states,\textsuperscript{33} and by 1986 all states but one had also passed mandatory reporting of child neglect.\textsuperscript{34}

The mandatory reporting laws have had a dramatic impact on the entire child welfare system.\textsuperscript{35} Child welfare agencies have shifted

\textsuperscript{25} Id. at 26.

\textsuperscript{26} Id.

\textsuperscript{27} Id. at 122 (quoting Mary Larner, Carol Stevenson & Richard Behrman, Protecting Children From Abuse and Neglect: Analysis and Recommendations, in 8 The Future of Children 4, 8 (1998)).

\textsuperscript{28} SMITH, supra note 8, at 112.

\textsuperscript{29} C. Henry Kempe et al., The Battered Child Syndrome, 181 JAMA 17, 18 (1962).

\textsuperscript{30} Id.

\textsuperscript{31} Id.

\textsuperscript{32} See LINDSEY, supra note 9, at 122.

\textsuperscript{33} SMITH, supra note 8, at 113.

\textsuperscript{34} See LINDSEY, supra note 9, at 122.

\textsuperscript{35} See id. at 123.
from providing supportive services to families and substitutive care in limited situations to an agency whose primary function is to investigate allegations of child abuse and neglect.\textsuperscript{36} With this shift in policy came a shift in funding, away from services that provided assistance to children who experienced poverty, neglect, and abandonment towards investigations of alleged child abuse.\textsuperscript{37} Children who would have once been provided supportive services are no longer being provided assistance; instead, in order to become eligible for state-funded support or intervention through child welfare agencies, there must be a confirmed incident of child abuse or neglect.\textsuperscript{38}

In 1990, the U.S. Advisory Board on Child Abuse and Neglect, an appointed panel of child protection professionals, released their first report evaluating the effectiveness of the current child protection system.\textsuperscript{39} The Advisory Board found the system “was broken” and the “fundamental flaw” was that “it depends on the reporting and response process that has punitive connotations, and requires massive resources dedicated to the investigation of allegations.”\textsuperscript{40} Further, the Advisory Board found that “if the nation ultimately is to reduce the dollars and personnel needed for investigating reports, more resources must be allocated to establishing voluntary, non-punitive access to help.”\textsuperscript{41}

\section*{III. CURRENT LAW AND POLICY AFFECTING CHILD NEGLECT}

Both federal and state laws directly impact the policies and procedures of child welfare agencies and the individual services received by maltreated children. Federal legislation creates mandates

\textsuperscript{36} See id. at 126.
\textsuperscript{37} Id.
\textsuperscript{38} Id. at 127.
\textsuperscript{40} Id. at 5 (citing U.S. ADVISORY BOARD ON CHILD ABUSE AND NEGLECT, U.S. DEP’T OF HEALTH & HUMAN SERVICES, CRITICAL FIRST STEPS IN RESPONSE TO A NATIONAL EMERGENCY 80 (1990)).
\textsuperscript{41} Id.
that must be followed by each state in order to receive federal funding. Each state, however, is individually responsible for the well-being of their children.

A. Federal Legislation

In 1974, in response to the medical recognition and public outcry surrounding Battered Child Syndrome, Congress passed the Child Abuse Prevention and Treatment Act (CAPTA), the first federal legislation to directly address child maltreatment. CAPTA provides states with federal funding and support for programs that provide “prevention, assessment, investigation, [and] prosecution” of child abuse. In order to receive federal funding, states must adopt mandatory child abuse and neglect reporting laws, appoint guardian ad litems in all cases, and ensure confidentiality of records. In addition, CAPTA provides a definition for child abuse and neglect that must be incorporated into state laws as a minimum for substantiating child abuse and neglect. CAPTA defines abuse and neglect as:

Any physical act or failure to act on the part of a parent or caregiver, which results in death, serious physical or emotional harm, sexual abuse or exploitation, or an act or failure to act which presents an imminent risk of serious harm.

Another important piece of federal legislation that has a direct impact on child abuse and neglect policy and procedures is the

Adoption Assistance and Child Welfare Act ("the Act"). The Act, adopted in 1980, requires Child Protective Services (state child welfare agencies) to make "reasonable efforts to avoid unnecessary removals of children from their homes and to unify foster children with their families." 48 In essence, this Act codifies the "Family Preservation Movement" 49 of the twentieth century by preventing removal of children from their families and shifting focus away from foster care and towards placement prevention and reunification. 50 The Adoption Assistance and Child Welfare Act places mandatory obligations on states to make "reasonable efforts" to prevent removal of children from their families and make "reasonable efforts" to return children to their families once removed. 51 Like CAPTA, the Adoption Assistance and Child Welfare Act requires states to implement its provisions before they receive federal funding. 52

The third major piece of federal legislation that affects state child abuse and neglect laws and policy is the Adoption and Safe Families Act. 53 This legislation was passed in 1997 in reaction to concerns that children were being placed and left in foster care indefinitely, as well as being moved from foster home to foster home. 54 The Adoption Assistance and Child Welfare Act establishes the practice of permanency planning and mandates a timeline indicating when a child must be reunited with his or her family, permanently placed with relatives, or placed up for adoption. 55 Like the other federal legislation, federal money to fund state child welfare programs is strictly dependent on the implementation of these guidelines through state laws. 56

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49 See LINDSEY, supra note 9, at 11–23.
51 Jones, supra note 46.
52 Id.
55 Id.
56 Id.
B. State Child Welfare Laws and Policies

While federal acts have a direct impact on the state’s individual programs, each state is responsible for their individual child welfare programs. The legal principle that guides a state’s power to implement child welfare programs is “parens patriae.” Parens patriae was established in the United States in the early nineteenth century and provides the sovereign with the power and responsibility to guard the interests of those lacking capacity, including children. This principle has been interpreted to allow the states to intervene on behalf of children when they are in “imminent physical harm.” The standard of allowing state intervention in a “private family matter” when there is “imminent harm” is reflected in CAPTA’s controlling minimum definition of abuse and neglect. This definition and the “imminent harm” standard is incorporated into every state’s definition of abuse and neglect, which is used by child welfare investigators to determine whether abuse or neglect has occurred and whether state intervention is warranted. Generally, state reporting laws define neglect as “deprivation of adequate food, clothing, shelter or medical care.” However, there is great variation among the states in operationalizing their definitions which contributes to the lack of clarity on a national level as to what “neglect” is, how to define it, and how to recognize it.

58 See Ex Parte Crouse, 4 Whart. 9 (Pa. 1839) (noting that the Supreme Court defined the ability of the courts to exercise the parens patriae power inherent in the state).
59 See id. Parens patriae is the basis for the state’s “right and responsibility to protect individuals who are not able to care for themselves, including children and the mentally ill. This doctrine provides states with the authority to “interfere with parents’ right to care, custody and control of their children.” LIEBMANN, supra note 12, at 149–50.
60 See generally Weinstein, supra note 5.
61 42 U.S.C.A. § 5106g(2) (1997); see infra Part III.C.
64 Id.
C. Issues Surrounding the Definition of Child Neglect

Defining neglect is of key importance and must precede any discussion of research, identification, intervention, and treatment of child neglect.\textsuperscript{65} “The vagueness and ambiguities that surround the definitions of this particular social problem touch every aspect of the field.”\textsuperscript{66} For clinicians and policymakers, the dominant trend in defining neglect is to use the label assigned by Child Protective Service (CPS) agencies.\textsuperscript{67} These labels “focus on omissions in care by parents or caregivers, resulting in actual or potential harm to children.”\textsuperscript{68} The labels include medical neglect,\textsuperscript{69} physical neglect,\textsuperscript{70} emotional neglect,\textsuperscript{71} neglectful supervision,\textsuperscript{72} and abandonment.\textsuperscript{73} Aside from “agency defined” statutory definitions, researchers and clinicians also categorize neglect by “type”—physical, emotional, educational, and medical.\textsuperscript{74} These categorical definitions also look to omissions of the parent or caretaker as the determining factor.\textsuperscript{75}

Through these example definitions, it becomes clear that neglect is inherently difficult to objectively define. There continues to be a lack of consensus as to whether the definition of neglect should (1) “separate or combine subtypes,” (2) “focus on parental omissions in care or children’s experiences,” (3) “use definitions based on CPS

\textsuperscript{65} Zuravin, \textit{supra} note 47.
\textsuperscript{66} Id.
\textsuperscript{67} Id.
\textsuperscript{69} \textit{ENCYCLOPEDIA OF CRIME AND PUNISHMENT}, \textit{supra} note 1 (defining medical neglect as “such failure to provide visits to the doctor for routine checkups, not getting medical attention for injuries, failure to ensure compliance with necessary medical treatments such as providing insulin for a diabetic child”).
\textsuperscript{70} Id. (defining physical neglect as “failure to provide food, water, or adequate sanitation”).
\textsuperscript{71} Id. (defining emotional neglect as “failing to provide appropriate attention, nurturing, and support to a child”).
\textsuperscript{72} Id. (defining neglectful supervision as “failure to provide appropriate and reasonable care to the child”).
\textsuperscript{73} Id. (defining abandonment as “failure to assume adequate responsibility for the child, such as leaving the child with no plans for return”).
\textsuperscript{74} \textit{ENCYCLOPEDIA OF CRIME AND PUNISHMENT}, \textit{supra} note 1.
\textsuperscript{75} See \textit{id}. 
data or alternative measures," or (4) "establish categories of ‘neglect’
and ‘no neglect’ or to treat the phenomenon as existing on a
continuum." This lack of clarity and consistency in definitions
amongst legislatures, policymakers, researchers, and clinicians leads
to significant variables in policies and practice and a lack of success
in interventions. 77

IV. PROBLEM OF CHILD NEGLECT

Annually, an estimated three million children are alleged to be
victims of abuse or neglect and receive some form of investigative or
intervention services from a local or state child protection agency. 78
Of these three million children, Child Protective Services confirms
872,000 children as victims of child maltreatment. 79 Over sixty-two
percent, or 544,128 children, were confirmed as victims of neglect. 80
Children under the age of three have the highest rate of victimization
at 16.1 per 1,000. 81

While the above statistics provide incidence of alleged, reported,
and investigated cases of child maltreatment by a child protection
agency, there are many incidences of child abuse or neglect that go
undetected and unreported. In an attempt to capture these incidences
and produce a more accurate report of child maltreatment in the
United States, Congress has mandated The National Incidence Study

76 Howard Dubowitz, Steven C. Pitts & Maureen M. Black, Measurement of Three Major
Subtypes of Neglect, in 9 CHILD MALTREATMENT 4, 344–56 (2004), available at
http://cmx.sagepub.com/cgi/content/abstract/9/4/344.
77 Id.
78 U.S. DEP’T OF HEALTH & HUMAN SERVICES, ADMIN. FOR CHILDREN AND FAMILIES, CHILD
cb/pubs/cm04/cm04.pdf (last visited Apr. 26, 2008) (stating “an estimated 3 million
children were to have been abused or neglected and received investigations or assessments
by state and local child protection services (CPS agencies”).
79 Id. at xiv.
80 Id. at 24 (stating “62.4% of victims experienced neglect, 17.5% were physically abused, 9.7% were
sexually abused, 7.0% were psychologically maltreated, and 2.1% were medically
neglected. In addition, 14.5% of victims experienced such ‘other’ types of maltreatment . . .
These maltreatment type percentages total more than 100 percent because children who
were victims of more than one type of maltreatment were counted for each maltreatment”).
81 Id. at 25.
of Child Abuse and Neglect (NIS).\textsuperscript{82} NIS is conducted every eight years, and the last study, NIS-3, was completed and published in 1996.\textsuperscript{83} NIS-3 estimates that there are 1,553,800 incidences of child abuse or neglect in the U.S. annually.\textsuperscript{84} This estimate of incidences is well above the number of cases (872,000) that receive investigation or intervention by child protection agencies.\textsuperscript{85} While NIS-3 reports a sharp increase in the incidence of child maltreatment, an even more disturbing trend is the indications within the area of emotional neglect.\textsuperscript{86} The study indicates a 333\% increase in the incidence of emotional neglect within the previous eight years.\textsuperscript{87}

In addition to the personal suffering of individual victims of child maltreatment, child abuse and neglect has an enormous financial effect on society as a whole. The direct economic cost of child abuse and neglect is estimated annually at $24,384,347,302.\textsuperscript{88} In addition to direct costs, there are also indirect costs associated with the long term or secondary effects of child maltreatment. The estimated indirect cost to society due to child maltreatment is $69,692,535,277 annually.\textsuperscript{89} Together, it is estimated that the annual

\textsuperscript{82} See LINDSEY, supra note 9, at 150.


\textsuperscript{84} See generally LINDSEY, supra note 9, at 150.

\textsuperscript{85} CHILD MALTREATMENT 2004, supra note 78.

\textsuperscript{86} SEDLAK & BROADHURST, supra note 83.

\textsuperscript{87} Id.; Melton, supra note 39, at 8-9. Professionals partially attribute these increases in the incidence of neglect to changes in the “nature of contemporary family life.” “Contemporary family life” is characterized by “social isolation of families”, “diminished or deteriorating community and personal support,” increasing divorce rates, increases in the rate of childbearing outside of marriage, and an increase in the pairing by “single adults isolated from support systems, that historically, have aided in the childrearing.”

\textsuperscript{88} Prevent Child Abuse America, Total Estimated Cost of Child Abuse & Neglect in the United States, http://member.preventchildabuse.org/site/DocServer/cost_analysis.pdf?docID=144 (last visited Apr. 10, 2008) (stating direct costs include hospitalization ($6,205,395,000), chronic health problems ($2,987,957,400), mental health care system ($425,110,400 - not including neglected children’s treatment), child welfare system ($14,400,000,000), law enforcement ($24,709,800), and judicial system ($341,174,702) expenses).

\textsuperscript{89} Id. (stating indirect costs include: special education ($223,607,800), mental health and mental health care ($4,627,636,025), juvenile delinquency ($8,805,291,372), lost productivity to society due to unemployment ($656,000,000), and adult criminality ($55,380,000,000) costs).
direct and indirect financial cost to society of child abuse and neglect is over $94,000,000,000.90

V. THE “NEGLECT OF NEGLECT”

While researchers agree neglect is the most prevalent form of child maltreatment and has some of the most severe consequences, neglect continues to be the least studied and least understood form of child maltreatment.91 There have been several reasons promulgated to explain this discord. First, in the development of policies and laws addressing child maltreatment, child neglect has been viewed as “an addendum to child abuse.”92 Since the 1960s with the recognition of Battered Child Syndrome, neglect has been reclassified as “a less important social problem.”93 Additionally, some have theorized that violence and trauma, associated with child physical and sexual abuse, grabs the attention of an “obsessed with violence” public rather than acts of omission, such as neglect.94

Another factor contributing to the “neglect of neglect” is the continued difficulty in defining95 and documenting childhood neglect.96 For the last 20 years, the lack of a consistent and standard definition of neglect has been recognized as a critical problem in developing knowledge of neglect, yet there continues to be no standard definition.97 The last factor is the role poverty plays in child neglect. Professionals report a general public disinterest in poverty as a social issue, including its effects, such as child neglect.98 All of these factors have led to a severe lack of research on the effects of neglect.

90 Id. (“This data represents the first attempt to document the nationwide costs resulting form abuse and neglect.”). The data put forth conservative estimates drawn from a number of sources including the Department of Health and Human Services.

91 ENCYCLOPEDIA OF CRIME AND PUNISHMENT, supra note 1.

92 Tomison, supra note 6.

93 Id.


95 See discussion supra Part III.C.

96 ENCYCLOPEDIA OF CRIME AND PUNISHMENT, supra note 1.

97 Zuravin, supra note 47, at 24.

98 Id. at 2.
on children and a lack of response by the public demanding intervention and change.

Even with this absence of research in the general area of childhood neglect, advances in the neurosciences within the last ten years have allowed researchers to pinpoint the effects of neglect on the developing brain. These empirical studies have allowed conclusions to be drawn on how childhood neglect influences children’s development.

VI. EFFECTS OF NEGLECT ON BRAIN DEVELOPMENT

A. Brain Development

The brain is comprised of billions of nerve cells. The majority of these cells develop in utero; when a baby is born he or she has over 100 billion. However, while the baby’s brain is intact at birth, much of the brain growth occurs postnatally during the first few years of life. Growth occurs “sequentially and hierarchically, organizing brain functions from least to most complex.” The first area to develop is the brainstem, which regulates automatic functions, such as the cardiovascular and respiratory systems. The last regions to develop are the limbic system and cortical areas. These areas are not fully functional for years after birth;

100 Id. (“[T]here is research that indicates some neurons are developed after birth and well into adulthood.”) (citing J.P. SHONKOFF & D.A. PHILLIPS, FROM NEURONS TO NEIGHBORHOODS: THE SCIENCE OF EARLY CHILDHOOD DEVELOPMENT (National Academies Press 2000)).
101 Id.
103 Id.
104 Id.
105 Understanding the Effects of Maltreatment on Early Brain Development, supra note 99.
106 Childhood Experiences and the Expression of Genetic Potential, supra note 102, at 86.
in fact, at age three a child’s brain is only 90% developed.\textsuperscript{107}

**B. Organization of the Brain**

Simplistically, the brain develops by organizing and creating pathways that connect various parts of the brain and differentiate between functions.\textsuperscript{108} The creation of these “pathways” is the most experience-sensitive feature of brain development, as it appears that it is a “use it or lose it,” “activity dependent” process.\textsuperscript{109} This means lack of use, or disruption of this process through environmental experiences, can alter the neurodevelopment process and diminish functional capabilities.\textsuperscript{110} Therefore, the environment plays an enormous role in the development of a brain. There are several core principles of neurodevelopment that recognize this role.

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**1. Genetic and Environmental Influences**

This principle recognizes that genes are intended to work within an environment and are expressed by environmental cues.\textsuperscript{111}

How an individual functions within an environment, then, is dependent upon the expression of a unique combination of genes available to the humans species—and what we become depends upon how experiences shape the expression.\textsuperscript{112}

An example of this is when a child is raised without language.\textsuperscript{113} While the child possessed the genetic potential to speak, he never expressed it.\textsuperscript{114} This principle concludes that genetic potential without appropriately timed experiences can remain unexpressed.

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**2. Sequential Development**

The neurodevelopment principle of sequential development

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\textsuperscript{107} \textit{Understanding the Effects of Maltreatment on Early Brain Development}, supra note 99.

\textsuperscript{108} \textit{Id.}

\textsuperscript{109} \textit{Childhood Experiences and the Expression of Genetic Potential}, supra note 102, at 85.

\textsuperscript{110} \textit{Id.} at 87.

\textsuperscript{111} \textit{Id.} at 85.

\textsuperscript{112} \textit{THE COST OF CHILD MALTREATMENT}, supra note 4.

\textsuperscript{113} \textit{Id.}

\textsuperscript{114} \textit{Id.}
means “that each brain area will have its own timetable for development.”115 During different stages of a child’s development, different areas of the brain will be “most active” and require “critical periods, sensitive periods, or organizing experiences” to develop correctly.116 If these experiences do not occur, the child may be susceptible to “disruptions of experience-dependent neurochemical signals” and “major abnormalities or deficits in neurodevelopment.”117 These neurodevelopmental deficits have an enormous impact on a child’s socio-emotional functioning. For example, if nurturing is absent for the first three years of life but “then a child is adopted and begins to receive attention, love and nurturing, these positive experiences may not be sufficient to overcome the malorganization of the neural systems mediating socio-emotional functioning.”118

3. Activity-Dependent Neurodevelopment

The principle of activity-dependent neurodevelopment provides that the brain of a child develops in a “use-dependent fashion.”119 Throughout brain development, undifferentiated systems of the brain are “dependent upon a set of environmental and micro-environmental cues in order for them to appropriately organize from their undifferentiated, immature forms.”120 Lack of, disruption of, or inappropriate cues can lead to disrupted development and diminished function.121 So when a child experiences neglect during early childhood “there can be disruptions of neurodevelopment that will result in neural organization that can lead to compromised functioning throughout life.”122

115 Childhood Experiences and the Expression of Genetic Potential, supra note 102, at 85.
116 Id.
117 Id.
118 Id. at 87.
119 Id.
120 THE COST OF CHILD MALTREATMENT, supra note 4.
121 Id.
122 Id.
4. Windows of Opportunity

Activity-dependent and sequential development principles of neurodevelopment lead to the conclusion that “there must be times during development when a given developing neural system is more sensitive to experiences than others.”123 In response to a healthy environment, the brain will:

rapidly and efficiently organize in response to unique demands of a given environment . . . the very same neurodevelopmental sensitivity that allows amazing development advances in response to predictable, nurturing, repetitive and enriching environments make the developing brain vulnerable to adverse experiences.124

Sensitive periods are unique to each brain and therefore to each brain function.125 They occur when that particular system is actively organizing. The brainstem “must organize key systems by birth; therefore the sensitive period for those brainstem-mediated functions is during the prenatal period. The neocortex, in contrast, has systems and functions organizing throughout childhood and into adult life.”126

C. Neurodevelopmental Perspective of the Effects of Neglect on a Developing Brain

There are two main sources that provide information on the effects of childhood neglect on a developing brain.127 One source is the studies completed on animals, and the other is descriptive clinical reports on severely neglected children. Presently, researchers are reviewing empirical evidence derived from neurobiological studies.

1. Animal Studies

Throughout the last century, important studies in developmental neuroscience have focused on “extreme sensory experience” models,

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123 Childhood Experiences and the Expression of Genetic Potential, supra note 102, at 87.
124 Id. at 87–88.
125 Id.
126 Id. at 88.
127 Information from these sources, their findings, and conclusions support the principles of neurodevelopment discussed above. See discussion supra Part VI.
looking at sensory deprivation versus sensory enrichment.\textsuperscript{128} Generally, these studies demonstrate that “animals reared in enriched environments are larger, more complex and functional,” and “more flexible than those raised under deprivation conditions.”\textsuperscript{129} One such study of infant rats and monkeys “show[ed] that maternal deprivation results in persistent deficits in social, behavioral, and cognitive development, such as impaired executive function.”\textsuperscript{130} Executive functions include “the ability to learn, regulate emotions and behaviors, and problem solve,” as well as “control[ling] the behavior processes of planning, execution, self-regulation, maintenance, spatiotemporal segmentation, and sustained mental production.”\textsuperscript{131}

These studies support the “windows of opportunity” neurodevelopmental principle, suggesting that critical periods exist “during which specific sensory experience [is] required for optimal organization and development of the part of the brain mediating a specific function . . . .”\textsuperscript{132} While few controlled studies have examined critical periods or “windows of opportunity” in humans, the little evidence there is suggests humans tend to have similar, if not longer, periods of sensitivity.\textsuperscript{133} Researchers theorize that abnormal environmental cues during these critical periods in humans may result in malorganization of the brain and compromised brain function.\textsuperscript{134} However, the majority of insight and information on the effects of neglect on brain development have come from clinical observations.\textsuperscript{135}

2. Clinical Observations

Throughout the last century, researchers have observed and

\textsuperscript{128} Childhood Experiences and the Expression of Genetic Potential, supra note 102, at 89.
\textsuperscript{129} Id. at 90.
\textsuperscript{130} Michael De Bellis, The Psychobiology of Neglect, in 10 CHILD MALTREATMENT, NO. 2 150, 151 (2005), available at http://cmx.sagepub.com/cgi/content/abstract/10/2/150.
\textsuperscript{131} Id. (citing I.B. Black, Genes, Brain, and Mind: The Evolution of Cognition, 20 Neuron 1073-80 (1998)).
\textsuperscript{132} Childhood Experiences and the Expression of Genetic Potential, supra note 102, at 90.
\textsuperscript{133} Id.
\textsuperscript{134} Id.
\textsuperscript{135} See generally id.
performed research on neglected children through case review and descriptive studies.\textsuperscript{136} In the early twentieth century, a researcher “noted that despite the improvements in food and hygiene, infants who were institutionalized in their first year of life (i.e., who experienced physical and emotional neglect) suffered death rates of 31.7\% to 75\% from infections or failure to thrive.”\textsuperscript{137} During the 1940s, these results were followed up and “showed that as institutionalized children began to live past infancy, severe deficits in social development and behavioral and emotional regulation were noted.”\textsuperscript{138} Some of these deficits included “progressive developmental deterioration in cognitive functioning that was felt to be irremediable if institutionalization occurred in the first [three] years of life.”\textsuperscript{139}

In more recent years, a report was completed on children raised in Lebanese orphanages. These children were raised in an “institutional environment devoid of individual attention, cognitive stimulation, emotional affection or other enrichment.”\textsuperscript{140} The children’s IQ scores were evaluated at age sixteen, and the children who remained in these institutions had a mean score of 50.\textsuperscript{141} Children who were adopted from these institutions before age two, had a mean IQ score of 100, while the children adopted after the age of two but before the age of six had an average IQ of 80.\textsuperscript{142} These findings support the principle of activity-dependent neurodevelopment: “[T]he older a child was at time of adoption (i.e., the longer the child spent in the neglectful environment) the more pervasive and resistant to recovery were the deficits.”\textsuperscript{143}

These findings were repeated in a recent study of 111 Romanian orphans.\textsuperscript{144} The orphans were adopted into nurturing environments

\textsuperscript{136} Id. at 90.
\textsuperscript{137} De Bellis, supra note 130, at 152.
\textsuperscript{138} Id.
\textsuperscript{139} Id. (citing L. Bender & H. Yarnell, An Observation Nursery: A Study of 250 Children with Maltreatment-Related Posttraumatic Stress Disorder, 159 AM. J. PSYCHIATRY 405–16 (1941)).
\textsuperscript{140} Childhood Experiences and the Expression of Genetic Potential, supra note 102, at 91.
\textsuperscript{141} Id.
\textsuperscript{142} Id. (citing WAYNE DENNIS, CHILDREN OF THE CRECHE (Appleton-Century-Crofts 1973)).
\textsuperscript{143} Id. at 91.
\textsuperscript{144} Id. (citing M. Rutter et al., Developmental Catch-up and Deficit, Following Adoption After Severe
before age two from an institutional setting (i.e., physically and emotionally neglected), one-half of them being adopted before the age of six months and the other half between six months and two years. At time of placement, the children showed signs of severe developmental delay. The children were re-evaluated four years later. These re-evaluations showed that while “both groups improved, the group adopted at a younger age had a significantly greater improvement in all domains.”

Observations of neglected children completed in the United States have consistent findings. A Texas-based organization that works with traumatized children “recorded increases in IQ of over forty points in more than sixty children following removal from neglectful environments and placed in consistent, predictable, nurturing, safe and enriching placements . . . .” A study of over 200 children removed from their parents’ care before the age of six due to maltreatment found that eighty-five percent of these children had significant developmental delays.

3. Neurobiological Findings

While researchers and scientists agree that “language, fine and large motor delays, impulsivity, disorganized attachment, dysphoria, attention and hyperactivity” are caused by abnormalities in the brain, very few studies have investigated any aspect of neurobiology in neglected children.

One study examined the effects of global neglect versus chaotic neglect on neurodevelopment. The researchers measured growth of the brain and then compared it to standard norms. The study

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Global Early Deprivation, 39 J. CHILD PSYCHOL. & PSYCHIATRY 465–76 (1998)).

145 Childhood Experiences and the Expression of Genetic Potential, supra note 102, at 91.
146 Id.
147 Id.
148 Id.
149 Id.
150 Childhood Experiences and the Expression of Genetic Potential, supra note 102, at 92.
151 Id. (defining global neglect as a “history of relative sensory deprivation in more than one domain” versus chaotic neglect “physical, emotional, social or cognitive neglect”).
152 Id.
found “[d]ramatic differences from the norm” in the frontal-occipital circumference (FOC). The mean FOC for globally neglected children was in the eighth percentile, suggesting abnormal brain growth. The chaotically neglected children’s brain development did not appear to be affected in the same manner. In some of the children, MRI or CT scans were available for interpretation by a neuroradiologist. Eleven of the seventeen brain scans of globally neglected children were “abnormal,” while only three of the twenty-six brain scans of chaotically neglected children were determined to be “abnormal.” In addition to these findings, the researchers observed “some recovery of function and relative brain size when these children were removed from the neglectful environment and placed in foster care.”

Three published studies have been completed using noninvasive neuroimaging to measure brain development in abused or neglected children. The studies that have been completed concentrate on either “super” healthy children or children with severe head injuries, mental illness, or neurological disorders. In order for researchers, clinicians, and policymakers to more fully understand the consequences of neglect on brain development, there must be continued research using these noninvasive procedures to study the effects of neglect on a child’s developing brain. These findings must then be combined with current neurobiological findings and clinical observations to provide a more comprehensive view of child neglect.

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153 Id. (defining frontal occipital circumference (FOC) as “a measure of head size and in young children a reasonable measure of brain size”).
154 Id.
155 Childhood Experiences and the Expression of Genetic Potential, supra note 102, at 102.
156 Id.
157 Id.
158 Id.
159 De Bellis, supra note 130, at 161. One study completed in 1997 scanned the brains of children who had been hospitalized at psychiatric facilities and had a documented history of severe maltreatment. These MRI scans found a reduction in the corpus callosum. Id.
160 Id.; see supra Part VI.C.2.
161 De Bellis, supra note 130, at 167.
162 Id.
VII. NEURODEVELOPMENTAL PRINCIPLES AND RESEARCH ON THE EFFECTS OF NEGLECT ON THE DEVELOPING BRAIN SUPPORT CHILD-CENTERED CHILD PROTECTION POLICY

Research completed in the last ten years is conclusive—child neglect has a direct and devastating impact on the neurodevelopment of children, leading to long term “social, emotional, behavioral, and cognitive adaptation failure as well as frank psychopathology, both in later childhood and adulthood.” Unfortunately, there has been limited recognition by policymakers of the devastating effects of neglect on children as evidenced by the lack of change within the child welfare system. This paper advocates policymakers and stakeholders use of this research as evidence to promote a change in the current child welfare system from one that responds only in cases of severe neglect and after the harm has occurred, to one that prevents childhood neglect before it leads to the devastation of a child’s developing brain.

A. Child Protection Policies Addressing Neglect Should be Child-Centered

 Upon finding the U.S. child protection system to be “broken,” the U.S. Advisory Board on Child Abuse and Neglect found that any “lasting, substantial improvement in the protection of children would require the replacement of the existing child protection system with a new, national, child-centered, neighborhood-based child protection system.” The Board based this recommendation, that a new policy should be child-centered, on the principle that “respect and inherent dignity and inalienable rights of children as members of the human community requires protection of their integrity as persons.”

163 See supra Part VI.C.

164 Id.


166 See supra Part II (discussing current law and policy affecting child neglect).

167 See Weinstein et al., supra note 5, at 590–93.

168 Melton, supra note 5, at 4–5.

169 Id. at 10–11.
Child-centered child protection programs ensure the child’s needs, views, and interests are of primary focus. Child-centered policies would lead to a child protection system that first prioritizes the child in considering all policies, decisions, and procedures. Instead, the current systems focus on reporting and investigating, placing priority on “deterring abuse recidivism and thus emphasize[ing] the needs of the perpetrator over those of the victim.” This parent-focused policy is evidenced in the standard of success adopted by intervention programs — that is, whether a child is reabused. Current practice provides children identified as abused or neglected with few services, while parents identified as abusers receive “the focus of counseling, training, and other human services.”

B. Neurodevelopmental Principles and Research in Brain Development and Effects of Neglect Strongly Support a Structure of Child-Centered Child Neglect Protection

Child-centered policy is preventative in nature and ensures intervention occurs before the harm is created. To make certain new policies of intervention are preventative and thereby successful in promoting healthy brain development, policymakers should keep in mind principles of neurodevelopment and support child-centered child neglect policies that guarantee a child receives appropriate stimulation throughout their development and especially during “windows of opportunity” or sensitive periods of development. In situations where a parent or caretaker is unable or unwilling to

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170 Id. at 162.
171 Id.
172 Id. at 11–12.
173 Melton, supra note 39, at 12.
174 Id. at 157.
175 Id. (citing J. Layzer & B. Goodson, Child Abuse and Neglect Treatment Demonstrations, 14 CHILDREN AND YOUTH SERVICES REVIEW 67–76 (2002)).
176 See discussion supra Part IV.A.
177 See discussion supra Part IV.B.
exclusively provide this stimulation, it then becomes the role of the child protection system to ensure that essential stimulation and nurturing occurs. This means the necessary stimulation may have to come from an outside source such as a trained professional or alternative caretaker.

This paper suggests that changes to child welfare policy and procedures should start with the implementation of a child-centered definition of “child neglect” within the federal government’s definition of child maltreatment. A change in definition will set a new tone for child protection and redefine the issues and focus of the programs. By continuing to tie federal funding in the area of child welfare to the implementation of federal policy, the change in the federal definition of child “neglect” will likely prompt a shift in individual states’ policies when dealing with childhood neglect towards child-centered policy.

1. Universal Operational Child-Centered Definition of Neglect

The first step in changing current child neglect policy and procedures is to establish a universally recognized operational definition of child neglect that focuses on children and their individual needs. Currently clinicians, researchers, and policymakers use vague and ambiguous labels assigned by child protective service agencies to define neglect. This method of defining neglect is ineffective and inappropriate. These statutory definitions, which require imminent harm to support intervention based on neglect, only recognize the most immediately serious forms of physical neglect. Child protective agencies and professional child protection workers tend to look for immediate physical harm, and “[p]rofessionals have been reluctant to rate a situation as maltreatment unless actual harm was evident.” By recognizing neglect only when there is “imminent harm,” the law fails to recognize or intervene in the majority of neglectful situations and, therefore, fails to recognize or prevent the potential devastation

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178 See supra Part III.C.
179 See generally Weinstein et al., supra note 5.
180 Id. at 581.
neglect causes to a developing child’s brain.\textsuperscript{181}

In redefining neglect, the focus on parental responsibility and “imminent harm” should be eliminated and policymakers, researchers, and clinicians must strictly define neglect based on a child’s needs being unmet. The definition of neglect should be based on what a child needs for healthy development, rather than focusing on imminent harm.\textsuperscript{182} In addition, the definition should be broad enough to include not only what a child needs for healthy physical and medical development, but also what a child needs for healthy brain and social development, environmental stimulation, and nurturing.\textsuperscript{183}

Scholars and advocates recognize several advantages to this approach in defining neglect. First, it stops defining neglect as a “dichotomous variable” (either neglect or no neglect) and recognizes that a child’s needs are on a continuum.\textsuperscript{184} It avoids the categorical labeling of child neglect and ensures that the continuum of children’s needs are met, instead of the extremes.\textsuperscript{185} A definition of neglect that is focused on a child’s needs also recognizes multiple causes of neglect including such factors as the child (e.g., disability), the family (e.g., lack of support), and the community (e.g., stress related to violence).\textsuperscript{186} While it is not necessary to control all of these factors, recognizing them will ensure that each individual child’s needs are met.

2. Child-Centered Child Neglect Prevention\textsuperscript{187}

In attempting to intervene in cases of child neglect, rather than focusing on a parent’s deficits and threatening them with removal

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\textsuperscript{181} See generally EXECUTIVE SUMMARY OF THE THIRD NATIONAL INCIDENCE STUDY OF CHILD ABUSE AND NEGLECT, supra note 83.
\textsuperscript{182} Weinstein et al., supra note 5, at 601–02.
\textsuperscript{183} Id. at 601.
\textsuperscript{184} Dubowitz et al., supra note 76, at 27.
\textsuperscript{185} Id.
\textsuperscript{186} See Black & Dubowitz, supra note 68, at 261-62.
\textsuperscript{187} The scope of this paper discusses the services directly addressing the child’s needs; however, additional parental and societal prevention and interventions must also be addressed to ensure a child’s needs are met. For a good description of child-centered policy recommendations involving parents and society at large, see Melton, supra note 39.
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and court intervention, a better intervention and prevention mechanism would be comprehensive early childhood intervention programs targeted at providing children with experiences necessary to provide for healthy brain development. Current state intervention in the parent-child relationship is parent-focused, as a “state may initiate child protection proceedings (against parents) only when the parents have fallen below” a statutory bar.\textsuperscript{188} The current standard does not allow for a state to intervene “simply because it believes there is a better way to raise the child,” nor can it consider only the child’s best interest.\textsuperscript{189} Rather than focusing on parents and their deficits, interventions must be based on a child’s needs—that is, there is no reason why a child’s neurological, social, and educational development should be dependent on a parent’s success.\textsuperscript{190}

Early childhood education programs could provide a child-centered, needs-based program to address childhood neglect. Transforming neglect intervention from a coercive intervention to an early childhood educational system is supported by research. Research shows that early intervention programs generate permanent change in children who have experienced maltreatment.\textsuperscript{191} Five long-term studies have found that early childhood intervention programs, prenatal to kindergarten, “reduce the incidence of social problems by large amounts when the children reach adolescence and adulthood.”\textsuperscript{192} Sizable benefits in several areas of functioning were documented through the studies and include “cognition and academic achievement, behavioral and emotional competencies, educational progression and attainment, child maltreatment, health, delinquency and crime, social welfare program use, and labor market success.”\textsuperscript{193} In addition, researchers have found a cost benefit to

\textsuperscript{188} Lane, supra note 13, at 155 (quoting Annette F. Appell, Protecting Children or Punishing Mothers: Gender, Race, and Class in the Child Protection System, 48 S.C. L. Rev. 577, 604 (1997)).

\textsuperscript{189} Id. at 155.

\textsuperscript{190} Annette F. Appell, Protecting Children or Punishing Mothers: Gender, Race, and Class in the Child Protection System, 48 S.C. L. Rev. 577, 604 (1997).


\textsuperscript{192} Id. at 2.

utilizing these early childhood programs.\textsuperscript{194} For programs that served children who were more disadvantaged, “the estimates of benefits per child served, net of program costs, range from about $1,400 per child to nearly $240,000 per child.\textsuperscript{195} Viewed another way, the returns to society for each dollar invested extend from $1.80 to $17.07.”\textsuperscript{196} The research recognizes that increasing the number of and access to birth-to-five child-centered programs is smart public policy, both at an individual level for children and financially for society.\textsuperscript{197} In addition, early childhood education programs provide a more effective and far-reaching prevention and intervention for childhood neglect. Unfortunately, current statistics show that only three percent of eligible children, ages three and under, are receiving these types of services through current federal programs.\textsuperscript{198}

\section*{VIII. Conclusion}

The disinterest and lack of acknowledgment of the effects of childhood neglect on individual children as well as society is disturbing. While current technologies give researchers a better understanding of these effects, there has been no change in public policy or laws to reflect these findings. In the 1960s, with advances in science and technologies bringing about a new understanding of child physical abuse, there was a huge public outcry and a call for change to child welfare policy.\textsuperscript{199} This begs the question: Why has

\textsuperscript{194} Id. at 2–3.
\textsuperscript{195} Id. at 3.
\textsuperscript{196} Id.
\textsuperscript{199} See supra text accompanying notes 28–35, discussing Battered Child Syndrome and mandatory reporting laws.
there not been a similar outcry in the case of neglect with research confirming the devastation caused to a child’s development? Policymakers, stakeholders, clinicians, researchers, and the general public must support the continued research of neglect’s effects on child development and must utilize current and future research findings to propel and change public policy and laws surrounding childhood neglect. The first step must be to redefine neglect to focus on a child’s needs. Then, an intervention program based on providing all children at risk of neglect with early childhood intervention services must be established to ensure the healthy development of their brains.