The Neuropsychological Effects of Sleep Training and Its Impact on Breastfeeding

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Nothing to Disclose
In Westernized cultures, infants often sleep alone. Parents often resort to behavioral extinction to teach an infant to do this.

Is night waking a problem?

Night waking

Maternal stress, depression, and anxiety

Could this be an appropriate intervention for exhausted new parents?

Study finds controlled crying safe for babies

A landmark study by Melbourne researchers has found controlled crying poses no long-term risk to the health of babies and infants.
Controlled crying intervention for parents of infants 8-10 months. Follow-up at 5 years

- “No apparent harm”
- No apparent benefits either
- Practitioners can “confidently recommend” this approach to parents

Techniques to extinguish infant crying

• Gradual withdrawal (“Camping Out”)
• Extinction method (“Cry-it-Out”)
• Graduated extinction (“Controlled Crying”)

Concerns
  • Cortisol and the developing brain
  • Attachment
  • Breastfeeding
Overriding mother’s response to baby’s cues particularly detrimental
Childrearing is both biological and cultural.

Childrearing is modified by beliefs about (the):

- Nature of human infancy
- “Proper” relationship between mother and child
- Personal autonomy and independence

“Science as Savior”
• Elimination of “old wives’ tales”
• Male experts and authorities
Approaches developed to “improve on nature”

• Elimination of “useless organs”
• “Formula” to replace breast milk
Medicalization of Childbirth

• Outlaw midwifery
Behaviorism & Scientific Mothering
The Behaviorist cannot find consciousness in the test-tube of his science.

(John B. Watson)
John B. Watson, president of the American Psychological Association in 1928, led the charge against maternal affection.

• Discouraged the study of beliefs or emotions—any internal processes
• Disparaged the importance of love and attachment
• Too much kindness to a baby would result in a whiney, dependent, failed human being
• You must train children to be independent and not inconvenience their parents with their needs
Scheduled and timed feedings
Early independence
Sleeping separate from parents
Complete disaster for breastfeeding
The Competing Paradigm
Attachment Theory

• Emotional attachment between mother and child
• Essential to survival above and beyond food and shelter
John Bowlby
From Psychoanalysis to Ethology
Frank C. P. van der Horst
Foreword by Jerome Kagan

John Bowlby
Harry Harlow

Contact comfort vs. food
Mary Ainsworth and the Strange Situation

Developed a paradigm to measure attachment
Proximity and maternal/caregiver responsiveness promotes attachment

Ainsworth & Bowlby 1991, Amer Psychologist, 46, 333-341
Crying, sucking, smiling, clinging, and following promotes proximity

Ainsworth & Bowlby 1991, Amer Psychologist, 46, 333-341
Separation activates these behaviors

Ainsworth & Bowlby 1991, Amer Psychologist, 46, 333-341
Non response is stressful for babies.
Still-Faced Mother Paradigm
Grant et al. 2009, *Dev Psychobiol*, 51, 625-637
Learning Mode

Survival Mode
Neuroscience, Molecular Biology, and the Childhood Roots of Health Disparities: Building a New Framework for Health Promotion and Disease Prevention

Jack P. Shonkoff; W. Thomas Boyce; Bruce S. McEwen JAMA. 2009;301(21):2252-2259
“Adult disease prevention begins with reducing early toxic stress”
According to Behaviorism, ignoring cries will lead to less crying.
- The opposite to be true
- Responding leads to less crying and more secure attachments

Program designed to extinguish infant signaling during transition to sleep and encourage self-soothing


5-day residential program in NZ for infants referred for sleep problems (25 mother-infant dyads)
• Day 1 cortisol elevated for both mother and baby
• By Day 3, babies stopped crying, but still had elevated cortisol

Middlemiss et al. 2011, Early Hum Devel, doi: 10.1016/j.earlhumdev.2011.08.010
Mothers’ cortisol dropped on day 3; babies’ did not
  • Asynchrony with baby
  • Associated with insecure attachment

Middlemiss et al. 2011, Early Hum Devel, doi: 10.1016/j.earlhumdev.2011.08.010
“... the mother and child ... are a symbiotic unit that make each other healthier and happier in mutual responsiveness”
Cortisol levels rise when infants experience long and repeated incidents of being ignored when they cry.

• Cortisol is toxic to neurons
• Infant brains are highly susceptible to the effects of toxic stress

There are many long-term effects of “need-neglect” in babies.

• Stress reactivity can become a pattern for life
• Self-regulation is undermined

Infant sleep interventions the first 6 months do not:
• Reduce infant crying
• Prevent sleep and behavioral problems in later childhood
• Prevent PPD


Review of 43 studies, UK National Institute of Health Research
Unintended consequences include
• Increased problem crying
• Premature cessation of breastfeeding
• Worsened maternal anxiety
• SIDS

Review of 43 studies, UK National Institute of Health Research

Douglas & Hill 2013, J Dev Behav Pediatr, 34, 497-507
“An evidence-based approach to sleep problems in the first 6 months avoids behavioral interventions, including extinction and graduated extinction; feed-play-sleep cycles; and education about “tired cues,” sleep algorithms, and “overstimulation”

Douglas & Hill 2013, J Dev Behav Ped, 34(7), 497-507
The Effect of Feeding Method
Hours Baby Sleeps at Longest Stretch

- Breastfed: 5.49
- Mixed: 7.04
- Formula: 7.69
Mothers’ Depression

Breastfeeding: 0.85
Mixed: 1.04
Formula: 1.28
A closer look at Price et al. (2012)
• Intervention
  • Graduated extinction
  • “Camping out”

• Control
  • No specific instruction

Price et al. 2012 Pediatrics, 130(4), 643-651
5-year follow-up with 225 families

No adverse effect

- Parent-child bond
- Mother’s depression
- Child’s level of adjustment
- Child’s cortisol level at 5 years old

Kendall-Tackett 2012 *Clin Lact*: 3(4), S1-S4; Price et al. 2012 *Pediatrics*: 130(4), 643-651
• 31% of the original sample was lost to follow-up
• Most of these families were identified as “high disadvantage”

Kendall-Tackett 2012 *Clin Lact*: 3(4), S1-S4; Price et al. 2012 *Pediatrics*: 130(4), 643-651
• No information on “dose”
• How long did babies cry?
• How many months?
• What else was going on in family?

Price et al. 2012 Pediatrics, 130(4), 643-651
• Hawthorne Effect
  • Any intervention made things “better”
  • No adequate control group

Lack of elevated cortisol at age 5 does NOT prove “no harm”
Conclusions

• Sleep training offers no long-term benefit
• It is a hold-over from a refuted parenting style
• It will likely interfere with breastfeeding
• Current studies supporting it have a number of methodological weaknesses
• Non-response to infant cries raises cortisol levels, which is toxic to infants’ developing brains
• May not be harmful if short-term and in a generally warm and responsive family
• But given its drawbacks, it is not a technique we should recommend
Resources

- Special issue of *Clinical Lactation* on sleep training (Vol 4-2). www.ClinicalLactation.org

- www.PraeclarusPress.com
- www.UppityScienceChick.com
- www.BreastfeedingMadeSimple.com
NEW

Psychology of Trauma 101
Lesia Ruglass, Kathleen Kendall-Tackett

Kathleen Kendall-Tackett
Writer

Create Call-to-Action
Share
Hootlist

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