

**O**ur world is becoming increasingly violent. Social and political initiatives everywhere are seeking to counteract escalating trends of suicide, aggression, crime, destruction of the environment and ultimately, war.

Groundbreaking research has uncovered the source of why we as a species are either brutal and fearful, or peaceful and loving. This research produced the term SomatoSensory Affectional Deprivation Syndrome (SSADS), which describes a complex pattern of depression, violence, and fear created within the brain from the lack of affectional bonding between infant and mother and deprivation of bodily pleasure.

Prams, cots, bottlefeeding, circumcision, medicalised births, early day care and sexual repression are just a few of the culturally supported facets of separation that contribute to varying degrees of failed bonding, leading ultimately to the exploding rates of depression, violence, suicide and sexual abuse in Western countries today. Until the source is acknowledged, initiatives towards peace and justice are rendered fruitless, as world history affirms.



# The Origins of Love

*Featuring*  
How Culture Shapes the Developing  
Brain and the Future of Humanity

By James W. Prescott, Ph.D.  
Institute of Humanistic Science

*And Bonding: the Origin of Love* by Merryn Callander

# How Culture Shapes the Developing Brain and the Future of Humanity

By James W. Prescott, Ph.D.

Institute of Humanistic Science

*The greatest terror a child can have is that he is not loved, and rejection is the hell he fears. I think everyone in the world to a large or small extent has felt rejection. And with rejection comes anger, and with anger some kind of crime in revenge for the rejection, and with the crime guilt — and there is the story of mankind. John Steinbeck—East of Eden, 1952*

Without embodied love, peace is not possible. Without integrative bodily pleasure, moral behaviours of peace, harmony and human equality are not possible. Depression replaces joy and drugs are sought to drown the depression, the anger and rage that escalates into the violence of homicide, and suicide. Steinbeck recognised these facts, which science has now abundantly documented. The biobehavioural research supporting these relationships, however, has been ignored by the bureaucratic biomedical scientists and the political-religious stewards of society. Biomedicine has wrongly assumed that genes and not life experience has the primary role in shaping the developing brain for peaceful or violent behaviours, which has misdirected research on this subject for the past half century that has prevented health programs for true prevention. Drug 'therapy' is treatment not prevention.

Genetic engineering and medical drugs, unfortunately, dominate the political-social-monetary landscape for changing and controlling individual behaviour rather than changing our society and culture for changing and liberating human behaviour from the chains of our self-destruction. The religious chains of tyranny and violence have bound humanity throughout history, which has placed man at war with himself; between man and woman; between parent and child; and with nature itself. The most violent primate on this planet against the female of its species and her offspring is *Homo sapiens*. No species can survive with this magnitude of violence against the female and her offspring. How did this happen?

How did the human primate become the most violent primate on the planet when our closest genetic relative, the bonobo chimpanzee, with whom we

share 99% of our genes, is the most peaceful primate on the planet? For too long the false genetic mechanism for determining and controlling behaviour has been pursued.

## Our peaceful ancestors

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.*

According to Hrdy in her book *Mother Nature*, great ape mothers carry their infants wherever they go. Fathers, by comparison, are rarely in direct contact with babies. 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. *No wild monkey or ape mother has ever been observed to deliberately harm her own baby.*' (p. 179).

What happened along the evolutionary trail where infanticide and injury to the young suddenly appeared in the great ape *Homo sapiens*? Why is sexual abuse of the pre-pubertal young unknown in the primate evolutionary record but is common in *Homo sapiens*? What genetic or cultural factors could possibly account for this difference?

Extensive scientific research in animals and humans has documented, without question, that mother/infant/child separations (loss of bonding/mother love) induces a variety of developmental brain disorders that mediate depression, impulse dyscontrol, chronic stimulus-seeking behaviours that includes self-

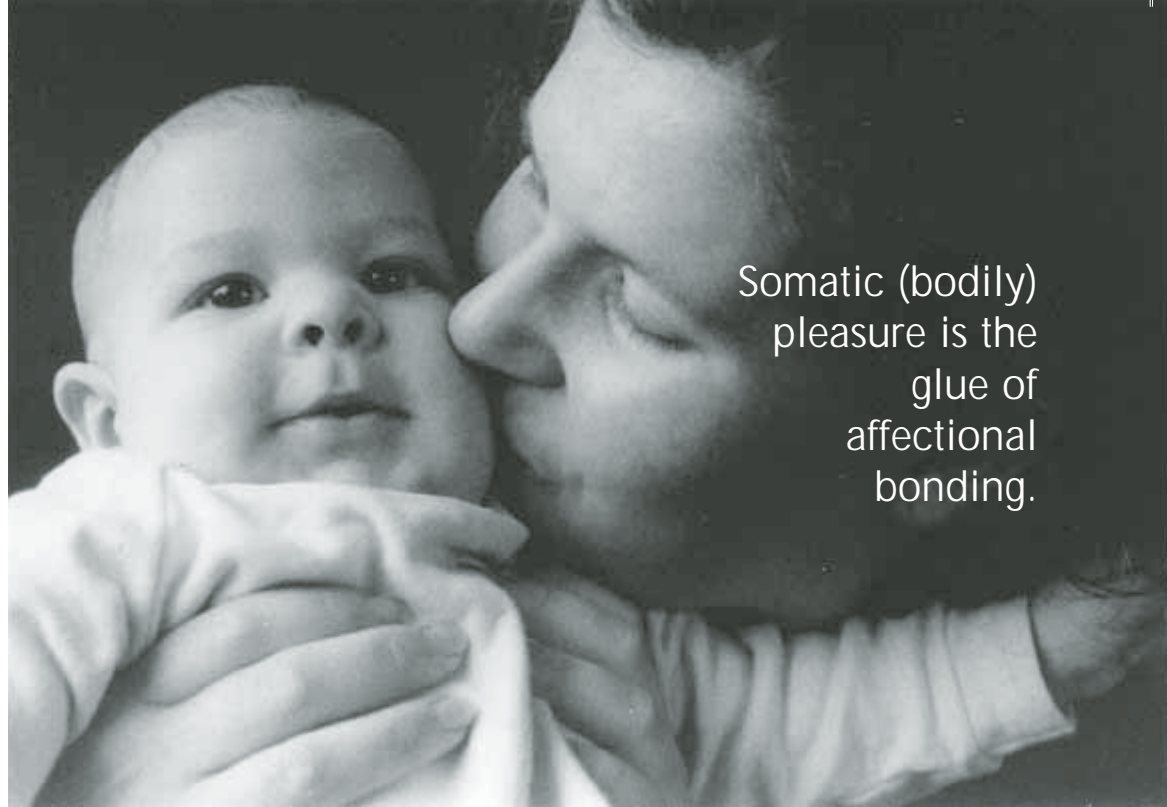
mutilation, the violence of homicide and suicide and parental violence against offspring.

The *Time-Life* documentary, *Rock-a Bye Baby*, documented some of the scientific breakthroughs that were made possible through research supported by the National Institute of Child Health and Human Development (NICHD), National Institute of Health (NIH) in the 1960's and 1970's. This documentary film was premiered at the 1970 White House Conference on Children. It is as relevant today, as it was over 30 years ago. (<http://www.violence.de/tv/rockabye.html>)

Research by Drs. William Mason and Gershon Berkson demonstrated that introducing infant monkeys to artificial body movement provided by a 'swinging' mother surrogate could prevent the adult emotional/social/sexual and violent behavioural pathologies that developed in stationary mother surrogate reared infant monkeys. These findings led to my development of the brain-behavioural theory of the 'maternal-social deprivation' syndrome that I called *SomatoSensory Affective Deprivation* (SSAD) that placed the cerebellum in a central role in the regulation and integration of emotional, social and sexual behaviours.

## Bonded children, bonded societies

These laboratory findings of depression and violence, due to failed bonding in the mother-infant/child relationship, were confirmed by my cross-cultural studies on tribal cultures. Through these studies, it was possible to predict with 80% accuracy the peaceful or homicidal violence of 49 tribal cultures from a single measure of mother-infant/child bonding, as demonstrated by continuous baby carrying on the body of mother or a close relative acting as a mother, throughout the day for the first year of life.



Somatic (bodily)  
pleasure is the  
glue of  
affectional  
bonding.

Photo by Katrina Folkwell

The peaceful or violent nature of the remaining ten cultures could be predicted from whether adolescent sexual expression was supported or punished. In short, these two measures of affectional bonding: a) mother-infant/child relationship and b) adolescent sexual relationships could predict with 100% accuracy the peaceful or violent nature of these 49 tribal cultures distributed throughout the world.

My subsequent studies on 26 tribal cultures, whose weaning age was 2.5 years or greater, found that 77% of these cultures were rated low or absent in suicide. Suicide ratings were significantly different between cultures with weaning age of two years or less versus 2.5 years or greater. It appears that a vulnerable period in brain development exists at this time to explain this difference. Affectional bonding in the mother-infant/child relationship influences later

sexual affectional relationships where 82% of cultures with weaning age of 2.5 years or greater also supported youth sexual relationships and were rated low or absent in suicide.

These critical findings need to be replicated on modern human cultures that utilise modern technologies of brain-behavioural development assess-

ment, studies that the NIH has yet to conduct. WHO and UNICEF recommend breastfeeding for 'two years of age or beyond'.

#### **Transmitting joy through breastfeeding**

In America, only 6.8% of mothers are breastfeeding at 12 months; 2.7% at 24 months; and 1% at 30 months.<sup>1</sup>

## SomatoSensory Affectational Deprivation (SSAD)- altering the hardwiring and software of the developing brain

SSAD (SomatoSensory Affectational Deprivation) is the process of impaired or failed mother-infant bonding that results from a deficiency in the infant's sensory stimulation via touch, body movement, smell and taste and breastfeeding. Virtually all infant mammals are vulnerable to the emotional-behavioural disorders that are induced by this somatosensory deprivation. The specific emotional-behavioural disorders that result, vary by species and have their influence throughout the lifespan of the individual.

The principal emotional-behavioural disorders characteristic of most SSAD-reared mammals include: depression; chronic-stimulus seeking (obsessive-compulsive) behaviours, (e.g., stereotypical rocking, thumb/penis sucking, and self-mutilation; hyperactivity and hyper-reactivity); tactile avoidance, impaired pain and pleasure perceptions; hypersensitivity to touch; impaired sexual pleasure and sexual functioning; alcohol/drug abuse, dependence, and addiction; and social alienation with anti-social behaviours that include violence, suicide and homicide.

SSAD induces a variety of neurobiological changes in the developing brain of SSAD-reared mammals, particularly primates, which create the above-described emotional-behavioural disorders. These brain-behavioural disorders occur primarily in the subcortical emotional-social-sexual

part of the brain that unfolds early in development — not the neocortical rational/cognitive brain that results from later brain development. A more complete and detailed illustration and description of SSAD can be found at <http://violence.de/prescott/afb/paper.pdf> and <http://www.violence.de/prescott/mp/article.html> and on The Origins of Love and Violence CDROM available at [www.byronchild.com](http://www.byronchild.com)

Somatic (bodily) pleasure is the glue of affectional bonding. The failed development of the normal pleasure systems of the brain, through SSAD, induces disordered pleasure-seeking behaviours, whether through misuse/abuse of the sensory systems or from biochemical drugs. Primary treatment of SSAD disorders must involve the reconstruction of the pleasure systems of the brain so that neuro-integrative pleasure and not neuro-dissociative pleasure becomes the reality. (Gender inequality, sexual violence, narcissism, sado-masochism, addictions and obsessive-compulsive pornography are examples of the consequences of the neurodissociative brain.) The neuro-dissociative brain, induced by SSAD, mediates depression, anger/rage, and violence, whereas the neuro-integrative brain mediates joy, compassion, peace, and happiness. Integrated bodily pleasure is essential for the evolutionary development of love in *Homo sapiens*, which has been displaced by a disembodied Platonic/divine love that drives human alienation, depression and violence.

James W. Prescott, Ph.D.



... love is a brain gestalt that is formed primarily from sensory stimulation:

- Body movement
- Body touch
- Body smell

*(Editor's note: Australian rates are difficult to assess as there is no national collection of statistics. However, from various state-based research it would appear that less than half of all Australian mums are still breastfeeding their babies at six months.)*

Normal brain-behavioural development is being compromised through lack of sufficient breastfeeding bonding and the continuing use of infant formula milk that has the complicit support of the American Academy of Pediatrics, which recommends breastfeeding for only one year, and does not actively oppose infant formula milk feeding which interferes with breastfeeding bonding.

There are well known deficits of the essential amino acid tryptophan in infant formula milk (and other vital brain nutrients) that can only adversely affect the normal development of the brain serotonin system and other brain neurotransmitter systems that mediate the many pathologies of emotional-social-sexual functioning that exist in our society today.

Tryptophan is a precursor amino

Photo by Katrina Folkwell

- Intimacy Pleasure Bonding (body-smell, olfactory sensory system — the primary evolutionary sexual brain).

These three sensory systems have their own 'sensory brains' where the olfactory brain is recognised as the

primitive emotional-sexual brain that is activated, in part, by pheromones.

### The Two Brains of Love

In normal development, body touch, smell, movement, and taste are integrated during breastfeeding and encoded in the developing brain where the 'whole becomes greater than the sum of the parts'. The 'somatic brain gestalt of love' is first formed from the subcortical emotional-social-sexual brain. The later developing 'cognitive neocortical brain gestalt of love' is formed through the programming of the visual and auditory sensory neocortical brains that becomes integrated with the earlier 'somatic brain gestalt of love'. In most modern human cultures, the somatic brain gestalt of love is fragmented and poorly developed and the neocortical brain is wrongly programmed where pain becomes a virtue (good) and pleasure becomes a vice (evil).

These two brains, being wrongly programmed with sensory pain and sensory pleasure deprivation that are combined with the wrongful programming of the moral values of pain and pleasure in the neocortical brain, results in the development of the neurodissociative brain — and ultimately, depression, alienation and violence.

*James W. Prescott, Ph.D.*

## The Origins of Biological Love

The primary sensory-brain process involved in affectional bonding in the mother-infant relationship is the post-natal continuation of vestibular-sensory (movement) stimulation to the developing brain (the primary form of sensory stimulation in utero) and ensured by babywearing that allows the baby to experience continual movement as well as ready access to the breast that assures breastfeeding bonding. Without this sensory stimulation, the Somato-Sensory Affectional Deprivation Syndrome (SSADS), to one degree or another, is inevitable.

These studies lead to a conclusion that 'love' is a brain gestalt that is formed primarily from sensory stimulation of the three sensory modalities in the mother-infant relationship:

- Body movement (vestibular-cerebellar system);
- Body touch (somesthetic system); and
- Body smell (olfactory system).

Further, these three sensory modalities provide the foundations for the three different psychological dimensions of love relationships characterised as:

- Basic Trust (body-movement: vestibular-cerebellar sensory system);
- Affectional Pleasure Bonding (somesthetic-touch sensory system).

acid that is converted into brain serotonin, deficits of which are known to mediate depression, impulse dyscontrol, drug abuse and the violence of homicide and suicide. It can be expected that other essential amino acids are also deficient in infant formula milk that leads to other brain neurotransmitter system abnormalities, e.g. those that mediate affectional bonding, e.g. tyrosine that is converted into brain dopamine that, in part, makes body pleasure possible, as do other molecules of love (Crenshaw, 1996).

### **Permission for bodily pleasure**

It is well known that brain dopamine disorders lead to drug addictive behaviours, where drug pleasure is sought in lieu of natural body pleasure that is impaired or lost from failed mother-infant/child bonding and from impaired or failed sexual affectional relationships that begin in the teen years. Body pleasure that is *integrated* into higher brain

structures inhibits depression, drug abuse and violence, whereas *neurodis-sociative pleasure* (self-centred, hedonistic pleasure) mediates depression, drug abuse, sexual exploitation and violence.

Given the above, the escalating rates of depression, psychiatric medications and suicides among our children and youth in American culture, are not surprising. Suicides in American children aged 5-14 years have doubled over the past generation; and suicides in the 15-24 year age group has been the third leading cause of death for well over a generation. Depression is a leading mental health problem worldwide.

*(Editor's note: Suicide is now identified as one of the leading causes of death in Australian young people. The suicide rate among young Australian males aged 15 to 24 years doubled in the past twenty years, four times the rate for young females.)*

More American children/youth (5-24 year age group) have died from suicide over these past ten years (est. 55,000)

than have been lost in combat in the ten-year Vietnam War (47,355).

An equally damning statistic of the American culture is the finding that the ratio of suicides to homicides have systematically increased in the 5-14 year age group over this past generation: 1979-36%; 1994-60%; 1998-73%; 2000-89%. Why are American children filled with such depression and despair that they prefer death to living in their own families and in America, claimed to be the greatest nation on this planet by many? And why have national health authorities remained silent on this national disgrace where biomedical authorities have no answer to this question?

No war memorial exists for these children and youth of suicidal death. The combination of impaired or failed sensory affectional bonding with limited or no breastfeeding in the mother-infant/child relationship and failed sexual affectional relationships are a lethal combination for the development of depression, social alienation, drug

## **Ten Principles of Mother-Infant Bonding to Change the World**

The following changes are essential if this new cultural brain of the infant/child/teen is to be developed. These changes would provide for a greater comprehensive structure of cultural change for the assurance of peaceful individuals and cultures.

1. Every pregnancy is a wanted pregnancy.
2. Every pregnancy has proper nutrition and prenatal care — medical and psychological — and is free from a toxic womb of alcohol, drugs, tobacco and other toxic agents of stress.
3. Natural birthing.
4. No genital mutilation (circumcision).
5. Breastfeeding on demand for two years of age or beyond.
6. Intimate body contact — babywearing during first year (and co-sleeping for the first two years and beyond).
7. Immediate comforting is given to infants and children who are crying. No infant/child should ever be permitted to cry itself to sleep — day or night.
8. Infants and children are for hugging and should never be physically hit for any reason or humiliated.
9. Infants and children are honoured and should never be humiliated nor emotionally abused for any reason. The emerging sexuality of every child is respected.
10. Mothers must be honoured and not replaced by any institutional day care because it harms children under five years of age.

*James W. Prescott, Ph.D.*



Photo by Katrina Folkwell



The transformation of a violent culture to a peaceful culture begins with the transformation of the individual who, as an infant/child, is placed on a life path of **acceptance** rather than **rejection**; of **joy and happiness** rather than **rejection and depression**; of **love** rather than **hate**; of **peace** rather than **violence**.

abuse, sexual exploitation and the violence of suicide and homicide.

Children are now killing children; children are raping children; and the massive psychiatric medication of our children and youth that was unheard of a generation ago — all indicate the disintegration of America from within.

### Early day care, recipe for disaster

The report of the NICHD 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 aggressive. 'They scored higher on things like fighting, cruelty, bullying, meanness as well as talking too much, and demands must be met immediately,' according to Dr. Belsky, one of the principal investigators.

It has yet to be recognised that cruelty, bullying and meanness that terrorises 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 institutionalised day care. These collective emotional-social traumas in infancy/childhood, particularly when combined with child/teen sexual abuse, are sufficiently great to impair teen coping behaviours to emotional stress and to drive many students to despair and the violent acts of homicide and suicide. It is estimated that some 20% of America's students nationwide have contemplated suicide at one time or another.

### Morality or truth?

We also need to recognise the role of theological/religious systems that makes an enemy of body pleasure — judging it as sinful and immoral — and which equates pain, suffering and deprivation as being morally virtuous. These moral value systems oppose millions of years of evolutionary biology (pain = avoidance; pleasure = attraction) and have equated the feminine with sin, wickedness and immorality. These moral/religious values have turned mind against body; male against female; parents against children; and children against parents. (See Ecclesiastics 25:24; Proverbs 23:13-14; Deuteronomy 21:18-21, for example; [www.violence.de/prescott/women/article.html](http://www.violence.de/prescott/women/article.html) and [www.montagunocircpetition.org](http://www.montagunocircpetition.org)).

We now know that integrated pleasure is the 'glue' of bonding and is necessary for the development of the moral person and of moral behaviours. If natural body pleasure is denied, depression and the artificial and destructive narcissistic and sado-masochistic pleasures of drugs and sexual violence often follow.

### The future human

The human brain is the organ of our emotions, social relationships, moral values and cognitive/intellective development. The developing brain of the infant/child is encoded or programmed either for depression or happiness; for peace or violence and for human equality or inequality. These are learned behaviours rooted in the biology of our early life experiences (Montagu, 1971).

The transformation of a violent culture to a peaceful culture begins with the transformation of the individual who, as an infant/child, is placed on a life path of acceptance rather than rejection; of joy and happiness rather than rejection and depression; of love rather than hate; of peace rather than violence. This transformation of the individual requires the building of a new cultural brain, one that embodies and expresses naturally peace, love and happiness. That brain can only be built with radical cultural change. Clearly, these changes are not possible without a restructuring of culture in ways that support and enable mothers to be nurturing mothers.

National legislation that interferes with mother-infant/child bonding must be replaced with legislation that supports nurturing parents and families.

The need for infant and early institutional child day care should be eliminated and public funds now utilised to support commercial infant/childcare enterprises **should** be used to support mothers and fathers directly, a policy whose proven effectiveness has been well established in Scandinavian countries.

Bowlby (1953), Cook (1996) and Belsky (2003) have warned the world of the dangers of institutionalised day care of infants/children and Montagu (1971) informed the world of the dangers of loss of mother love, lessons that have been ignored by the modern world. ☺

Editor's note: See page 13 in this issue for Dr. Prescott's extraordinary CDROM, **The**

**Origins of Love and Violence**, available through *byronchild* magazine.

With thanks to *Touch the Future*. References to this article and more extended articles on this subject can be found at: [www.TTFuture.org/Prescott](http://www.TTFuture.org/Prescott) and [www.violence.de](http://www.violence.de).

With thanks also to Dr. John W. Travis MD, Meryn Callander – Alliance for Transforming the Lives of Children, [www.aTLC.org](http://www.aTLC.org)

**James W. Prescott, Ph.D.** is a developmental neuropsychologist and cross-cultural psychologist. He joined the National Institute of Child Health and Human Development (NICHD), National Institutes of Health (NIH), Bethesda, MD where he created the Developmental Behavioral Biology Program of the newly created NICHD and served as its Health Scientist Administrator from 1963-1980. During this period, Dr. Prescott initiated and established a number of basic brain-behavioral research programs, which documented that the early life experiences of mother-infant separation induced a variety of developmental brain abnormalities in the infrahuman primate.

NOTES: (1) Third National Health and Nutrition Examination Survey, 1988-94-NHANES 3, Variable HYB5, National Institutes of Health, Bethesda, MD)

### REFERENCES

- Bowlby, J. (1953). *Child Care and the Growth of Love*. Pelican/Penguin. Baltimore/London.
- Belsky, J. (2003). *The Dangers of Day Care*. The Wall Street Journal. July 16.
- Cook, P.S. (1996). *Early Child Care: Infants & Nations At Risk*. News Weekly Books Melbourne
- Crenshaw, T.L. (1996). *The Alchemy of Love and Lust*. Pocket Books, New York, Sydney.
- De Waal, F. and Lanting, F. (1997). *Bonobo. The Forgotten Ape*. Univ. of Calif. Press. Berkeley
- Harlow, H.F. (1958). *The Nature of Love*. American Psychologist 13: 673-685.
- Hrdy, S.B. (1999). *Mother Nature. A History of Mothers, Infants, and Natural Selection*. Pantheon Books. New York
- Mason, W.A. and Berkson, G. (1975). *Effects of Maternal Mobility on the Development of Rocking and Other Behaviors in Rhesus Monkeys: A Study with Artificial Mothers*. Developmental Psychobiology, 8, 197-221
- Montagu, A. (1971). *Touching: The Human Significance of the Skin*. Columbia University Press
- Prescott, J.W. (1975) *Body Pleasure and the Origins of Violence*. The Futurist April. Reprinted: The Bulletin of The Atomic Scientists (1975) November. <http://www.violence.de/prescott/bulletin/article.html>
- Prescott, J.W. (1996). *The Origins of Human Love and Violence*. Pre- and Perinatal Psychology Journal. 10(3):143-188. Spring. <http://www.violence.de/prescott/pppj/article.html>
- Stolberg, S.G. (2001). *Link Found Between Behavioral Problems and Time in Child Care*. The New York Times. 19 April.