

**NIH VIOLENCE RESEARCH: IS PAST PROLOGUE?  
Lessons Learned From 1994-2004**

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Submitted Statement

**PREVENTING VIOLENCE AND RELATED HEALTH-RISKING SOCIAL BEHAVIORS IN  
ADOLESCENTS: AN NIH STATE-OF-THE SCIENCE CONFERENCE**

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A brief historical overview is provided of the history of the NIH concern with violence, as it was expressed in the published proceedings of a prior NIH Conference on Violence Prevention, "Report of the Panel on NIH Research on Antisocial, Aggressive, and Violence-Related Behaviors and Their Consequences" (April 1994). Selected highlights, findings and summary recommendations of this report are presented. The alarming deterioration of the emotional, social, sexual and mental health of this nation over this past decade and generations must call into question the analyses, findings and recommendations of the 1994 NIH Conference on Violence and should be cause for a critical evaluation of its failure to implement corrective programs to reduce violence in this nation by this 2004 NIH Conference on Violence. Questions must be raised as to what will be added and why success can be expected from the 2004 NIH Conference on Violence when its 1994 NIH Conference on Violence, a decade ago, was a failure.

A brief review of the scientific breakthroughs made in the 1960s and 1970s on the developmental origins of violent and peaceful behaviors through NICHD supported research are summarized. These data make clear the national health policies and programs that must be taken for the *prevention*, not the *control*, of emotional disorders, particularly, depression, drug abuse and violent behaviors that are of epidemic proportions and which have been apparently immune to biomedical health strategies.

Based upon the scientific developmental record, recommendations are made for national health policies and programs that will result in a substantial *prevention* of depression, drug abuse and violence.

### **NIH 1994 Report on Violence**

The lead paragraph of the Executive Summary of this report stated:

Violence is a massive public health problem in the United States. It is one of the leading causes of death disability in our Nation. Its consequences exact an extraordinarily heavy toll on our Nation's youth and elderly, and they disproportionately affect minority populations. In recognition of these facts, and in response to public concerns about the appropriateness of its violence-related research, the National Institutes of Health (NIH) convened the Panel on NIH Research on Antisocial, Aggressive, and Violence-related Behaviors and Their Consequences (p.vii).

A review of the NIH violence-related research portfolio yielded the following fiscal estimate in a footnote to this summary:

In fiscal year 1992, the overall NIH funding for violence-related research was approximately \$53.7 million, or about 0.5 percent of the total NIH budget. Of this amount, approximately 72 percent, or about \$38 million, was provided through the National Institute of Mental Health (NIMH). These figures do not include studies of suicide funded through NIMH, totaling approximately \$8 million, or studies on attention-deficit hyperactivity disorder in children (p.vii).

It should be noted that these estimates are inflated since "violence-related" studies were included in these estimates from the various Institutes, which were not limited to only those studies that involved direct measures of violence or use of violent subjects for study. For example the NICHD included studies involving unwanted or unintended pregnancies, as "violence-related". It is recommended that future

quantification of portfolios on violence be limited to those studies that involve violent subjects or direct measures of violent behavior.

A synopsis of the *Summary of Panel Recommendations* follows:

- NIH funding for violence-related research should be increased substantially.
- Research on *preventive* interventions for violence merits greater emphasis within the NIH portfolio than it currently has (emphasis mine)...
- Multidisciplinary research approaches to violence also deserve greater support within the NIH portfolio...
- A "points-to consider" document should be developed to alert the scientific community about both the social concerns surrounding violence-related research that extends beyond the individual and the ethical issues to consider in developing and reviewing such research.
- Ethnic and cultural awareness and representation must be integrated into all phases of research on violence...
- A small, high-level advisory panel to the NIH Director should be established to focus on the social, legal, and ethical aspects of violence research (p.viii).

In the *Overview of the NIH Portfolio*, the following statements were made on the five ICDs that support virtually all the NIH research in the area of violence and its consequences.

#### National Institute of Mental Health (NIMH)

Since 1950, NIMH has funded a wide variety of studies related to antisocial, aggressive, and violent behaviors, including applied behavioral research in its Violence and Traumatic Stress Research Branch as well as clinical studies in other programs focusing on selected mental disorders. In FY 1992, NIMH devoted more than \$38 million to studies of violence and its consequences. Nearly 40 percent of its violence-related research focused on victims of violence (p.11).

No statements were made as to the efficacy of this research in either understanding or *preventing* violent behaviors since this research began in 1950. The continuing epidemics and growth of violence, particularly suicide driven by depression, attests to the failure of this national research program. Suicide rates have doubled in the 5-14 year age group over this past generation and has been the third leading cause of death in the 15-24 year age group for over a generation. No explanation has been given as to the origins in the explosion of depression and violence in these age groups over these past generations. Studies and findings on the origins of violent offenders to guide preventive efforts were not given. Distinctions are not made between prevention v control, where psychiatric medications *control* but do not *prevent* depression and suicide. Happy children and youth are not depressed, do not commit suicide and homicide and do not need psychiatric medications. Studies on the origins of happiness and peaceful behaviors were not cited.

In a footnote to this report, it was stated: "A small minority of the Panel felt that a comprehensive research approach to violence should entail a more equal balance between the biomedical and psychosocial aspects of violence-related behaviors and their consequences" (p.20). A rigorous evaluation of the implementation of this recommendation and its consequences is required, particularly when the effects of corporal punishment were cited as a "high-priority research focus" (p.25).

**Table 1** summarizes the relationship between "paddling" and the 15 highest and 15 lowest violent States, as measured by their rape rates in 1996, which were compared to their state sanctions of "paddling" of children in the public school system (Prescott, 2001). An examination of **Table 1** shows a highly significant statistical relationship between "paddling" of children in school and the rape rates of those States (Chi Square = 10.47,  $p < .005$ ,  $N = 30$ ). It was found that:

**82%** of Paddle States had high rape rates (42-65 rapes per 100,000 population).

**68%** of Non-Paddle States had low rape rates (20-28 rapes per 100,000 population).

These data confirm the expected relationship between pain inflicted--"paddling"-- upon the child and the later sexual violence of adults in these cultures (States) of violence; and, conversely, that elimination of "paddling violence" against children is reflected in lowered rape rates of these cultures (States). Physical assaults against school children (paddling) appears to have specific sexual connotations and consequences, as other measures of societal violence did not have statistically significant relationships with "paddling". The physical striking of the buttocks (anal-genital area), where protective clothing is often removed to enhance the physical and emotional pain, should make obvious this relationship. More systematic studies are needed to clarify this relationship, which hopefully, will be addressed by the 2004 NIH Conference on Violence.

The theme of need for greater "psychosocial research" and the high relevance of psychosocial factors, in contrast to biomedical factors, for understanding and preventing violence has been a recurring theme over the history of NIH and other governmental documents but has been systematically ignored. A detailed analysis of the current NIH portfolios on psychosocial v biomedical factors in violence research should be an essential requirement of this 2004 NIH Conference on Violence that would include statements of success and failure of these programs in reducing or preventing violence.

#### National Institute on Drug Abuse (NIDA).

At the time of the Panel meetings, NIDA funded 22 extramural violence-related projects--an investment of approximately \$7 million. The focus of NIDA's research program that is related to antisocial behavior, aggression, and violence is threefold:

- *Drug-related violence*, including homicide, rape, domestic violence, child abuse, and gang-related violence.
- Risk factors associated with the development of drug-related violent behavior in high-risk populations...
- *Education-based prevention and intervention models* designed to prevent drug-related violence and aggression... (p.14).

No statements were made as to the efficacy of this research in either understanding or *preventing* drug-related violent behaviors. The continuing epidemics and growth of drug-related violence, that includes suicide driven by depression and anti-depressant medications, attests to the failure of this national research program. Distinctions are not made between prevention v control. In 1980, this writer served as a reviewer for NIDA in its evaluation of its research portfolio of support (Theories on Drug Abuse, NIDA Monograph 30); to identify deficiencies and to make recommendations for improvement (Prescott, 1980), which can be seen at:  
<http://www.violence.de>.

At that time not a single research project was supported on the developmental origins of drug abuse. It would be important for the 2004 NIH Conference on Violence to assess the developmental research

portfolio of NIDA and all other ICDs concerned with *violence*. that would not include the broader umbrella of "violence-related" research. Has there been significant growth in support of drug violence research from its 7 million in 1992 and what percentage would this represent of the total NIDA budget? Important questions to ask is why some drug users become violent and others do not; and why marijuana typically inhibits aggressive-violent behaviors and alcohol typically facilitates aggressive-violent behaviors and what should be a national social policy on drug abuse, given this observation? (Marijuana and Health, 1971, Report to the Congress from DHEW).

National Institute of Child health and Human Development (NICHD)

In FY 1992, NICHD invested approximately \$4.1 million in research related to violence, supporting 22 research projects. It conducts and supports research and research training on biological and behavioral aspects of human development from conception through maturity. One of its main goals is to ensure through research the birth of healthy babies and the opportunity for each infant to reach adulthood unimpaired by physical, mental, or emotional handicap. Three of NICHD's branches support research that is relevant to antisocial behavior, aggression, or violence: the Demographic and Behavioral Sciences Branch (DBS), the Human Learning and Behavior Branch (HLB), and the Mental Retardation and Developmental Disabilities Branch (MRD). (p.15).

No statements were made as to the efficacy of this research in either understanding or *preventing* what developmental disorders lead to violent behaviors and their relative importance. The continuing epidemics and growth of child and teen abuse violence, particularly sexual violence commonly associated with alcohol and drug abuse that drives depression and suicide, attests to the failure of this national research program. Distinctions are not made between prevention v control. Inexplicably, no mention was made of NICHD supported research in the 1960s and 1970s which documented that failed or impaired mother-infant bonding leads to brain-behavioral disorders where depression and violence are common consequences of maternal-infant separation in both animals and humans, behaviors that were confirmed by studies on tribal cultures.

A review of this research history and its many significant scientific contributions was presented to the 1994 NIH Conference on Violence, which documented why and how maternal-infant separation results in a variety of developmental brain disorders that result in depression and violence. This report: *The Prescott Report. Part 1* can be found at <http://www.violence.de/prescott/report/part1.html> with other NICHD supported research on violence that was not acknowledged in the published document of April 1994.

No mention was made of the pioneering studies of Jacobson, et. al. (1987,1988,1994) that found significant relationships between obstetrical medication and adult homicide and suicide. Later studies by Jacobson and Bygdeman (1998) confirmed these relationships. The NICHD failed to cite or conduct follow-up studies on the findings of Salk, et al (1985) that found a high statistical relationship between maternal and perinatal conditions with adolescent suicide.

Overpeck, et al (1998) reported "Homicide is the leading cause of infant deaths due to injury accounting for almost one third of such deaths in 1996.... More than 80 percent of documented homicides in very young children can be viewed as fatal child abuse, and there is strong evidence that both homicides and fatal cases of child abuse are underaccounted" (p.1211). The problem of *underestimating* child abuse homicides in our society is reflected in a retrospective descriptive study of child abuse homicides in North Carolina from 1985-1994 by Herman-Giddens, et.al (1999). They found that the ICD-9 cause of death coding underascertained child abuse homicides by 61.6%.

These studies have yet to be conducted for the other 49 states by the NICHD that would give a true national profile of the magnitude of child abuse homicides. This neglect by the NICHD is inexplicable where it is highly likely that survivors of child abuse will become the primary population of anti-social, drug abusing and violent offenders. These interrelated problems should be a high priority for the 2004 NIH Violence Conference.

Infant formula, lacking or deficient in many vital nutrients compared to mother's breastmilk that are necessary for normal brain-behavioral development, has yet to be fully evaluated. Deficiencies in infant formula of critical essential amino acids, e.g., tryptophan and tyrosine that are necessary for normal brain serotonin and dopamine neurotransmitter development, respectively, have yet to be evaluated. Given that depression and violence of suicide and homicide are consequent to disorders of brain serotonin and dopamine, it may well be that infant formula feeding prepares the developing brain for increased vulnerability to depression and violence through impaired development of the brain serotonin and dopamine/norepinephrine and epinephrine neurotransmitter systems where L-Tyrosine is the precursor for the dopamine system (Daly and Salloway, 1994).

Such developmental brain disorders would be a major factor in the development of "cultures of violence" that are common in deficient breastfeeding cultures and where maternal malnutrition contributes to breastmilk malnutrition. These research studies should be a national priority where it must be recognized that filial attachment is reciprocally related to depression and violence in both biological and behavioral processes. Evidence in support of this thesis can be found at:

<http://www.violence.de/prescott/ttf/article.html>  
<http://touchthefuture.org/services/bonding/02SpringNLJWP.pdf>  
<http://www.violence.de/prescott/pppj/article.html>

The nutritional deficiencies of infant formula milk has been recognized by the Food and Drug Administration (FDA) with its authorization for adding two fatty acids, DHA (docosahexaenoic acid) and AA (arachidonic acid) to infant formula milk, which are richly present in breastmilk (Cunnane, et.al, 2000; Brody, 2001). Other nutritional deficiencies are clearly involved (Fazzolari-Nesci, et. al., 1992).

**Table 2** lists the essential amino acids and their magnitude for normal infant and child brain development and selected references that document tryptophan deficiencies in infant formula milk. It is unknown to what extent these essential amino acid values are met by infant formula milk, given the findings that tryptophan and DHA and AA fatty acid deficits are found in infant formula milk (Merck, 1987; Cunnane, et al, 2000). An urgent systematic evaluation is needed to assess the extent of brain neurotransmitter impairment due to infant formula milk.

Given the limited breastfeeding in the American culture with its reliance on infant formula milk, it can be concluded that infant formula milk constitutes malnutrition for normal brain development, specifically for the normal development of the brain serotonin system, deficits of which are known to mediate depression, impulse dyscontrol, substance abuse and the violence of suicide and homicide. Equal attention must be given to the affiliative, prosocial neurotransmitter systems, e.g. prolactin and oxytocin (Carter, et. al, 1992).

Studies are needed to document to what extent the epidemics of depression, impulse dyscontrol, substance abuse and suicidal/homicidal violence in the American culture can be attributed to impaired bonding and insufficient breastfeeding that produce impaired brain neurotransmitter functions. The NIH has yet to conduct studies on these complex relationships.

From the data in Textor (1967) and Barry and Paxon (1971), the relationship between suicidal violence and duration of breastfeeding in tribal cultures was evaluated (Prescott, 2001, 2003). Textor Code 330 listed cultures where weaning age was 2.5 years or greater; Textor Code 317 listed cultures that carried infants on the body of the mother during the first year of life; Textor Code 324 listed cultures that inflicted pain upon the infant; Textor Code 392 listed cultures that permitted or punished youth sexuality; and weaning age of cultures in Barry and Paxon (1971) were utilized in this study, where statistical means were calculated for each culture from the range scores of weaning age listed.

**Table 3** contrasts cultures with weaning age of 2.5 years or greater with baby-carrying cultures and adolescent sexuality, as a function of high or low suicides. 77% (20/26) of 26 cultures with weaning age of 2.5 years or greater are rated low or absent in suicide, whereas only 50% of these 14 baby-

carrying cultures are rated low or absent in suicide. Clearly, extended breastfeeding (Intimacy) has a different primary behavioral effect with respect to preventing suicide than does baby-carrying (Basic Trust), which has its primary behavioral effect on preventing externalized violent or homicidal behaviors (80% from prior study).

Significant differences in suicidal behaviors were found between cultures with weaning age of 2.0 years or less v weaning age of 2.5 years or greater. It appears that breastfeeding for 2.5 years or greater is necessary to optimize the behavioral health benefits of breastfeeding (Prescott, 2001).

This difference is largely attributed to the role of tryptophan in breastmilk that is essential for brain serotonin development, which is known to mediate depression, impulse dyscontrol and suicide. However, it must be recognized that the rich sensory stimulation of the infant/child brain from the mother's body (touch, taste and smell) also play a major role in this relationship, which also influences later sexual behavior. The pleasure experienced in the breastfeeding relationship results in a happy baby, which inhibits depression and later suicidal behaviors.

The degree to which youth sexuality is supported or punished by these highly nurturing breastfeeding cultures was examined. It was found that 82% (14 /17) of cultures with weaning age of 2.5 years or longer and which support youth sexuality are rated low or absent in suicide. Only 18% (3/17) of these highly nurturing breastfeeding cultures that are rated low in suicide punish youth sexuality. The three irrelevant cultures identified have early marriage around puberty.

All of the six cultures that were rated as high suicide cultures with weaning age 2.5 years or greater (Col. 1) also inflicted pain upon the infant/child (Textor Code 324). This basic conflict between pain and pleasure with mother love in the body/mind of the infant/child is proposed to establish a foundation for later suicidal behaviors. This suggestion requires rigorous evaluation.

The two child rearing practices of a) breastfeeding 2.5 years or longer and b) carrying of the infant on the body of the mother all day during the first year of life differentially influence suicidal and homicidal behaviors. Suicides can be potentially reduced by 77% through breastfeeding for 2.5 years of age or longer (Intimacy) and by 82%, if the culture also supports youth affectional sexuality. Lack of baby carrying (Basic Trust) is primarily related to homicide (80%-prior study).

This reciprocal inhibitory relationship between filial attachment, specifically maternal-infant/child bonding and depression/violence was given support by the studies of Prescott (1975,1979,1996), which documented that the peaceful or homicidal violent nature of 49 tribal cultures could be predicted with 80% accuracy from a single measure of mother-infant/child bonding (baby carrying during the first year of life). These cross-cultural studies were conducted to cross-validate the findings of Mason and Berkson (1976) that a moving mother surrogate could prevent the depression and violence that results from mother-infant separation in the rhesus primate (NICHD supported research). The film documentary of these effects can be found at:

<http://www.violence.de/tv/rockabye.html>

[http://ttfuture.org/services/publications/vid\\_n\\_cd.htm](http://ttfuture.org/services/publications/vid_n_cd.htm)

Additional NICHD supported studies by Berman, Berman and Prescott (1974) documented that the pathological violence of adult mother deprived monkeys could be prevented by paleocerebellar decortication, a brain surgery that left the animals alert, active, inquisitive and capable of proactive, filial attachment behaviors that were not possible before surgery. These brain surgical studies were conducted to evaluate the hypothesis of Prescott (1971) that the cerebellum is involved in the mediation and regulation of depressive-violent behaviors. The film documentary of the effects of this surgery can be found at:

<http://www.violence.de/tv/violence.html>

Unfortunately, these findings were not reported in the publication of the 1994 NIH Conference on Violence nor the implications of this research pursued by the NICHD, which supported this study and confirmed the brain cerebellar foundations of the Mason and Berkson (1975) study and the cross-cultural studies on the peaceful behaviors that are consequent to baby-carrying in tribal cultures by Prescott (1975,1979,1996). It is transparent that these collective findings have substantial implications for modern human cultures that raise their children for either peace or violence.

It is surprising that this history of NICHD research on child abuse and neglect and the developmental origins of violence has not been recognized or cited in any government publications of the NIH or the National Academy of Sciences (NRC, 1993); Reiss and Roth, 1993); Shonkoff and Phillips, ( 2000); Overpeck, et al. (1998); Higley, et al (1990, 1991) and Suomi, (2000,2004), to name a few.

Another area of neglect is the failure of the NICHD to evaluate the consequences of the perinatal trauma of circumcision upon long-term brain-behavioral development given the report of Levy (1945) that homicidal and suicidal behaviors can be induced by such genital trauma. See: <http://www.montagunocircpetition.org> and <http://www.nocirc.org>.

#### National Institute on Alcohol Abuse and Alcoholism (NIAA)

At the time of the Panel meetings, NIAAA funded approximately \$2 million in violence studies, including 4 intramural and 9 extramural projects. All of these projects are concerned with exploring the associations between alcohol use or abuse and violence. The relationships are complex and reciprocal-alcohol appears to contribute to violence, and violent victimization appears to increase the likelihood of alcohol abuse. Since expression of the pharmacological or physiological effects of alcohol is mediated by psychological, social, and cultural factors, much of the research tends to be multidisciplinary and includes laboratory studies and community-based analyses. For example, alcohol prevention research has found that constraints on supply through taxation and restrictions on the availability of alcohol can effectively reduce consumption levels and consequent alcohol-related problems, including violence (pp.15-16).

No statements were made as to the efficacy of this research in either understanding or *preventing* the continuing escalation of alcohol abuse and alcohol-induced violent behaviors. The continuing epidemics and growth of alcohol abuse and alcohol-induced violence, commonly involving sexual violence associated with alcohol and drug abuse, attests to the failure of this national research program. Distinctions are not made between prevention v control. It is emphasized that controlling availability does not determine who becomes violent under alcohol and who does not. The role of impaired or failed mother-infant bonding in the development of alcohol abuse, as reported by Barry (1976, 1982,1988) was not recognized, yet has substantial implications for modern human cultures.

#### National Institute of Nursing Research (NINR)

In FY 1992, NINR devoted approximately \$1.2 million to research related to research related violence. NINR supports and conducts research and research training on the biomedical and behavioral processes that underlie health and the delivery of care. This research focuses primarily on health promotion and disease prevention through enhanced nursing practice. Emphasis is placed on vulnerable populations, including the very young, the very old, minorities, and the economically disadvantaged. In FY 1992, NINR funded six projects related to violence. These projects focused on the prevention of child abuse, the effect of abuse on pregnancy and birth outcomes, and the adult outcomes of child abuse (p.16).

No statements were made as to the efficacy of this research in either understanding or *preventing* the continuing escalation of violent behaviors, particularly child abuse. Nursing research and practices by promoting maternal-infant bonding, rather than maternal-infant separation, which has been shown to be a



strong etiological factor in depression and violence was, inexplicably, not mentioned. No mention is made of the pioneering research of Neal (1968) that placing premature infants in a swinging bassinet resulted in significant neuromaturation and health status of the premature that permitted earlier discharge from the hospital. Unfortunately, the NICHD and NINR did not pursue the implications of this research for the care of the premature and for its future developmental outcome. The video documentary of her study can be seen at <http://www.violence.de/tv/rockabye.html>

### **Is Past Prologue?**

The failure of the 1994 NIH Violence Research Conference to produce programs to reduce violence casts a long, dark shadow on the prospects of success for the 2004 NIH Violence Research Conference. This history of failure is well known, as it is recognized that the emotional, social, sexual and mental health of this nation's children and youth is worse off today than it was a half-century ago, despite the billions of taxpayers funds expended for this purpose.

The prescience of this failure was noted by Professor Urie Bronfenbrenner in his Minority Report in the *1970 White House Conference on Children*:

### **Minority Report of Forum 15. Chairman, Urie Bronfenbrenner.**

I take issue with the accompanying document on two major counts.

First, the report, in my judgment fails to convey the urgency and severity of the problem confronting the nation's families and their children. Second, the document underestimates and consequently fails to alert the reader to the critical role played by business and industry--both private and public--in determining the life style of the American family and the manner in which parent and children are treated in American society. I shall speak to each of these points in turn.... (and) **America's families, and their children, are in trouble, trouble so deep and pervasive as to threaten the future of our nation.** The source of the trouble is nothing less than a national neglect of children and those primarily engaged in their care--America's parents. (and) The Editorial Committee objected to this statement on the grounds that it applied only to a minority of the nation's children and that, therefore, no note of urgency was justified. I strongly disagree (p. 252) (Hess, 1970)(emphasis mine).

### **Bowlby On Attachment and Maternal Care**

There is a long history of warnings from child and human development authorities on the dangers inherent in separating infants from their mothers. Bowlby (1950), in a report on *Maternal Care and Mental Health* and in *Child Care and the Growth of Love* (1951) to the World Health Organization (WHO) warned the world of the consequences of increasing mother-infant/child separations associated with institutional child day care:

"Deprived children, whether in their own homes or out of them, are the source of social infection as real and serious as are the carriers of diphtheria and typhoid."

"The break-up of families and the shunting of illegitimates are accepted without comment."

"One must beware of a vested interest in the institutional care of children."

It has been shown that modern scientific studies on day care, supported by the NICHD, have fully supported the predictions of Bowlby made over fifty years ago, yet these studies and counsel of Bowlby have been systematically ignored or discounted by the biomedical establishment and by modern human cultures.

The report of the NICHD (National Institute of Child Health and Human Development) Study of Early Child Care (SECC) found that infants and very young children who spend more than 30 hours a week in child care "are far more demanding, more noncompliant, and they are more aggressive" and "They scored higher on things like gets in **lots of fights, cruelty, bullying, meanness** as well as talking too much, demands must be met immediately", according to Dr. Belsky, one of the principle investigators" (*New York Times*, April 19, 2001) (emphasis mine).

Dr. Sarah Friedman, NICHD Scientific Project Officer was reported as saying ""We cannot and should not hide the findings but I don't want to create a mass hysteria when I don't know what explains these results" (Stolberg, 2001). Unfortunately, no measures of biological stress disorders were incorporated into this study nor was there any awareness of the early NICHD studies in the 1960s and 1970s, which documented these behaviors in the maternally deprived young.

Belsky (2001,2002,2003), a member of the research team of the NICHD-SECC, has published more recent findings and conclusions regarding the damaging emotional-social effects of infant and early child day care. Cook (1996, 1999), in the tradition of Bowlby (1950) and Montagu (1971), has provided additional evidence on the damaging effects of infant and early child day care and its threat to the future of nations.

It has yet to be recognized that cruelty, bullying and meanness that terrorizes so many of our children and youth in our elementary schools and high schools have their roots in the emotional trauma of mother-infant/child separations associated with illness and institutionalized day care. These collective emotional-social traumas in infancy/childhood are sufficiently great to drive many students to despair and the violent acts of homicide and suicide. It is estimated that some 20% of our nation's students have contemplated suicide at one time or another (Moran, 2000; Silverman, et al 2001; Prescott, 2001). What is wrong with America and the families of America that drives so many of our children to depression, despair and suicide?

The failure of the 1994 NIH Conference on Violence was its failure to recognize the scientific history and data on the developmental roots of depression, violence and drug/alcohol abuse that is pursued to "self-medicate" these early life traumas and to "connect the dots". The same danger awaits the 2004 NIH Conference on Violence, if the lessons of the 1994 NIH Conference on Violence are not learned and the "gestalt" of depression and violence is not recognized.

### **The Failure of the Mission of the NICHD**

Public Law 87-838 (17 October 1962) established the NICHD and its primary mission with the following legislative language:

"...to establish in the Public Health Service an Institute for the conduct and support of research and training relating to maternal health, child health, and human development, including research and training in the special health problems and requirement of mothers and children..." (Sec 441, emphasis added).

The NICHD publication: *Perspectives on Human Deprivation: Biological, Psychological and Sociological* (1968) gave full meaning to that legislative language, as affirmed by the language of Gerald D. LaVeck, M.D., then Director, NICHD in the Preface to that volume:

"It was in response both to its mandate and to the compelling nature of the problems of our times that the National Institute of Child Health and Human Development undertook a broad-based assessment of psychosocial deprivation, in order to ascertain the state-of-the-art, to identify gaps in knowledge and understanding, and to determine the implications of the findings for research policy and for social action programs"; and

"...are unanimous in urging that high priority and massive support be given to expansion of research in psychosocial deprivation".

The NICHD National Advisory Council accepted and endorsed this NICHD publication at its November 1968 meeting and called for accelerated funding to study the biomedical and psychosocial aspects of deprivation.

Chapter IV of this volume addressed the "Biological Substrates of Development and Behavior" where this writer contributed a resource paper entitled "Psychobiology of Maternal Social Deprivation and the Etiology of Violent Aggressive Behavior: A Special Case of Sensory Deprivation" (Prescott, 1968)

In response to DHEW Secretary Caspar Weinberger's directive to the NICHD to increase its level of research on child abuse and neglect (June 22, 1973), the NICHD organized a research conference on child abuse and neglect. The following "Opening Remarks" to this conference were made by Gilbert L. Woodside, Ph.D. Acting Director, NICHD:

It is a pleasure to have the opportunity to make the opening remarks at this Conference on research in the important area of child abuse and child neglect. The convening of this Conference is one of the tasks assumed by the National Institute of Child Health and Human Development in connection with the request, about a year ago by Secretary Weinberger, for increased emphasis on child abuse and child neglect by the agencies of the Department of Health, Education and Welfare.

Inexplicably, Dr. Kretchmer withdrew support for the publication of the conference proceedings when he became Director, NICHD in the Fall of 1994.

In the publication of the proceedings of the conference on *Brain Function and Malnutrition: Neuropsychological Methods of Assessment* (Prescott, Read and Coursin, 1975), Heath (1975) published extensive data on brain impairments in pathologically violent adult mother deprived monkeys. These NICHD supported studies documented abnormal neuronal spiking activity in limbic, frontal cortical and cerebellar brain structures. Other NICHD supported studies found abnormalities in brain serotonin, as measured by blood platelets (Coleman, 1971) and a variety of neuronal dendritic and spine abnormalities [Riesen, et al (1977); Struble and Riesen (1978); Floeter and Greenough (1979) and Bryan and Riesen (1989)].

Inexplicably, the NICHD under its Director Norman Kretchmer, in the late 1970s, refused to collaborate with the Federal Bureau of Prisons to evaluate the potential validity of utilizing computer signal analyses of scalp EEGs to detect sub-cortical spiking, as a measure of "dangerousness" in violent offenders. These computer signal analyses programs were supported by the NICHD (Saltzberg, et al.1971). It is well known that the prediction of violent offenders is highly unreliable where it is hypothesized that sub-cortical spiking could serve as a valid measure of such predictions that would result in the saving of lives lost to violence, if successful. The possibility of identifying the dangerous violent offender (impaired brain function) remains an unfulfilled promise today. Additional information on these events can be found at <http://www.violence.de>

The blocking of this collaborative research between the NICHD and the Federal Bureau of Prisons and other events led to a filing of a formal charge with the Secretary, DHEW against Dr. Norman Kretchmer of "Obstruction of Science and the National Health Interest" by this writer on December 13, 1978. The NICHD/NIH retaliated by dismissing this writer from his 17-year career in science administration and by

closing down by attrition the NICHD programs on child abuse and neglect and developmental origins of violence.

The words of dismissal are:

"Reason: Removal for improper use of official position and resources to promote research on 'Developmental Origins of Violence' and 'Child Abuse and Neglect', subjects that are not within the mission of the NICHD, as part of the programs of this Institute."

This action by the NICHD/NIH has set back scientific advances in understanding the developmental neuropsychology of depression and violence, which has precluded the establishment of national health policies and programs that would promote high affectional bonding in the mother-infant/child relationship, which is known to be a strong predictor of peaceful and non-violent behaviors. The NICHD has repeatedly stated that the "The NICHD has never supported a program of research on child abuse and neglect" in response to inquiries made by the Congress and others. A partial record of this history can be found at <http://www.violence.de> and a more complete history on the CD ROM at: [http://ttfuture.org/services/publications/vid\\_n\\_cd.htm](http://ttfuture.org/services/publications/vid_n_cd.htm)

### **Past Is Prologue**

It is recognized that depression and violence are not just a national crises that threatens the survival of this nation but is a worldwide crises that threatens the survival of human civilization itself. as stated by Gro Harlem Bruandtland, Director-General, World Health Organization (WHO, 2002), in her Preface to the WHO *World Report on Violence and Health* and by Nelson Mandela in his Forward to that WHO report.

The human primate is the most violent primate on this planet where our closest primate relative, the bonobo chimpanzee that shares 99% of our DNA, is the most peaceful and non-violent primate on the planet. The bonobo is known for its virtual absence of any violence against the female of its species and her offspring. The converse is true for the human primate, which is the most violent primate against the female of its species and her offspring. Clearly, these behavioral differences cannot be attributed to genetic differences, which, unfortunately, is a disproportionate investment by the NIH to understand and promote healthy behaviors.

As De Waal and Lanting (1997) note:

Had bonobos been known earlier, reconstruction of human evolution might have emphasized sexual relations, equality between males and females, and the origin of the family, instead of war, hunting, tool technology, and other masculine fortes. Bonobo society seems ruled by the "Make Love, Not War" slogan of the 1960s rather than the myth of a bloodthirsty killer ape that has dominated textbooks for at least three decades" (p.2).

Hrdy (1999) has described the primary nature of Great Ape mother-infant bonding:

Great Ape mothers carry their infants wherever they go. Fathers, by comparison, are rarely in direct contact with babies" (p.205). And "It was the mother who continuously carried the infant in skin-to-skin contact-stomach to stomach, chest to breast. Soothed by her heartbeat, nestled in the heat of her body, rocked by her movements, the infant's entire world was its mother. (p. 98)... and

**...no wild monkey or ape mother has ever been observed to deliberately harm her own baby"**(p.179). Emphasis added.

After all is said and done, what is Professor Hrdy's final position on *Mother Nature*, as a scientist, feminist and mother--an impossible balancing act in my view. In her own words:

After the first weeks of living with a baby girl who mostly slept or quietly nursed through seminars, it became increasingly apparent that in the world I lived in, caring for a baby was incompatible with concentrated work. A new baby's terrifying vulnerability, the magnitude of the responsibility, and the insatiable demands that kept me on-call twenty-four hours a day, came as a shock. Yet, as a primatologist in the post-Bowlby era, what could I do but turn my life over to her? (p. xiv). (Prescott, 2001).

Hopefully, the 2004 NIH Conference on Violence will correct the errors and failures of the 1994 NIH Conference on Violence; provide for a structural and functional reorganization of the NIH that is appropriate for the 21st Century to understand and prevent depression, drug abuse and violence; and learn how to "connect the dots" that will make this possible.

**Table 4** presents Ten Principles that can serve as a guide on how to "connect the dots".

**Table 5** presents how our "Two Cultural Brains--the NeuroIntegrative Brain and the NeuroDissociative Brain --are formed that makes possible the peaceful or violent individual and the peaceful or violent culture, where both shape each other. It will be recognized that the transformation of the violent individual into a peaceful individual and the violent culture into a peaceful culture are beyond the capabilities of the NIH and the biomedical establishment.

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**TABLE 1. RAPE RATES IN THE 15 MOST AND 15 LEAST VIOLENT STATES  
(PER 100,000 POPULATION)**

**COMPARING STATE RAPE RATES IN 1996  
AS A FUNCTION OF STATES THAT ENDORSE "PADDLING" OF CHILDREN**

| High Rape Rate<br>(41.8-65.6) | Low Rape Rate<br>(19.6-27.5) | Low Rape Rate<br>(19.6-27.5) | High Rape Rate<br>(41.8-65.6) |
|-------------------------------|------------------------------|------------------------------|-------------------------------|
| Paddle States                 | No Paddle States             | Paddle States                | No Paddle States              |
|                               | WI 19.6                      |                              |                               |
| NM 63.5                       | WV 19.6                      | PA 25.3                      | AK 65.6                       |
| DE 62.6                       | IA 19.7                      | ID 26.3                      | MI 57.0                       |
| FL 52.1                       | ME 20.9                      |                              | NV 53.4                       |
| SC 49.2                       | WI 21.0                      |                              | WA 51.1                       |
| OK 46.8                       | NY 23.0                      |                              | MN 50.0                       |
| TN 46.5                       | CT 23.1                      |                              | UT 41.8                       |
| CO 46.2                       | ND 24.1                      |                              |                               |
| TX 43.8                       | NJ 24.7                      |                              |                               |
| KS 42.6                       | VT 26.7                      |                              |                               |
|                               | NE 27.1                      |                              |                               |
|                               | MT 27.1                      |                              |                               |
|                               | HI 27.5                      |                              |                               |
| N = 9                         | N = 13                       | N = 2                        | N = 6                         |
| 82%                           | 68%                          | 18%                          | 32%                           |

82% of Paddle States Had High Rape Rates;  
68% of Non-Paddle States Had Low Rape Rates

32% of Non-Paddle States Had High Rape Rates;  
18% of Paddle States Had Low Rape Rates

Chi-Square = 10.47, P < .005, N = 30

Rape Rates from the *Uniform Crime Reports (FBI)*, October 4, 1997 and "State Rankings 1998", Morgan Quitno, Lawrence, Kansas, <[www.morganquitno.com](http://www.morganquitno.com)>  
Paddle and Non-Paddle States from listing by PTAVE at <[www.nospank.org](http://www.nospank.org)>

**TABLE 2. ESTIMATED DAILY REQUIREMENTS (MG/KG) OF THE ESSENTIAL AMINO ACIDS FOR INFANT, CHILD AND ADULT**

|                          | ADULT |         | INFANT | CHILD       |       |
|--------------------------|-------|---------|--------|-------------|-------|
|                          | MG/KG | % Adult | MG/KG  | 10-12 years | MG/KG |
| HISTIDINE                | 16    |         | 26     | <b>163</b>  | 19    |
| ISOLEUCINE               | 13    |         | 46     | <b>354</b>  | 28    |
| LEUCINE                  | 19    |         | 93     | <b>489</b>  | 44    |
| LYCINE                   | 16    |         | 66     | <b>247</b>  | 44    |
| METHIONINE & CYSTINE     | 17    |         | 42     | <b>235</b>  | 22    |
| PHENYLALANINE & TYROSINE | 19    |         | 72     | <b>379</b>  | 22    |
| THREONINE                | 9     |         | 43     | <b>478</b>  | 28    |
| TRYPTOPHAN               | 5     |         | 17     | <b>340</b>  | 9     |
| VALINE                   | 13    |         | 56     | <b>431</b>  | 25    |
|                          |       |         |        |             |       |
|                          |       |         |        |             |       |
|                          |       |         |        |             |       |
|                          |       |         |        |             |       |

FROM: The Merck Manual. Nutritional and Metabolic Disorders. P. 920. Fifteenth Edition.1987.  
Merck & Co., Inc. Rathway, NJ

Infant percent value of adult requirements were calculated and added to Table.

Modified from Energy and Protein Requirements. Report of a Joint FAO/WHO Ad Hoc Expert Committee. WHO Technical Report Series No. 724. Copyright 1985 by FAO AND WHO

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**TABLE 3. SUICIDE CULTURES AS A FUNCTION OF WEANING AGE, BABY CARRYING AND ADOLESCENT SEXUALITY**

WEANING AGE 2.5 YEARS OR LONGER v BABY CARRYING--BASIC TRUST

SUICIDE CULTURES

SUICIDE CULTURES

| HIGH SUICIDE |     | LOW SUICIDE |         | HIGH SUICIDE       |       | LOW SUICIDE         |   |
|--------------|-----|-------------|---------|--------------------|-------|---------------------|---|
| Infant Pain  |     | Youth Sex   |         | Baby Carry         |       | Baby Carry          |   |
| Balinese     | Yes | Ainu        | +       | Alorese            | Low   | Ainu-               | L |
| Jivaro       | Yes | Andamanese  | +       | Ashanti            | Low   | Andamanese+         | H |
| Kwakiutl     | Yes | Aranda      | Irrelev | Azandi             | Low   | Aranda-             | L |
| Nuer         | Yes | Arapesh     | Irrelev | Balinese           | High  | Arapesh+            | H |
| Nyakyusa     | Yes | Cheyenne    | -       | Chagga             | High  | Araucanians-        | L |
| Ojibwa       | Yes | Chukchee    | +       | Jivaro             | High* | Aymara-             | L |
|              |     | Cuna        | -       | Kwakiutl           | Low   | Chenchu+            | H |
|              |     | Kurtachi    | +       | Maori              | High  | Cheyenne+           | H |
|              |     | Lakher      | +       | Marquesans         | Low   | ChirApache+         | H |
|              |     | Lepcha      | +       | Masai              | Low   | Chuckchee+          | H |
|              |     | Lesu        | +       | Nuer               | High  | Comanche-           | L |
|              |     | Manus       | -       | Ojibwa             | Low   | Crow+               | H |
|              |     | Mumgin      | Irrelev | Samoans            | Low   | Cuna+               | H |
|              |     | Navaho      | +       | Tikopia            | High  | Fon-                | L |
|              |     | Siriono     | +       | Trobriand          | High  | Ganda-              | L |
|              |     | Tallensi    | +       | Yahgan             | High  | Hano+               | H |
|              |     | Thonga      | +       |                    |       | Kaska-              | L |
|              |     | Venda       | +       |                    |       | Kurtatchi-          | L |
|              |     | Wogeo       | +       |                    |       | Lau+                | H |
|              |     | Woleaians   | +       |                    |       | Lepcha-             | L |
|              |     |             |         |                    |       | Lesu+               | H |
|              |     |             |         |                    |       | Manus+              | H |
|              |     |             |         |                    |       | Mumgin+             | H |
|              |     |             |         |                    |       | Navaho-             | L |
|              |     |             |         |                    |       | Papago+             | H |
|              |     |             |         |                    |       | Pukapuka-           | L |
|              |     |             |         |                    |       | Siriono+            | H |
|              |     |             |         |                    |       | Tallensi+           | H |
|              |     |             |         |                    |       | Tanala-             | L |
|              |     |             |         |                    |       | Thonga-             | L |
|              |     |             |         |                    |       | Timbira+            | H |
|              |     |             |         |                    |       | Wogeo+              | H |
|              |     |             |         |                    |       | Woleaians+          | H |
|              |     |             |         |                    |       | Zuni+               | H |
| 6            |     | 20          | (17)    | 16: 8 Low ; 8 High |       | 33: 14 Low; 19 High |   |

77% (20/ 26) cultures where weaning age is 2.5 years or greater are low suicidal cultures.  
 82% (14/17) cultures with weaning age 2.5 yrs and greater support youth sex and have low suicides.  
 Baby Carrying is not predictive of adult suicidal behavior.  
 Irrelevant since marriage occurs shortly after puberty, thus low sexual pleasure.  
 Premarital Sex TC 392; WA > 2 Yrs TC 330; Baby Carry TC 317; Infant Pain TC 324  
 See: <http://violence.de/prescott/app/ald.pdf>

**Table 4. TEN PRINCIPLES OF MOTHER-INFANT BONDING:  
FOUNDATIONS FOR HUMAN TRUST, HARMONY & PEACE**

**I. Every Pregnancy Is A Wanted Pregnancy. Every Child Is A Wanted Child.**

Unwanted children are typically unloved, abused and neglected who become the next generation of delinquents, violent offenders and alcohol/drug abusers and addicts.

**II. Every Pregnancy Has Proper Nutrition & Prenatal Care**—medical and psychological --and is free from alcohol, drugs, tobacco and other harmful agents of stress.

**III. Natural Birthing**—avoid wherever possible obstetrical medications, forceps & induced labor with no episiotomy nor premature cutting of umbilical cord. Mother controls birthing position with **no separation of newborn from mother**. Newborn maintains intimate body contact with mother for breastfeeding and nurturance that promotes Basic Trust.

**IV. No Circumcision** of newborn. The traumatic pain of newborn circumcision adversely affects normal brain development, impairs affectional bonding with mother and has long lasting effects upon how pain and pleasure are experienced in life that shapes the development of Human Trust.

**V. Breastfeeding On Demand** by newborn/infant/child and for “two years or beyond”, as recommended by the *World Health Organization (WHO)* and UNICEF. Failure to breastfeed results in positive harm to normal brain development & to the immunological health of the newborn, infant and child. Encoding the developing brain with the smell of mother’s body through breastfeeding is essential for the later development of *intimate* sexuality.

**VI. Intimate Body Contact** is maintained between mother and newborn/infant by being carried continuously on the body of the mother for the first year of life. Such continuous gentle body movement stimulation of the newborn/infant promotes optimal brain development and “Basic Trust” for peaceful/happy behaviors. Mother-infant co-sleeping is encouraged for “two years or beyond”. Mother-infant/child body contact can also be optimized with daily infant/child massage. The Father must also learn to affectionately bond with his infant and child by being an additional source of physical affection and supporting mother as a nurturing mother.

**VII. Immediate Comforting** is given to infants and children who are crying. No infant/child should ever be permitted to cry itself to sleep, which impairs development of Human Trust.

**VIII. Infants and Children Are For Hugging** and should never be physically hit for any reason. Merging childhood parental love with parental violent pain helps create adult violent “love”.

**IX. Infants and Children Are Honored** and should never be humiliated nor emotionally abused for any reason. The emerging sexuality of every child is respected which promotes Human Trust.

**X. Mothers Must Be Honored** and not replaced by Institutional Day Care which emotionally harms children before three years of age. Mother-Infant/Child Community Development Centers must replace Institutionalized Day Care.

**THE CHILD IS THE FATHER OF THE MAN  
THE CHILD IS THE MOTHER OF CULTURE**

**THE CHILD IS THE FUTURE OF HUMANITY**

**TABLE 5. TWO CULTURAL BRAINS**

**LIMBIC-SUBCORTICAL EMOTIONAL BRAIN**

|  |  | <u>PAIN</u>                      | <u>PLEASURE</u>                 |
|--|--|----------------------------------|---------------------------------|
| <b>N<br/>E<br/>O<br/>C<br/>O<br/>R<br/>T<br/>I<br/>C<br/>A<br/>L</b> | <b>P<br/>A<br/>I<br/>N</b>                         | <b>Theistic Religions</b>        |                                 |
|  |  | <b>Disembodied Divine Love</b>   |                                 |
|  |  | <b>Patrilineal/Patrilocal</b>    |                                 |
|  |  | <i>Gender Inequality</i>         |                                 |
|  |  | <i>Sexual Purity</i>             |                                 |
|  |  | <i>Addictive Synthetic Drugs</i> |                                 |
|  |  | <i>Authoritarian</i>             |                                 |
|  |  | <i>Pain Is A Moral Good</i>      |                                 |
|  |  | <i>Depression-Violence-War</i>   |                                 |
|  |  | <b>NeuroDissociative Brain</b>   |                                 |
| <b>B<br/>R<br/>A<br/>I<br/>N</b>                                     | <b>P<br/>L<br/>E<br/>A<br/>S<br/>U<br/>R<br/>E</b> |                                  | <b>Earth Religions</b>          |
|  |  |                                  | <b>Embodied Human Love</b>      |
|  |  |                                  | <b>Matrilineal/Matrilocal</b>   |
|  |  |                                  | <i>Gender Equality</i>          |
|  |  |                                  | <i>Sexual Liberty</i>           |
|  |  |                                  | <i>Natural Botanical Drugs</i>  |
|  |  |                                  | <i>Egalitarian</i>              |
|  |  |                                  | <i>Pleasure Is A Moral Good</i> |
|  |  |                                  | <i>Joy-Happiness-Peace</i>      |
|  |  |                                  | <b>NeuroIntegrative Brain</b>   |

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James W. Prescott, Ph.D. Presented at: Society for the Scientific Study of Sex: "Sex and the Brain" Midcontinent & Eastern Regions June 13-16, 2002 Big Rapids, MI and Society For Cross Cultural Research 32nd Annual Meeting Feb 19-23, 2003 Charleston, SC

## ADDENDUM

**Table 7.** lists the updated daily essential amino acid requirements for infants (4-6 months), children and adults from the 17th edition of the Merck Manual (1999-2005). It can be seen that the percent increase of tryptophan (essential for brain serotonin development), as a percent requirement of the adult, has increased from **340% to 633%**; for phenylalanine and tyrosine (necessary for brain dopamine and phenylethylamine development that mediate and regulate the pleasure systems of the brain) has increased from **379% to 857%**.

The doubling of requirements of these essential amino acids in infants for the development of some of the most critical brain neurotransmitter systems involved in the regulation of affective emotional behaviors is alarming enough but there is no recognition of the increased need for these essential brain nutrients in infant formula milk. There is sufficient presumptive evidence that infant formula feeding damages the normal development of these brain neurotransmitter systems that translates into the later development of the epidemics of emotional-affective-behavioral disorders that we see today in this nation and that these damaged/dysfunctional brain neurotransmitter systems results in increased vulnerability and decreased resiliency to later life stresses and trauma.

It is unconscionable that the National Institutes of Health (NIH); the Institute of Medicine (IOM) of the National Academy of Sciences (NAS) and the biomedical health establishment at large continues to engage in gross indifference and negligence to the damage that this malnutrition of brain development inflicts upon the emotional-social and sexual lives of our children and youth. It is imperative that these governmental health science agencies conduct the necessary research to evaluate the extent of impaired brain-behavioral development due to infant formula feeding.

**Table 8** provides a cross-validation of Table 1 that provided strong statistical evidence that links "sexual paddling" of children to later rape rates in the highest and lowest rape states of this nation. This validation involved the evaluation of the fifteen most dangerous states vs the fifteen least dangerous states of this nation, as defined by a composite score involving six crime categories- murder, rape, robbery, aggravated assault, burglary and motor vehicle theft-as provided by Morgan Quinto (2005) and comparing them to their practice of "sexual paddling" (spanking of children upon their bare bottoms which is a sexual assault).

These findings confirm that 73% of "Sexual Paddle States" are ranked among the most dangerous states; and 74% of non-paddle states are ranked among the least dangerous states. These findings are statistically significant  $\chi^2 = 8.68$ ;  $p < .01$ ,  $N = 30$ .

These data mandate a systematic evaluation of school spanking and corporal punishment on the development of the child and its consequences for society, which the NIH and biomedical establishment has refused to conduct to this day.

July 17, 2005



**TABLE 7. DAILY AMINO ACIDS REQUIREMENTS (MG/KG)  
FOR INFANT, CHILD AND ADULT (Merck Manual, 17th Ed).**

| <u>Amino Acid</u>                       | <u>Adult</u> | <u>Infant</u><br>(4-6 mo) | <u>Infant</u><br><u>% Adult</u> | <u>Child</u><br>(10-12 yr) | <u>% Adult</u> |
|---|--------------|---------------------------|---------------------------------|----------------------------|----------------|
| Histidine                               | --           | 29                        | ---                             | --                         | -              |
| Isoleucine                              | 10           | 88                        | <b>888</b>                      | 28                         | <b>280</b>     |
| Leucine                                 | 14           | 150                       | <b>107</b>                      | 44                         | <b>314</b>     |
| Lycine                                  | 12           | 99                        | <b>825</b>                      | 49                         | <b>408</b>     |
| Methionine/Cystine                      | 13           | 72                        | <b>553</b>                      | 24                         | <b>185</b>     |
| <i>Phenylalanine &amp;<br/>Tyrosine</i> | 14           | 120                       | <b>857</b>                      | 24                         | <b>171</b>     |
| Threonine                               | 07           | 74                        | <b>106</b>                      | 30                         | <b>429</b>     |
| <i>Tryptophan</i>                       | 03           | 19                        | <b>633</b>                      | 04                         | <b>133</b>     |
| Valine                                  | 13           | 93                        | <b>715</b>                      | 28                         | <b>215</b>     |
| <b>Total</b>                            | <b>86</b>    | <b>715</b>                | <b>4684</b>                     | <b>29</b>                  | <b>2135</b>    |
| <b>Average</b>                          | <b>11</b>    | <b>89</b>                 | <b>586</b>                      | <b>29</b>                  | <b>267</b>     |

FROM: *The Merck Manual. Nutritional and Metabolic Disorders.* Section 1. Nutritional Disorders. Seventeenth Edition. Centennial Edition 1999-2005. Merck & Co., Inc. Rathway, NJ Infant and child values of adult requirements were calculated and added to Table. Online Edition <http://www.merck.com/pubs/mmanual/>

**TABLE 8. RAPE RATES IN THE 15 MOST AND 15 LEAST VIOLENT STATES  
(PER 100,000 POPULATION)**

**COMPARING STATE RAPE RATES IN 1996 and  
STATE RANKS OF DANGEROUSNESS 2005  
1= Safest; 50 = Most Dangerous  
AS A FUNCTION OF STATES THAT ENDORSE  
"PADDLING" OF CHILDREN IN 1999**

| High Rape Rate | State Rank | Low Rape Rate    | State Rank | Low Rape Rate | State Rank | High Rape Rate   | State Rank |
|----------------|------------|------------------|------------|---------------|------------|------------------|------------|
| 41.8-65.6      | Violence   | 19.6-27.5        | Violence   | 19.6-27.5     | Violence   | 41.8-65.6        | Violence   |
| Paddle States  |            | No Paddle States |            | Paddle States |            | No Paddle States |            |
|                |            | SD 19.6          | 5          |               |            |                  |            |
| NM 63.5        | 45         | WV 19.6          | 6          | PA 25.3       | 21         | AK 65.6          | 39         |
| DE 62.6        | 31         | IA 19.7          | 9          | ID 26.3       | 11         | MI 57.0          | 40         |
| FL 52.1        | 44         | ME 20.9          | 3          |               |            | NV 53.4          | 50         |
| SC 49.2        | 46         | WI 21.0          | 10         |               |            | WA 51.1          | 30         |
| OK 46.8        | 35         | NY 23.0          | 23         |               |            | MN 50.0          | 16         |
| TN 46.5        | 43         | CT 23.1          | 12         |               |            | UT 41.8          | 13         |
| CO 46.2        | 27         | ND 24.1          | 1          |               |            |                  |            |
| TX 43.8        | 42         | NJ 24.7          | 18         |               |            |                  |            |
| KS 42.6        | 20         | VT 26.7          | 2          |               |            |                  |            |
|                |            | NE 27.1          | 17         |               |            |                  |            |
|                |            | MT 27.1          | 7          |               |            |                  |            |
|                |            | HI 27.5          | 28         |               |            |                  |            |
| N = 9          |            | N = 13           |            | N = 2         |            | N = 6            |            |
| 82%            | 73%        | 68%              | 74%        | 18%           | 18%        | 32%              | 34%        |

82% of Paddle States Had High Rape Rates;  
68% of Non-Paddle States Had Low Rape Rates  
Chi-Square = 10.47, P < .005, N = 30

32% of Non-Paddle States Had High Rape Rates;  
18% of Paddle States Had Low Rape Rates

73% of Paddle States Ranked Most Dangerous  
Median Rank Defined Most and Least Dangerous  $\chi^2 = 8.68, p < .01, N = 30$

74% of Non-Paddle States Ranked Least Dangerous

Rape Rates from the *Uniform Crime Reports (FBI)*, October 4, 1997 and "State Rankings 1998", Morgan Quitno, Lawrence, Kansas, <[www.morganquitno.com](http://www.morganquitno.com)>  
Paddle and Non-Paddle States from listing by PTAVE, 1999, at [www.nospank.org](http://www.nospank.org)

State Ranks of Safety and Dangerousness. From Morgan Quinto Press.  
2005 Most Dangerous/Safest States. Composite Index for six crime categories -- murder, rape, robbery, aggravated assault, burglary and motor vehicle theft <http://www.morganquinto.com>