Deprivation on Infants

Recent longitudinal research over a 20-year period from Israel indicates that:

- Preterm or low birth weight babies being deprived of their mother's touch may suffer long-term and enduring emotional problems.
- This study compared outcomes from 146 babies where 50% of them were allocated to a Kangaroo care group where they could have skin-to-skin contact with their mother without the incubator.
- Outcome: The babies who did not receive Kangaroo care fared less well emotionally when compared to those babies who benefited from this intervention.



Harry Harlow provided important evidence that physical contact was more important than feeding in young rhesus monkeys.

- Harlow placed the monkeys in cages with two substitute mothers.
 - One of these was made of wire and provided milk and the other was covered in a soft cloth.
 - The monkeys spent most of their time clinging to the cloth monkey for comfort, even though she did not supply milk.
- Monkeys deprived of comfort became indifferent or aggressive adults and had difficulty in mating and parenting.

Effects of Touch Operiuntion on Infanz

Children raised in orphanages without physical contact in the 1920s suffered:

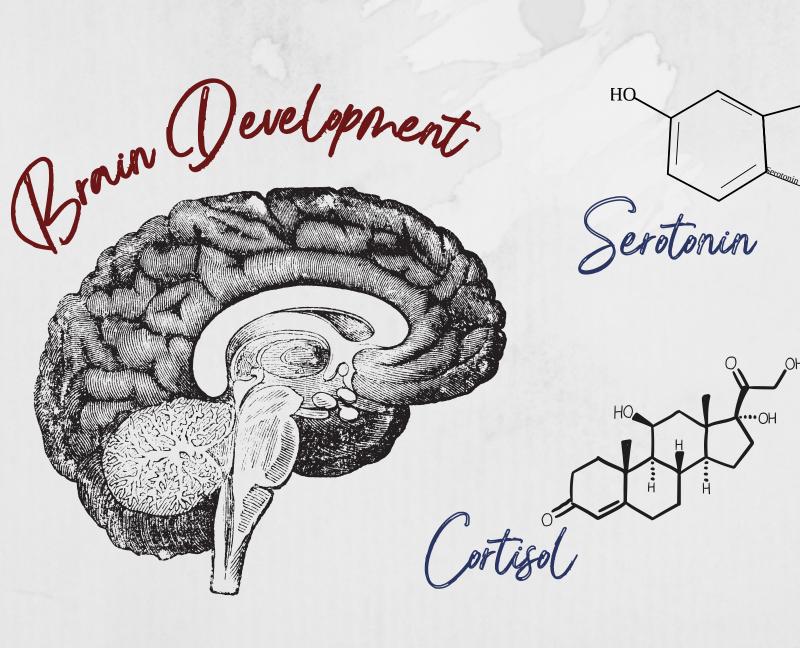
- Stunted growth
- Abnormal levels of the stress hormone, cortisol.
- Those who survived had less than a 50% chance of reaching puberty.
- The brains of infants left in cots were also 20% smaller than those who were picked up, cuddled, and cradled, despite adequate nutrition and hygiene.

Health scientist James W. Prescott - Deprivation in early infancy caused **neurological dysfunction** that led to:

- Autistic behaviors
- Increased vulnerability to alcohol and drug abuse in adulthood



- The critical need for touch was also highlighted by Margaret Mead:
 - Human societies that withheld physical affection in infancy had significantly higher rates of adult violence than cultures that gave their children plenty of touch stimulation in the early years.
- Children who experienced touch were: more social, less fussy, and had better intellectual and motor development than infants who were touch-deprived.



Serotonin, one of the brain's neurotransmitter substances, is significantly reduced in children who are touch-deprived in early life.

• Low levels of serotonin are associated with Sudden Infant Death Syndrome, and aggressive behavior, depression, and suicidal tendencies in later life.

The brain develops in response to **cortisol**, a stress hormone.

• Touch-deprived infants with consistently elevated levels may have difficulty controlling their emotions and behavior as they grow up.

Oxytocin is another stress-regulating hormone released by close physical contact.

- High oxytocin levels in the parent and baby promote bonding patterns and the desire for social relationships.
- Oxytocin also interacts with dopamine, a brain chemical that has an important role in behavior, learning, attention, motivation, attention, and well-being.

1. With regular massage, babies with Down syndrome have improved muscle tone and show a better performance on motor tasks.

- The muscles receive a good circulation of blood, which strengthens them for movement.
- The circulatory system in the hands and feet of the newborn is undeveloped: massage helps them to become warm.
- Massage also opens the pores and encourages the release of sebum, which prevents microorganisms from entering the baby's body.
- Babies who are regularly touched have a more stable heart and breathing rate and are less tense and irritable.
- 2. Other benefits of massage include:
 - Increased peak airflow in babies and children with asthma
 - Increased intellectual development

The Vagus Project

About one in 10 infants experience neglect and about 1/3 of clinic referrals are for emotional disturbances. hyperactivity. aggressive behavior. and conduct disorder problem.

RESEARCH SUMMARY BY PHILBERTA SOH KAY LEEN INFOGRAPHIC DESIGN AND FORMAT BY LISA WANG IN CANVA $\textbf{1} \underline{\textbf{E}} \textbf{dward Alan Glasper} (2020) \\ \textbf{Romania's Forgotten Children: Sensory Deprivation Revisited, Comprehensive Child and Adolescent Nursing, 43:2, 81-87, \\ \underline{\textbf{DOI:10.1080/24694193.2020.1735250}} \\ \textbf{1} \underline{\textbf{C}} \textbf{1}} \underline{\textbf{C}} \textbf{1} \underline{\textbf{C}} \textbf{1}} \underline{\textbf{C}} \textbf{1} \underline{\textbf{C}} \textbf{1} \underline{\textbf{C}} \textbf{1} \underline{\textbf{C}} \textbf{1}} \underline{\textbf{C}} \textbf{1} \underline{\textbf{C}} \textbf{1} \underline{\textbf{C}} \textbf{1}} \underline{\textbf{C}} \textbf{1} \underline{\textbf{C}} \textbf{1}} \underline{\textbf{C}} \textbf{1} \underline{\textbf{C}} \textbf{1} \underline{\textbf{C}} \textbf{1} \underline{\textbf{C}} \textbf{1} \underline{\textbf{C}} \textbf{1} \underline{\textbf{C}} \textbf{1}} \underline{\textbf{C}} \textbf{1} \underline{\textbf{C}} \textbf{1} \underline{\textbf{C}} \textbf{1} \underline{\textbf{C}} \textbf{1}} \underline{\textbf{C}} \textbf{1} \underline{\textbf{C}} \textbf{1} \underline{\textbf{C}} \textbf{1}} \underline{\textbf{C}} \textbf{1} \underline{\textbf{C}} \textbf{1} \underline{\textbf{C}} \textbf{1}} \underline{\textbf{C}} \textbf{1} \underline{\textbf{C}} \textbf{1} \underline{\textbf{C}} \textbf{1} \underline{\textbf{C}} \textbf{1}} \underline{\textbf{C}} \textbf{1} \underline{\textbf{C}} \textbf{1} \underline{\textbf{C}} \textbf{1} \underline{\textbf{C}} \textbf{1}} \underline{\textbf{C}} \textbf{1} \underline{\textbf{C}} \textbf{1}$

----- National Society for the Prevention of Cruelty to Children, 2017

2. NSPCC (2017).https://www.nspcc.org.uk/globalassets/documents/research-reports/how-safechildren-2017-report.pdf (accessed 19 January 2018) 3. Harlow, H. F., Dodsworth, R.O., Harlow, M.K. (1965). Total social isolation in monkeys. Proceedings of the National Academy of Sciences. USA. 4. Prescott, J.W. (1971). Sensory deprivation vs sensory stimulation during early development. A comment on Berkowitz's study. The Journal of Psychology,77:189191. 5. Rutter, M.L. (1998). Developmental catch-up, and deficit, following adoption after severe global early privation. Journal of Child Psychology and Psychiatry 39(4):465-476. 6. Skuse, D. (1984). Extreme deprivation in early childhood: Diverse outcomes for three siblings from an extraordinary family. Journal of Child Psychology and Psychiatry 25:543-572. 7. Feldman, R., Rosenthal, Z & Eidelman, A.I. (2014). Maternal-Preterm Skin-to-Skin Contact Enhances Child Physiologic Organization and Cognitive Control Across the First 10 Years of Life. Biological Psychiatry 75 (1) 8. McEwen, B. S. & Gianaros, P. J. (2011). Stress-and allostasis-induced brain plasticity. Annual Review of Medicine 62: 431-445. 9. Meaney, M. J., Aitken, D. H., Bodnoff, S. R., Shari, R., Iny, L. J., Tatarewicz, J. E. & Sapolsky, R. M. (2013). Early postnatal handling alters glucocorticoid receptor concentrations in selected brain regions. Behavioral Neuroscience 127 (5): 637-641.