Children's Sleep
FOUNDATION

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Position Paper

Supporting infant sleep lays the foundation for life-long mental health.

Conversely, sleep training is putting babies' lifelong mental health at risk.

The Children's Sleep Foundation (CSF) disseminates research on biologically normal infant sleep, based in a multi-disciplinary approach that includes neuroscience, anthropology and psychology. Our goal is to inform families and pediatric professionals to support healthy sleep and mental health for the whole family.

Understanding biologically normal infant sleep, and the benefits of supporting it, are integral to improving mental and physical health for both children and parents.

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CHILDREN'S SLEEP FOUNDATION:

Our mission is to improve children's health and well-being through education and advocacy about biologically normal sleep. We aim to create a better world by providing professionals and families with the latest research in neuroscience and attachment in relation to children's sleep and create a culture shift where nurture is at the forefront.

The Situation

The current widespread misunderstanding of infant sleep by parents and pediatric professionals has led to both undue worry for parents and unsafe sleep conditions for infants. Misinformation has led to features of normal infant sleep to be widely labeled as "sleep problems." A culture of sleep training exists to fix these so-labeled "problems" that in reality are features of normal infant sleep. Furthermore, sleep training does not change infant sleep latency, duration or the number of night wakings (Cassels & Rosier, 2022; Douglas & Hill, 2013; Galland et al., 2017; Gradisar et al., 2016; Hall et al., 2015). It changes caregiver reports of infants signaling at night and it reduces the communication of infants and the responsivity of caregivers. **We are deeply concerned about the consequences of sleep training and the lack of responsive care at night on the health of both babies and parents.**

Based on the available research, we and others hypothesize that sleep training stops signaling of infants by using a survival strategy in their brain. When infants are left alone to cry, or are not adequately responded to while crying in the presence of an adult, they go into a stress state of freeze / dissociate / shut down. They learn that their cries will not be responded to in the environment of their bed and the communication is extinguished. Infants are not learning to self-soothe, meaning going from a state of high stress to low stress, as they start signaling at night again if a caregiver in times of illness, travel or teething.

Normal infant sleep does not need to be fixed or changed; rather, it needs to be understood and supported. Infant sleep develops on its own with no training necessary at all. The infant brain and attachment flourish when caregivers respond predictably to an infant's distress with co-regulation. This applies 24 hours a day, during the day and during the night. Supporting infant sleep is a brain building and attachment building process. Sleep training creates daily time limits for responsive care. This significantly reduces opportunities for the developing infant brain to benefit from predictable co-regulation. Sleep training, by putting limits on responding to infant distress, can also create considerable stress, anxiety and depression for parents.

We are not meeting the needs of infants or parents in many countries around the world when it comes to infant sleep. Parents are led to believe that they must use sleep training techniques to teach their baby to sleep and are not aware that they have choices. We strive to provide parents with informed choice for infant sleep, which includes information on what biologically normal infant sleep is, the reality that babies do not need any training at all to learn to sleep, and that choosing to support their baby's normal sleep and biological needs is an option – sleep training is not imperative. Parents and professionals need to know the risks and benefits of both supporting normal infant sleep and sleep training.

In this position paper, we start by describing the most common myths that are often used to justify sleep training followed by an alternative, evidence-based explanation that challenges such beliefs. Then we explain the features of biologically normal infant sleep, how to support it, and the benefits for the infant and the caregivers. Finally, we end the paper with the potential risks of sleep training that we derived from the current body of knowledge in developmental neuroscience, psychology and parental brain science.

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Myths and Research on Biologically Normal Infant Sleep

Co-sleeping with an infant increases sensory contact that induces behavioral and physiological benefits

Night waking

Myth: Night waking in infants [age 3 months, 4 months or 6 months or other age], is a problem, is unhealthy, needs to be fixed.

Research: Night waking in infants is a normal part of infant sleep. Infants 6 months, 12 months and up to 3 years wake at night (Anders & Keener, 1985; Armstrong et al., 1994; Goodlin-Jones et al., 2001; Pennestri et al., 2018; Scher, 1991, 2001; Wooding et al., 1990). In the absence of a health issue, night wakings are not linked to any negative health outcomes (Pennestri et al., 2018). Night wakings end as the brain matures, which varies in ages ranging from under 12 months up to 36 months.

Self-Soothing

Myth: Infants must be taught to self-soothe or they will never learn to sleep.

Research: Self-soothing is a term first used by Thomas Anders when he observed non-crying infants awakening at night that returned to sleep without adult help (Anders & Keener, 1985). With self-soothing there is no stress involved as babies do not signal for a caregiver. Such increases in self-regulation may develop during the first year of life or later depending on temperament or other contextual factors (Goodlin-Jones et al., 2001). Thomas Anders, nor any other researcher, has ever shown that self-soothing is a skill that can be taught. However, there is confusion in the culture with the terms self-soothing and self-settling.
See Appendix 1 for clarification.

Solitary Sleep

Myth: Infants benefit from sleeping alone in their own room.

Research: Co-sleeping (defined as the practice in which one or both caregivers sleep in the same room with their infant) with an infant increases sensory contact that induces behavioral and physiological benefits such as changes in heart rate, temperature, and breathing patterns, less crying, more frequent and extended nursing and less deep sleep relative to solitary infant sleep (Ball, 2003; McKenna & McDade, 2005; Richard et al., 1998; Richard & Mosko, 2004). In turn, breastfeeding and co-sleeping are protective of Sudden Infant Death Syndrome (McKenna & McDade, 2005; Scragg et al., 1996; Vennemann et al., 2009).

Nighttime feeding

Myth: Infants do not need nighttime feeding past 6, 8, 12 months of age.

Research: Breastfeeding research has shown consistently that breastfeeding is successful when done on demand, with no schedules or timing. Feeding on a schedule can compromise milk production, and this often leads to formula supplementation and early cessation of breastfeeding (e.g., Chantry et al., 2014). Behavioral sleep interventions often require to stop nighttime feeds, many health professionals advise this to parents, particularly when babies are older than 6 months of age. This has been associated with early cessation

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Biologically Normal Infant Sleep

Infant sleep is unique in the following ways:

- Infant sleep cycles are shorter relative to adult sleep
  (Anders & Eiben, 1997).
- Infants have more NREM sleep in the beginning of the night relative to adults
  (Roffwarg et al., 1966).
- Infants have more REM sleep compared to adults, and REM sleep is lighter than NREM
  (Roffwarg et al., 1966).
- Infants do not have a developed circadian rhythm until 12-14 weeks
  (Joseph et al., 2015).
- Infants do not start to secrete melatonin until 12-14 weeks
  (Joseph et al., 2015).
- Infants do not have mature cortisol patterns until after 3 years
  (de Weerth et al., 2003; Watamura et al., 2004).
- Infants relieve sleep pressure and cortisol with naps
  (Larson et al., 1991).
- Night waking is typical in many infants up to age 3 and beyond
  (Anders, 1978; Anders & Keener, 1985; Armstrong et al., 1994; Baumgartner, 1984; Goodlin-Jones et al., 2001; Pennestri et al., 2018; Scher, 1991, 2001; Wooding et al., 1990).
- Health concerns can negatively impact infant sleep and must be taken seriously by pediatric medical professionals. Concerns include: upper airway blockages, digestive issues, allergies, skin irritations, nutrient deficiencies, sensory processing, gastrointestinal issues
  (Douglas & Hill, 2013; Parish, 2009).
- Infants require co-regulation, meaning responsive care and presence of an adult, to fall asleep for naps, night time sleep and night wakings
  (e.g., Higley & Dozier, 2009).
- Some infants require proximity or contact during sleep to stay asleep
  (Morgan et al., 2011) .
- Co-regulation and proximity during sleep are beneficial for sleep quality, the developing infant brain and attachment (Feldman et al., 2002; Higley & Dozier, 2009; Morgan et al., 2011). The American Academy of Pediatrics recommends room sharing for at least 6 months, and optimally one year.

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How to support Biologically Normal Infant Sleep

Sleep Environment

It is the position of the CSF that babies benefit from co-sleeping or bedsharing in safe sleep environments for at least 6-12 months, and beyond 2-3 years of age. A recent review by Elaine Barry enumerates the varios physiolocal and socio-emotional benefits of co-sleeping (Barry, 2022) and safe sleep environments are defined in Appendix 7. After 12 months, co-sleeping can be with parents, siblings, family members, or loved ones. The developing brain of infants benefit from receiving cues, regulation and responsiveness from caregivers at night.

Solitary sleep means a baby sleeps alone in their own room.

Co-sleeping or room sharing means a baby sleeps in the same room as caregivers on their own safe surface.

Bedsharing means a baby sleeps on the same surface as a caregiver. Caregivers meet safety requirements for bedsharing, and the bedsharing surface is prepared and maintained for safety. Resources for safer bedsharing are in Appendix 7.

Proximity and Co-regulation

We recommend providing proximity and contact for sleep for the first 6 months and as needed beyond. We recommend providing co-regulation for infants when they wake up and signal for a caregiver.

Sleep Timing

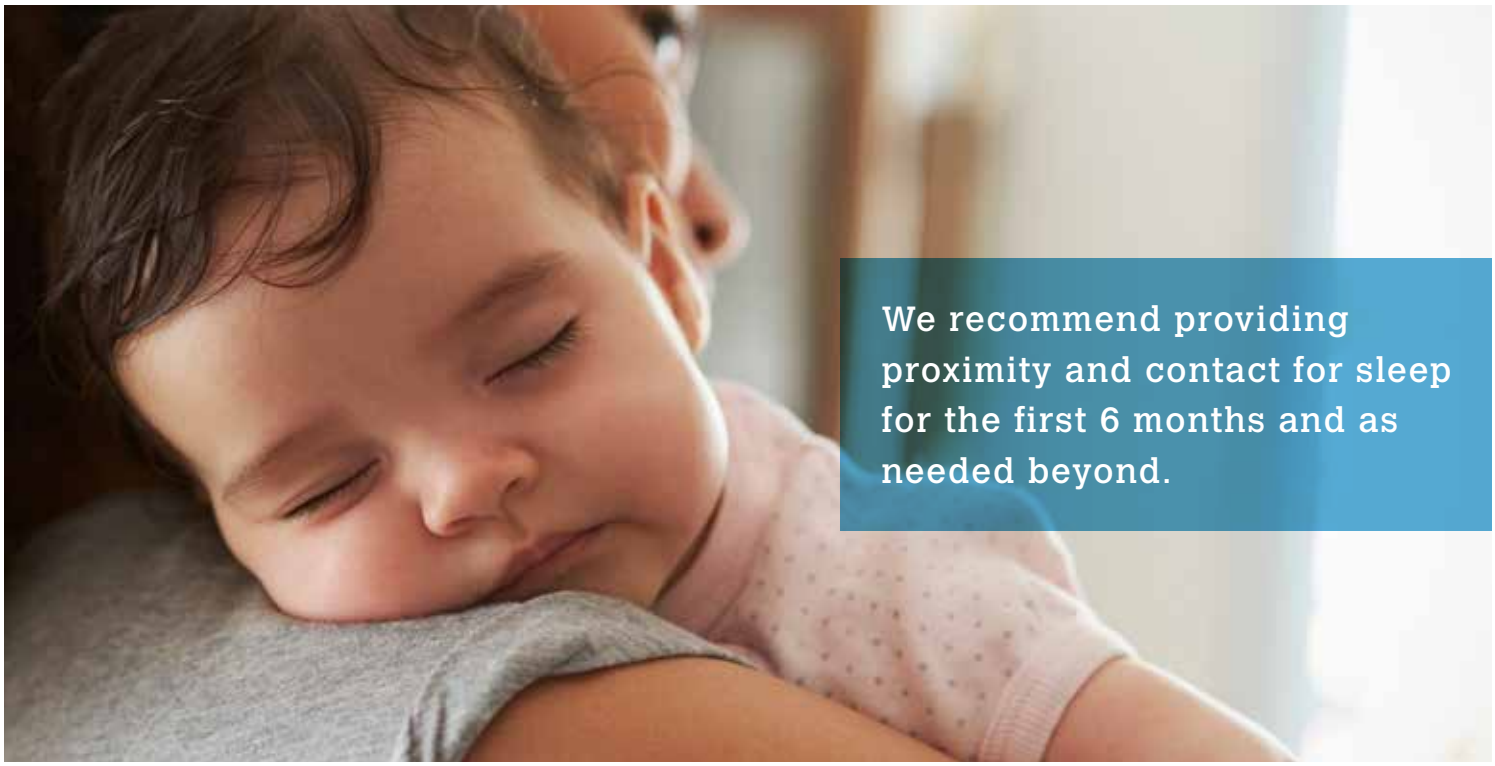
Optimal sleep timing for infants means providing sleep opportunities for naps and bedtime when infants show tired cues.

Parent Sleep

Parents and caregivers must prioritize their sleep by going to bed early, napping and sleeping in.

Parent Mental Health and Wellbeing

Parents and caregivers must prioritize their mental health and wellbeing with appropriate support from professionals, family and friends. In our professional practice we offer support that is partly focused on parental well-being. The support includes guidance and techniques to regulate their nervous system, guidance to remain attuned to their infants, mindfulness practices, sleep hygiene guidelines, nighttime energy conservation practices and the creation of a support network.



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Benefits for Infants

It is the position of the CSF that infants from 0-3 years (and beyond) benefit tremendously from sleeping in the same room as caregivers or siblings and from responsive care at night. There are benefits in the emotional system in the brain and benefits to attachment.

Higher amounts of touch and responsive maternal care lead to several brain changes that promote stress regulation, decrease vulnerability to anxiety and depression and promote physical health. These include:

Neuroscience

- Epigenetic changes to glucocorticoid receptor expression in the hippocampus. In animal (Weaver et al., 2004) and human studies (Lester et al., 2018).
- Structural and physiological modifications to the amygdala. In animal (Malter Cohen et al., 2013) and human studies (Tottenham, 2020).
- Structural and physiological modifications to the hypothalamus in animal studies (Korosi et al., 2010).
- Epigenetic changes to oxytocin receptor expression. In animal and human studies (Krol et al., 2019).
- Engagement and growth of the orbitofrontal prefrontal cortex in human studies (Hanson et al., 2010).

Psychology

- Supports and protects the attachment relationship (Goldberg & Keller, 2007; Higley & Dozier, 2009; Okami et al., 2002).

Benefits for Parents

Significant neuroplastic changes occur in the adult brain during parenthood. These changes are experience-dependent and occur in the context of an attuned caregiving relationship. Therefore, it is the position of the CSF that **parents benefit physiologically and emotionally from responding to their infants´ needs** regardless of the time of the day.

Parental brain research has shown that:

- Interacting with the infant in a responsive way is crucial to activate this circuitry properly (Feldman, 2015).
- Biobehavioral synchrony supports the wiring of the parental brain. It is the process of fine-tuning to the infant's signals so that with practice, parents' and children's biological and behavioral systems become attuned (Feldman, 2012).
- The oxytocin and dopamine systems support the wiring of the parental brain and underlie the experience of biobehavioral synchrony (Feldman, 2015).

Altered sleep and fatigue are common during the transition to parenthood, however **sleeping in proximity can have positive effects on parental wellbeing**. For example, in a breastfeeding context, **mothers that bedshare report sleeping longer, more daily energy and better physical health** (Ball, 2002; Kendall-Tackett et al., 2018).

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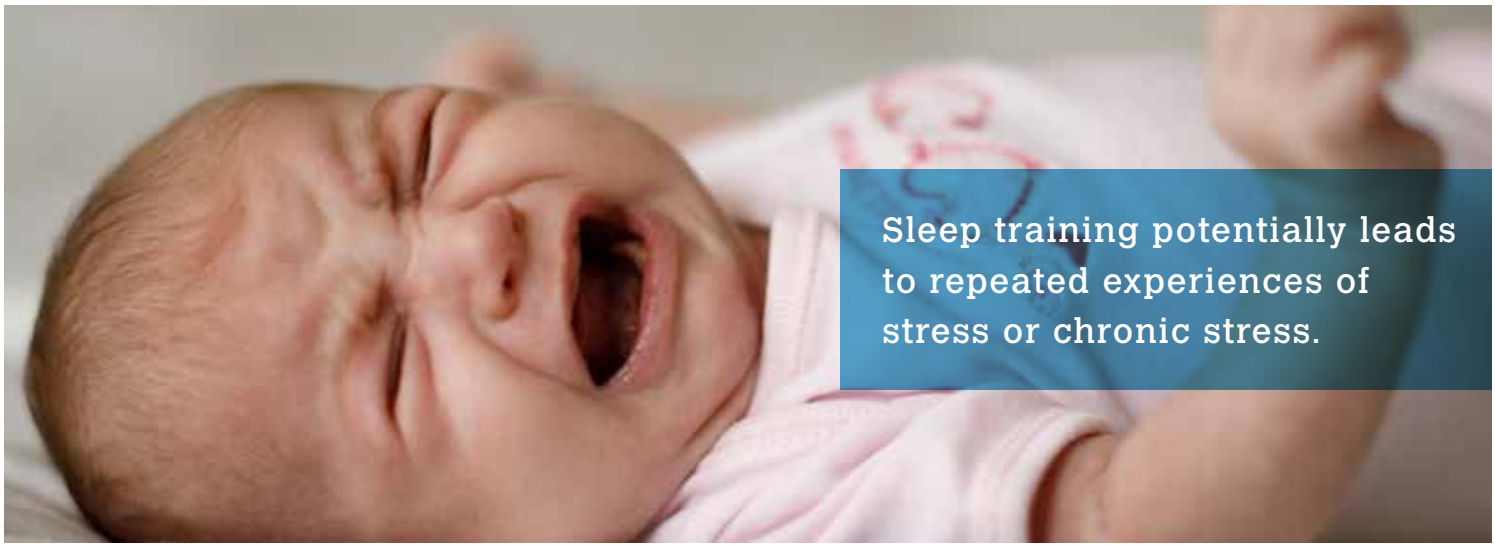
Potential Risks of Sleep Training

It is the position of the CSF that babies are not left to cry to sleep with or without the presence of a caregiver.

- **Sleep training does not provide co-regulation for stress** that is vital for developing a healthy stress system.
- **Sleep training may lead to a repeated shutdown state.** Sleep onset happens when the parasympathetic nervous system or the rest and digest system is predominant in the body (Shinar et al., 2006). However, there is evidence that sleep training leads to sleep onset in a high stress state (Middlemiss et al., 2012).
- **Sleep training ignores underlying health concerns** such as airway issues, feeding issues, allergies, gastrointestinal issues, nutrient deficiencies, skin irritation, sensory processing.
- **Sleep training potentially leads to repeated experiences of stress or chronic stress. Chronic stress in infancy changes emotional brain structures and increases risk for anxiety, depression, addiction and physical illnes**s (Tottenham, 2020). Repeated stressful experiences in early life increases vulnerability to mental illness and physical illness (Felitti et al., 1998). For example, the Adverse Childhood Experience study includes several stressors in childhood that predict poor health. Infants are developmentally different than older children and Adverse Childhood Experiences for infants must considered separately as infants are at an extremely sensitive period for brain development. Essential needs for infants include co-regulation and attunement. However, sleep training violates this essential need for infants and this is something that urgently needs to be explored.
- **During sleep training, infants experience stress and stop signaling for a caregiver** (Middlemiss et al., 2012). We need a study that measures the stress hormone cortisol for weeks and months after sleep training to know if sleep training is a repeated chronic stressor.
- **Sleep training potentially changes the relationship between infants and their caregivers. This relationship forms mental health and is a template for all future relationships.** We know that babies develop insecure attachments when their caregivers do not respond to their cues (Rees, 2007).
- **Sleep training is potentially damaging to lifelong sleep health**. We need a study looking at sleep training and the development of sleep problems later in life. A recent animal study showed that early life stress disrupts adult sleep (Lewin et al., 2019). Another animal study shows that maternal separation in early life changes the orexin system in the brain. Orexin is a key signal for waking and is sensitive to stress. In the study, maternal separation changed orexin receptors, increased hyperactivity and increased wakefulness during sleep times consistent with insomnia (Feng et al., 2007). Together, this is evidence from animal models that early life separation stress can increase the risk for higher stress and insomnia in adulthood.



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Potential Risks of Solitary Sleep

In the majority of cases, sleep training entails that the infant sleeps alone in another room, which is another factor that has potential risks to the developing brain.

Solitary infant sleep:

- Does not provide access to biologically typical sleep cycles which are essential for healthy brain development. For example, we know that there is reduced quiet sleep (NREM sleep) in newborns when they sleep alone (Morgan et al., 2011).
- Can lead to higher stress levels in newborns (Morgan et al., 2011) and can shape stress circuitry to be more reactive.
- Provides no access to attachment cues (Hostinar et al., 2014; Sullivan & Opendak, 2021).
- Can lead to epigenetic changes. Maternal deprivation studies in rodents on postnatal day 4-14 for 3 hours a day leads to epigenetic changes in the stress system, stress reactivity in adulthood, anxiety and depression-like behavior in adulthood, changes to the orexin system leading to insomnia/ sleep disruption (Feng et al., 2007).
- Can lead to less oxytocin, dopamine, and higher stress as a result of reduced access to the infant´s presence. We know that a parent's neurobiology benefits from the presence of a baby (Feldman, 2015).
- From an evolutionary perspective, accompanied sleep is our species expectant behavior (McKenna & Gettler, 2016; McKenna & McDade, 2005). Therefore, solitary infant sleep can feel unnatural to parents. Forcing parents to have isolated sleep goes against their neurobiology and can be traumatic and damaging to relationships when sleep training goes against instinct.

> Solitary sleep can lead to higher stress levels in newborns and can shape their stress circuitry to be more reactive.

Potential Risks of Sleep Training to the Parental Brain

Given the current literature about its functioning, we are concerned about the potential risks of sleep training on the wiring of the parental brain.

- Sleep training may undermine the development of biobehavioral synchrony between parent and infant (Middlemiss et al., 2012). Biobehavioral synchrony is essential for neurobehavioral maturation, it shapes the stress system, and organizes the child's lifetime capacity for social competence and ultimately the ability to parent the next generation (Feldman, 2012).
- Sleep training has been found to be stressful for parents (Loutzenhiser et al., 2014). Please read Appendix 2 for real accounts from parents. Exposing the parental brain to excessive anxiety and stress may undermine the oxytocin and dopamine systems. In addition, when sleep training does not work, parents become very anxious because they fear their baby's development is at risk. Excessive parental anxiety has been associated with overaction of the vigilance network, which in turn is associated with intrusive parenting and insecure attachment (Atzil et al., 2011).
- The parental brain is at a prime time for learning to attune and sensitively respond to infant needs. Not surprisingly, studies have shown that there is parental resistance to sleep training, with the most cited reason being difficulty with enduring crying (Etherton et al., 2016). Parents intuitively know that not responding to cries is potentially harmful for both their infant and themselves. Therefore, alternatives to sleep training should be readily made available.

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Final Remarks

Given the potential risks to the highly malleable infant and parental brains, it is imperative that we protect them and that we do not promote parenting advice that puts infant development at risk. We are aware that supporting infant sleep can be very challenging. However, parents need to make informed decisions, be aware of the benefits of supporting biologically normal infant sleep and of the alternatives to sleep training that are in congruence with current infant brain and parental brain research.

This is the type of support we advocate for at the Children's Sleep Foundation.

POSITION PAPER AUTHORS & CSF BOARD OF DIRECTORS

Jessica Moura – Founder / Chairman
Jessica is from Brazil and has been in the United States for over 12 years. She came to the US to pursue her education when she was only 19. As an Army wife, after living in many states she has settled in Alabama with her husband and two daughters. She has graduated from Auburn University in Integrative Health Sciences, post-graduated in Traumatic Stress Studies from Trauma Research Foundation, and in Pre and Perinatal Psychology in the United Kingdom with international society of prenatal and perinatal psychology and medicine (ISPPPM). Jessica's sleep education comes from Penn State University and she has dedicated her life to disseminate attachment-based and trauma-informed information about pediatric sleep. Since 2017, she has supported many families and professionals, and published her book Beyond Sleep in Brazil. She is passionate about teaching about parenting, development and health through an interdisciplinary lens that is respectful to both parents and children. Jessica yearns for a world that understands the importance of good sleep for growth and development, but in ways that are biologically aligned with the needs of a developing infant/child. Jessica founded Children's Sleep Foundation in 2019.

Rocío Zunini, PhD – Vice President
Rocío Zunini was born and raised in the heart of South America, Paraguay. In her 20's, she moved to Canada to pursue a degree in mathematics. While being close to finishing her degree, she discovered the fascinating world of neuroscience and decided to change career paths. She obtained her PhD in Neuroscience from the University of Ottawa, and has worked in academic labs for over ten years. After receiving a prestigious Marie Curie fellowship, she relocated to Spain with her family, and worked as a postdoctoral researcher at the Basque Center on Cognition, Brain and Language for several years. Motherhood opened up for her another fascinating world, and her transformation led her to merge her two passions: the brain and parenting. Currently, she dedicates her time to supporting families and professionals though education and coaching about the infant brain and the parental brain. She is passionate about disseminating information that is developmentally sensitive and biologically aligned with the needs of infants and parents. She is a mother of two boys and currently lives in Spain with her family.

Greer Kirshenbaum, PhD – President (CEO)
Dr Greer is a Canadian neuroscientist, author, educator, infant and family sleep specialist and doula. Greer's company, Nurture Neuroscience, is on a mission to transform the future of health with The Nurture Revolution. Greer wants families and perinatal practitioners to understand how early caregiving experience can boost mental wellness by shaping babies' brains through simple intuitive enriching experiences in pregnancy, birth and infancy. Greer: works with families to support infant sleep, teaches courses, provides consultations in pregnancy and infancy and is a birth and postpartum doula. She is currently facilitates Infant and Family Sleep Specialist and Professional Certifications with Bebo Mia. Her book The Nurture Revolution will be available July 2023.

Greer has a BSc in Neuroscience from Dalhousie University and a PhD in Medical Science and Neuroscience from the University of Toronto. Greer was a Postdoctoral Fellow and Research Scientist at Columbia University and the New York State Psychiatric Institute. Greer studied: psychodynamic thinking and practice at New York University Medical School Institute for Psychoanalytic Education. Greer took courses in infant-parent relationships and mental health at Yale University Child Study Center Minding the Baby Program, The Toronto Psychoanalytic Institute and The Hospital for Sick Children. Greer trained as a Maternal Support Practitioner with Bebo Mia and a birth and postpartum doula with DONA International. Greer trained as a life coach with the Center for Applied Neuroscience.

Erin Rude Mossey – Secretary / Treasurer
Erin grew up on a farm in North Dakota and moved to Minneapolis, Minnesota to pursue her passion for graphic design. After graduating art school and honing her skills at award winning agencies, craving a more discerning and authentic connection to her work, she launched, MOSS KREATIV a strategic branding firm to focus on more meaningful work, specifically working with non-profits, small businesses and entrepreneurs.

The isolation and ambivalence of becoming a mother following the birth of her son, lead her to create the mother-focused organization, The Madre Collective. After confusing, sleepless months with her newborn, not wanting to sleep train, an obsession with biologically normal infant sleep became a focus, which brought her take Dr. Greer's course to work with families in supporting and nurturing sleep. Working with the Children's Sleep Foundation allows her to further advocate for mothers and children.

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Appendix 1. Definition and Scope of Sleep Training

Sleep training is defined as any act or non-act where caregivers do not properly respond to an infant with the intent to teach the infant to sleep independently.

Current types of sleep training go from leaving the baby alone and not returning until the morning, to parental presence in the room while the baby is "learning" to sleep unaided.

Many of the sleep training techniques that involve parental presence –also known as "gentle"– entail that the caregiver responds inappropriately to the infant's cues, which we also think is a concern.

Inappropriately responding means offering a limited amount of co-regulation while knowing how to fully co-regulate the infant. For example, sitting beside a crying infant when we know picking them up will stop the crying, or talking to a crying infant when we know touching will stop the crying. It essentially involves not offering the co-regulation that we know will co-regulate the infant and support the future development of self-regulation.

The idea that sleep is a skill to be taught began with the misunderstanding of scientific terms that are often misinterpreted:

1. **Self-settle:** A term to describe the physiological ability of one's body to go from the awake state to the sleep state with no help from a person. All living things can self-settle, even a baby, when both sleep regulators (known as process s and process c) are organized and emotional issues or stress are not activated.

2. **Self-soothe:** A term used by Thomas Anders during his research to describe babies that wake up and do not signal to parents at night. During self-soothing, there is no stress involved (babies do not cry). Some babies can develop this ability during the first year of life; however, this range is highly variable and it depends on temperamental traits, sensory characteristics, environment, etc. Thomas Anders, nor any other researcher, has ever shown that self-soothing can be achieved by sleep training.

3. **Self-regulation:** A term to describe when the body needs to regulate itself after a stressful situation and is often interchangeably used with self-soothing. When there is stress involved, the body needs to be able to use its resources to go back to homeostasis. Self-regulation is the process by which individuals are able to control their internal states of arousal, and it requires the later evolved brain structures such as the prefrontal cortex. Infants are not able to do it by themselves because their brains are not developmentally ready to do so. Therefore, when infants encounter situations that involve stress, they need a caregiver that can provide them with regulation (co-regulation). Co-regulation in infancy and childhood is a precursor to the development of self-regulation. Co-regulation involves back and forth exchanges between infant and caregiver with the goal of the infant attaining homeostasis via the caregiver nervous system. Co-regulation builds biomass in the brain that later underlies self-regulation and stress regulation. Co-regulation builds secure relational attachment. Both self- regulation and secure attachment lead to brain health, mental health, mind health and physical health. They lead to healthy relationships, confidence, cognition, success in school, success in work and everything we wish for that contributes to happiness. When left alone and the cry ceases (i.e., separation during sleep training) children do not self-soothe or self-regulate because it is a biological impossibility (Gunnar, 2017). When an infant ceases crying during sleep training, we have preliminary evidence that they are in a high stress state (Middlemiss et al., 2012). It is likely that they are resorting to a survival mechanism by going into shutdown mode in order to conserve energy. Therefore, sleep training can consist not only of physical but also emotional deprivation, even when the caregiver is in the room but not co-regulating with the child through a responsive relationship.

4. **Crying:** Infant crying is a form of communication at all times. From an evolutionary perspective, crying evolved to ensure survival by eliciting protective and nurturing behavior from the caregivers. In turn, caregivers have ancient brain mechanisms in place that urge them to respond to cries (Young et al., 2016). In sleep training, the importance of crying is often minimized and misinterpreted as parents are often told that their infant is crying for a "want" instead of a need. Parents are advised to have minimal contact even if the infant is so distressed that they vomit (see "What should I do if my baby vomits while I'm teaching her to self-soothe?", Pediatric Sleep Council). Parents are advised not to respond to their own internal urges of wanting to soothe their infants and are often told to distract themselves by watching a movie, reading a book, or getting a shower (see "How can I relax as much as possible during sleep training?", Pediatric Sleep Council).

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Appendix 1. Definition and Scope of Sleep Training

Types of Sleep Training

Traditional Techniques

Cry It Out / CIO / Full Extinction: Putting the infant down awake with total removal of caregiver response, followed by unattended crying until it ceases or is 'extinguished'.

Ferber method / Controlled Crying / Fading / Graduated Extinction / Modified Extinction / The Sleep Wave: This is a series of training sessions where a caregiver leaves the infant alone for a strict amount of time, based on a specific schedule, allowing for some comfort. The infant is to be put down, awake in their cot/crib, and then left alone. If the infant cries, the caregiver is allowed to talk to the infant and pat on the back for a short, specified amount of time, gradually reducing each night. This is typically recommended for infants over 6 months of age.

"Gentle" Techniques

Camping Out / Gradual Retreat / Techniques containing 'Shuffle': Sitting next to the cot/crib while the infant cries, and gradually retreating outside the room. It entails inappropriate responding.

Crying In Arms / Stress-Release Crying: Holding an infant while they cry at sleep time, but without active soothing attuned to the infant's individual needs. It entails inappropriate responding.

Responsive Settling / Comfort Settling / Soothing Ladder: Attending when an infant cries but with the least amount of response possible, escalating response with increasing crying. This usually involves shushing and patting the mattress or infant, no eye contact and 'distinguishing between types of cry', only responding to intense or 'emotional' cries. This is the preferred technique of most sleep schools (public and private), and is used with the caregiver both in the room and outside of the room.

Moving chair / The Chair Method: This method involves sitting a chair next to the infant as they fall asleep, but emotional connection is limited or absent. Every few days caregivers are instructed to move the chair further away so that the infant begins to fall asleep with less closeness until the caregiver eventually disappear from sight. It entails inappropriate responding.

Camping Out: Typically recommended for infants 6 months or older. The caregiver puts a chair or mattress beside the crib and is allowed to respond (talking and patting on the back), albeit inappropriately. It is also encouraged to offer a reward in the morning if the child is able to stay in their own bed all night.

Pick Up, Put Down (PU/PUD): Repeatedly putting the infant down awake and picking up every time they cry, for as many times as it takes for the infant to stop crying.

Le Pause / The Pause: Le/The Pause is simply just that– pausing before responding to an infant in distress for a specified amount of time. For some caregivers this is a few moments, for others it can be many minutes. This is a common parenting tactic practiced in France but has increasingly become popular in the US and other Western cultures as an antidote to what is perceived to be an excessive form of "helicopter parenting" of the last few decades.

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Appendix 2. Sleep Training Realities

In the main body of the position paper, we have presented the scientific evidence that supports our concerns. However, we believe that human experience derived from real-life stories is also an important contributor to getting the full picture of the reality that many families are facing. **We have worked with many families and have come across very concerning outcomes and stories.**

The sleep training techniques employed in these stories ranged from cry-it-out to "gentle" ones that allow the parent to stay in the room (see Appendix 2 for a description of sleep training methods).

We first share the harsh realities that many infants face, followed by accounts of how parents feel during the process. Lastly, we added some of the advice that sleep consultants give parents when they report they are struggling.

Realities faced by infants

"My 8-month-old baby threw up a lot during sleep training, even though his last feed was 2 hours before bedtime. Last night he threw up everywhere in his crib."

"We are in the process of re-training our 9-month-old. We are now on day 4 of re-training and the crying has gone from 110 minutes to 13 minutes in 4 days. My concern is that for the past 2 days he cries so hard that he throws up and shakes."

"After 4 days of sleep training, my baby slept through the night. I am concerned though, because before sleep training he was giggly and talkative, and engaged in lots of interaction with us. After sleep training, he has been distant, more quiet, makes less eye contact, and less engaged when I talked to him. I don't see the spark in his eyes as much. His babbling has changed from cooing to squealing or blowing bubbles, avoiding eye contact."

"I am sleep training my 6-month-old twins, but it is getting worse and worse. They used to sleep 8 hours straight, but now are waking every 30 minutes with constant crying and hyperventilating. They look like they are asleep, but they are still crying."

"My baby cried so hard during sleep training that his head was all wet from sweat."

"My baby cries and cries during sleep training, and then he starts banging his head on the rails of the crib."

"After sleep training my baby chewed through the paint and wood on every surface of their crib."

"I sleep trained my baby at 10 weeks. Now, she is 12 months, and she fights bedtime and cries until she vomits."

"I have sleep trained my 8-month-old multiple times, he cries so hard that he throws up most of the time. When he doesn't, he gets so worked up that he is hyperventilating, and I give in and pick him up. It takes hours to calm him down after I picked him up. His cry is not a normal cry, it is a screeching ear-piercing cry."

"My daughter was so upset that she busted her lip on her crib during sleep training. I grabbed her looked over her and took her to our bed. She went right to sleep, she was exhausted."

"My 8-week-old takes a long time to settle for bed. We were cosleeping up until 3 nights ago, but now I am sleep training him so that he can sleep in his crib. He goes from a sulky cry to screaming in seconds, by the end of it he is coughing and sweating, so I have to pick him up several times. The pat and shush aren't working as he just screams louder and louder. When I put him in the cot, he starts screaming straight away.
He even starts crying when I start wrapping him and getting him ready for bed."

"My baby throws up during sleep training. She has been doing it for months. As soon as I put her down, she will scream and cry so hard that she throws up everywhere. I wash the sheets, clean her, and put her back down as the book says this is just a protest and that she learned to do to get my attention. As soon as I put her back down, she will cry until she falls asleep but will sometimes keep throwing up. I have tried the whole staying in and shushing, which the only benefit is that I sometimes manage to quickly scoop her up before she throws up on her sheets."

"I started sleep training my baby at 6 months, she is now 10 months and still cries herself to sleep for 10-15 minutes every night."

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Appendix 2. Sleep Training Realities

"My two year old was sleep trained but started sleeping horribly soon after and bangs his head on the bed when upset. The pediatrician told me to buy a helmet. He is been wearing it for almost a year but still keeps banging his head every night. I´m exhausted, I just want to sleep."

"I sleep trained my 21-month-old. On the first night, she NEVER laid down the whole night. She tried sleeping standing up. When I went to help her lay down, she refused. She finally gave in and sat down but rocked back and forth the whole night and morning going in and out of sleep. In the beginning, she cried on-off for about 1 hour and a half and then periodically throughout the night. I went checking in every 20-30 minutes to follow the Ferber method, I was exhausted the next morning. On the second night, she cried for about 30 minutes, I went in to check only once and then decided to do full extinction and did not go to check anymore. She woke up throughout the night crying and screaming for her dad and mostly tried to sleep standing up the whole night, but she eventually went down in the wee hours."

"I tried the chair method 3 nights ago and failed because my baby just cried for long hours and ended up vomiting. Two nights ago I tried the pat and sssh method and same thing happened. She cried for hours and vomited, so I ended up picking her up and rocking her to sleep. Last night I did the pick up put down method and also failed because she's been crying for hours and I got very exhausted so I rocked her to sleep. Does this mean my baby is not ready for sleep training?"

"I have tried cry-it-out for two weeks. Have you ever seen a baby pass out from screaming? Mine did. He went from SCREAMING to completely limp and silent after literally crying for more than 120 minutes straight. I went into the room terrified, picked him up, and he was BLUE from screaming. He didn't wake up in my arms, so I flipped lights on and held him until he was no longer blue in the face, then watched him all night long. Somehow, I continued the process and did it for another two weeks with no change."

The mental state of caregivers during sleep training

"I hate doing this because I feel like such a horrible mom and like she is going to hate me."

"I feel like the world's worst mother and feel so guilty and traumatized about him screaming for so long... how do I cope?"

"These past 2 weeks of sleep training have been a nightmare. I feel so emotionally triggered and drained."

"I am getting really burnt out. I just don't know what to do. I've tried the Ferber method, but my baby gets himself so worked up there is no way he is going to sleep."

"I'm terrified...I did Ferber for 3 minutes and my baby cried so hard she threw up all over herself and was hyperventilating. She hated her crib because of that experience and would scream any time she went in it. I still haven't continued with the sleep training...I'm traumatized from it and she was too...I'm still just trying to make her relaxed in her crib again. It also doesn't help that my baby can only fall asleep when nursing. I've created some very difficult habits to break."

"I need help. My anxiety is causing me chest pains, and hearing my baby cry has given me panic attacks during the night. I've developed an urge to bite my own arms, punch pillows, and long after baby has fallen asleep I am awake crying at the state of my life. I have tried Ferber and check ins only make things worse. I tried extinction and baby vomited three nights in a row, I've tried staying in the room, but I end up weeping so loudly that I think it causes more trauma. I feel very helpless."

"After sleep training, it felt like she didn't trust me anymore. I felt horrible leaving her long enough to throw up but also like I've failed her and confused her more for giving up."
"I am physically ill listening to my son scream. I. Am. Consistent. I do exactly as all the sleep training guides tell me. 10 minute check ins, no lingering, calm and confident voice saying I love you, time to sleep, leave room. I've done this for literally months. He still wakes up for a minimum of 1.5 hours every single night, either in the middle of the night or early morning."

"On the first night of sleep training, I left my husband and our crying baby home alone. My husband continually texted me throughout the evening as our baby screamed, and I stayed out so that I wouldn't "cave" and feed her before midnight, which was the arbitrary time at which the sleep consultant advised me to feed. I came home around 11 pm, and she had been screaming for hours. Just thinking about it breaks my heart.
My husband was so stressed from it all that he insisted I feed her to make it stop. Needless to say, as soon as I fed her, she went right to sleep."

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Appendix 2. Sleep Training Realities

Risky advice by sleep consultants and health care professionals

When parents report the Ferber method doesn't work:
"You can modify Ferber to meet your needs. Also, being consistent is the most important part, don't change how you are soothing her. It's confusing for her. It encourages continued crying since they're just waiting for the outcome they want."

When parents want to respond to their baby's cries during sleep training:
"Listen, I get it. Every parent goes through this, it's hard, but you are going to thank me later. It is worse for you than it is for your baby. Just sit on your hands to avoid going in. And if you can't do it, I can't help you anymore."

"Try to distract yourself as much as possible. For instance, you can read a chapter of a really exciting mystery, or watch an episode of a show you really like – something that really makes you want to keep watching to see what happens next. This can help with some distraction and motivation to continue with the sleep training as you continue with the book or television series. Also, consider taking a long shower."

"If he is fussing, screaming, getting upset or frustrated, do not give in. If you give in after he goes through a period of protesting, you are only teaching him that he needs to cry for XX minutes and THEN you'll pick him up/feed him/etc."

When babies vomit due to stress during sleep training:
"Be careful about giving your baby too much attention, as some little ones quickly learn to vomit whenever they are upset. If she gags or vomits, provide as little attention to her as possible while quickly cleaning her up. You can also place an extra layer of sheets on the mattress so you can quickly take off the top layer at bedtime if necessary."

"If your baby is sick [meaning vomiting], this is about as tough as controlled crying gets. Some parents do give up controlled crying at this point and try again after a short break. But there's a chance that if you decide to start again a few days later, your baby will feel utterly bewildered and will probably cry for longer than ever. If you want to carry on with controlled crying, it's kinder to have a spare sheet and baby wipes to hand, then clean your baby up as efficiently as you can without chatting to him. Just say 'shhh go to sleep' in a quiet voice and keep the room as dark as possible. As you change the sheet you can do half the cot at a time to avoid having to lift him out. Try to avoid giving your baby the message that he's going to be lifted out of his cot and fed."

When parents express their choice not to sleep train:
"My 13 month old baby has had issues sleeping his entire life. He was diagnosed with trachial malaysia at around four months, and it took that amount of time for a legitimate diagnosis to be arrived at. We were told he would grow out of it by one year. The pediatrician we initially took him to recommended sleep training. When we expressed we were not comfortable with that as an intervention, he did come up with other things he thought would help: night weaning, sleep associations, but none of these things actually served to explain why Shay was waking up in the pain he was. Eventually, my husband and I realized through conversation with a non sleep training sleep consultant we had hired that that particular practice was in fact one that was known for their support of extinction based sleep training, which is really what all sleep training is anyway. We made the decision to switch to another pediatrician who was willing to go into the weeds of what may be going on and work with a responsive approach at bedtime. When we made the decision to leave the practice, we were asked to take part in an exit interview with the director of the practice. Upon explaining that we had an ideological difference, I was told the following "Sometimes parents do not have the emotional capacity to do what is best for their children. It can take time to make the right choice and its important to work on yourself." I was floored. The idea that I didn't want to leave my baby to cry made me emotionally unstable?"

We want to reiterate that these types of responses and directives to parents, albeit very common and likely said with good intentions, are not something we support and believe to be very detrimental to the health and well-being of both infants and caregivers.

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Appendix 3. Sleep Training Studies

There are two sleep training studies often cited in the news and by health professionals to justify its safety. Both claim that sleep training is safe. However, a closer look at the studies' **limitations led us to conclude that they lack evidence for their conclusions and interpretations.**

Study 1: Price, Anna, Melissa Wake, Obioha Ukoumunne, and Harriet Hiscock. "Five-Year Follow-up of Harms and Benefits of Behavioral Infant Sleep Intervention: Randomized Trial." Pediatrics 130 (September 10, 2012): 643–51.

Methodological limitations

- **Intervention group:** 174 families were allocated to the intervention group. Of the 174, only 100 families chose to receive the intervention. Ultimately, these 100 families were allowed to use one of the two sleep training interventions (controlled crying or camping out), a mix of them or none. Researchers did not know how many chose controlled crying, camping out, a mix or none of the interventions as choosing not to do anything was also an option. Thus, it seems a high percentage of the intervention group actually may not have done sleep training at all.

- **Control group:** families also attended the standard health check-up, and although the nurses attending these sessions were not trained on sleep interventions, families were allowed to ask for sleep advice. We do not know how many families asked for sleep advice, and given the high rate of sleep training in Western culture, it is likely that the nurses may have given some sleep training advice. Nurses were not explicitly told not to give sleep training advice. We know from real-world research that approximately 50% of families engage in sleep training on their own (Loutzenhiser et al., 2014).

- **Statistical analyses:** given the two limitations above, researchers likely ended up comparing an intervention group from which approximately only 50% of the families performed the intervention and a control group from which about 50% of the families engaged in sleep training on their own.

- **Outcome measures:** the vast majority of outcomes measures were based on parental report, which introduces a lot of bias.

- **No measures on the actual intervention:** researchers did not collect data on which type of sleep interventions parents chose, the duration and intensity of crying, the duration of the entire intervention or if they have to engage in a re-intervention.

Interpretation of the data:

- The authors concluded that behavioral sleep techniques did not cause long-lasting harm or benefits to children and that parents and health professionals can feel "comfortable" about using these techniques. However, we believe that, given the methodological limitations, the study does not allow for such claims.

Study 2: Gradisar, Michael, Kate Jackson, Nicola J. Spurrier, Joyce Gibson, Justine Whitham, Anne Sved Williams, Robyn Dolby, and David J. Kennaway. "Behavioral Interventions for Infant Sleep Problems: A Randomized Controlled Trial." Pediatrics 137, no. 6 (June 2016): e20151486.

Limitations:

- Lack of power due to small sample size (N=14 in the extinction and sleep education control groups and N=15 in the bedtime fading group). It is not possible to generalize the findings to the population with such a small sample size.

- No cortisol measures immediately before and after the intervention.

Interpretation of the data:

- We disagree with the authors' interpretation that infants' lack of signaling after sleep training is due to "self-soothing" and not to "giving up." First, their methodology does not allow for such a claim as they did not measure cortisol immediately before and after the intervention. Second, developmental science has shown that co-regulation and biobehavioral synchrony are essential processes for the infant's development of self-regulation (Feldman, 2012; Schore, 2005). Therefore, that the lack of signaling after a sleep training intervention reflects "self-soothing" is the least likely hypothesis. In fact, there is preliminary evidence showing that after sleep training, infants fall asleep with high cortisol levels although they are not crying anymore (Middlemiss et al., 2012). The authors seem to be aware of this study as it was cited to support something else in the introduction but did not acknowledge this very relevant finding in their interpretation of the data.

- The authors concluded that no adverse stress responses or long-term effects on parent-child attachment or child emotions and behavior were associated with the intervention. However, the study does not allow for such a claim because of the small sample size and lack of continuous cortisol measures throughout the intervention.

Given this information, it remains that we do not have high-quality evidence that sleep training interventions do not cause harm.

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Appendix 3. Sleep Training Studies

What types of studies are missing and must be conducted:

- Studies with large sample sizes that reflect the general population.

- Studies that measure the risk of harm to breastfeeding: studies must include groups that take into account feeding method (breast/chestfeeding vs bottle feeding).

- Studies that measure the risk of Sudden Infant Death Syndrome (SIDS): studies must include groups that consider sleep arrangements and age. We know that sleep training occurs in the context of solitary infant sleep, and research has shown that the risk of SIDS is approximately double in the first year of life if the infant sleeps away from the parent (Blair et al., 1999; Carpenter et al., 2004; Tappin et al., 2005). Thus, sleep training during the first year of life can potentially contribute to increasing SIDS risk.

- Studies that measure the risk of harm of several sleep training techniques: studies must include groups randomly assigned to different sleep training techniques.

- Studies that explore the differential susceptibility hypothesis: studies that genotype each participant to identify vulnerability genes (e.g., orchid gene).

- Studies that measure the risk of harm to the development of the HPA axis and stress reactivity: studies must take continuous sampling of the stress hormone cortisol before, throughout, and after sleep training for the first three years of life.

- Studies that measure the risk of harm to neurological development: studies that conduct repeated brain imaging and functional brain scans to look at the development and reactivity of emotional brain structures.

- Studies that measure the risk of sleep disorders development: studies need to continuously monitor via actigraphy for sleep disorders before, during, and after sleep training and overtime.

- Studies that measure the risk of harm to the attachment relationship continuously over time: studies must measure attachment over time and for several years.

- The timing (infancy is a risk for an experience to be traumatic because of its vulnerable developmental stage), nature (e.g., types of sleep training techniques), pattern (e.g., one time intervention vs. several extended over a year) and intensity (e.g., duration of crying in minutes and over days) of an experience can all influence how a person will be impacted by trauma (Hambrick et al., 2019; Perry et al., 1995). Studies that measure the risk of developing trauma as a result of sleep training are pressing.

- Studies that measure the risk of harm to the wiring of the parental brain: brain scans of the parents' brains must be conducted before and after sleep training and over time to look at the brain activity of the emotion regulation, empathy and salient subnetworks of the parental caregiving network.

- Studies that measure the risk of harm to biobehavioral synchrony and parental stress reactivity: studies must take continuous sampling of the stress hormone cortisol before, throughout, and after sleep training for the first three years of life in the parents. There is preliminary evidence that biobehavioral synchrony between parent and child is affected during sleep training (Middlemiss et al., 2012).

This list is by no means exhaustive, and as we see, we still have a long way to go before we can conclude whether sleep training causes harm or not. Given the extensive lack of scientific knowledge on this matter, we urge health professionals to operate under the precautionary principle and do not recommend sleep training to families.

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Appendix 4. History of Infant Sleep

Babies are wired to call for their parents when they have a need (e.g., hunger, emotional connection) **and to be nurtured during the day and night**. That is not just how they have guaranteed their survival throughout history, but their development depends on this nurture. **The need for co-regulation at night was never considered a "sleep problem", but today's society believes it is.**

Today, even though babies live in the protection of their houses and predators are no longer a risk, their biology has not changed. With regards to sleep, our species expectant behavior is that of accompanied sleep. Physical contact with the mother or other people from tribes (including sharing breastfeeding with other women) was normal. The baby was never expected to be alone and the mother was never expected to live without a support network (Tronick et al., 1987). As humans, that was our reality for thousands of years, and it exists even today in some tribes.

It is important to consider how separation during sleep came to be and how and when society defined proximity with their babies as a problem.

The following is a brief timeline that shows the evolution of our current cultural beliefs about infant sleep:

- **1575 Milan:** the church declared that babies should stop sleeping with their mothers. Some researchers believe that might have been due to a fear of feminine influence on male babies.
- **XIV and XV centuries:** cribs became popular in Europe. Babies began sleeping in another room. Wet nurses became popular, and upper-class people started talking about separation during sleep and the benefits of having babies in other rooms with a nurse or somebody else.
- **1585:** Scevole de Sainte Marthe wrote poems about how disturbing a baby can be to parents' sleep and husbands saw some form of freedom in this statement: "But you, perhaps, by other cares beguiled, wish, to the nurse's home to move the child; Because by his continued cries at home, your sleeps are broken and your joys o'ercome."
- **1792:** Mary Wollstonecraft wrote about how husbands did not like their wives breastfeeding babies. During this time, syphilis was a great concern. Different recipes to substitute breastmilk were being invented, babies were not comfortable and cradles were created because babies would cry so much.
- **XVIII century:** William Cadogan, a British doctor, wrote the first manual for mothers: "An Essay upon nursing and the management of children, from their birth to three years of age." In it, he recommended that babies should not breastfeed at night. He positioned himself as knowing more than women. Most upper-class children would only see their parents for one hour a day and would spend their time in their nurseries with nannies. Children began to be seen but not heard.
- **1878:** George Napheys wrote "The physician life of woman: Advice to the maiden, wife and mother." He cautioned against being dangerous and began scaring mothers that they would kill their babies.
- **1879:** Pye Henry Chavasse wrote "Advice to a mother on the management of her children." He cautioned about the consequences of a baby not sleeping alone to scare mothers, and the concept of negative sleep association was introduced.
- **1830:** Germany Christoph Wilhelm Hufeland and Adolf Menke introduced night weaning.
- **1984:** Luther Emmett Holt introduced the term CIO (Cry-it-out) in his book "The care and feeding of children."
- **1928:** John Watson wrote his behaviorism-focused book: "Psychological care of the infant and child." He cautioned against too much nurture. He recommended not to touch the child, just a kiss before bed and that was it. His book and advice included time-outs and punishments, which was predominant for decades and still has an impact.
- **1935:** Kugelmass wrote his book: "Growing superior children." He said that babies should learn how to sleep and stop crying.
- **1946:** Benjamin Spock wrote his book: "Baby and child care." He tried to be gentler as the previous books were cruel to children, but he still promoted solitary infant sleep.
- **1985:** Ferber wrote "Solve your child's sleep problems" and introduced the term "ferberization" (controlled crying). Even in the 2006 edition he said that controlled crying does not teach the child how to sleep, but rather that the access to the parent is not an option.
- **1999:** Marc Weissbluth wrote "Healthy sleep habits, happy child." He recommended the original CIO, just leaving the child by herself to cry to sleep.
- **Present day:** as many families do not want to leave their infants to cry alone, different methods were developed. These methods are colloquially known as gentle sleep training and they operate under the same beliefs as cry-it-out and controlled crying: the baby should fall asleep independently. All methods of sleep training come from first wave behaviorism, which ignores the inner world of emotions, and strictly focuses on conditioning behavior. Solitary sleep and sleep training are still considered the key for better sleep during childhood, although current research on brain development and developmental psychology are not congruent with these beliefs.

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Appendix 5. Supporting Infant Sleep

With these stories, we want to demonstrate that nurturing infant sleep with a caregiver presence does not create poor sleep habits. **Infant sleep follows a developmental plan that requires patience, understanding and the right support for parents.**

"Both my babies needed contact naps for every naps. I supported their need, which they grew out of at around 8 months. They did not need any training, they just naturally started to nap in their own space."

"The easiest way for my baby to fall asleep was by nursing and needed co-regulation by nursing every few hours throughout the night. He grew out of it at around 2 years of age and started to sleep long stretches with no training."

"Bedsharing by following safety guidelines was the best way my baby and I could sleep because he would not settle in the bassinet."

"I was instructed by my baby's pediatrician to limit nursing to only two times a day for 5 minutes maximum and to immediately stop nursing to sleep because that is forming a bad habit and will cause my baby to need to nurse every single time she wants to sleep (forming a sleep crutch) even if she's just eaten or had a bottle, in turn ruining my life. She was just a newborn and she would fall asleep while I nursed and no other way and I had to stop doing that and struggled for hours to get her to sleep for months until I finally gave up and started nursing her to sleep again although I felt extremely guilty about it for the longest time. She was less than a month old and some days would only sleep 9 hours because I wasn't able to get her to fall asleep, especially because he said to put her down drowsy but awake which didn't work. We now contact nap always and nurse to sleep for naps and nighttime. She's almost 5 months old and sleeping through the night."

"My baby needed contact naps until approximately 7 months of age and constant nursing starting around 3 am until wake up at 7 am. Room sharing and bedsharing safely for part of the night has allowed me to get appropriate rest. For my well-being and rest, I was diligent with a plan to take care of my nervous system by practicing mindful breathing, meditating and regularly being in nature. I was also disciplined with my sleep hygiene, went to bed early, did not use my phone 2 hours before bedtime or drank caffeine in the afternoons. On difficult nights, I had the support of my partner, who woke up early with the baby so I could get some rest. We also had our groceries delivered and a meal service for part of the week."

"I never believed that my daughter had to learn how to sleep. From the very first day I attuned to her own natural rhythm, and slowly we created a routine that works for both of us. My wishes are not always in alignment with her needs. However, I handle the frustration reminding myself that this situation is temporary, and that the fastest way to foster true, healthy independence is via responsive care."

"Finding my way beyond sleep training culture and the pressure that family, friends and doctor's put on me to sleep train, was one of the hardest parts about being a new mom. It didn't make sense to me that we support our newborn's every night waking for the first few months, but at 4 or 6 months, we're supposed to ignore them. The idea that I "had" to sleep train caused me so much depression and anxiety for months. I finally found a lactation consultant who told me that many babies frequently wake for the first year or two, and that it's normal. It was the first nugget of hope that allowed me to ignore all the unwanted sleep training advice and just honor my instincts to nurture my baby. Eventually, my baby consistently slept through the night, and in the meantime, even during the hardest, most wakeful periods, I was confident that supporting my baby was the absolute best thing I could do for him. Once I knew it was "normal" to wake frequently, it calmed down my anxiety and depression and allowed me a much more joyous experience during that short time of infancy. It also helped me to tune out unwanted advice and commonly accepted parenting practices that didn't feel right to me, in a way, it allowed my intuition to become stronger and increased my confidence. I now look at it as a gift that put me on a nurturing path."

"My daughters sleep together in the same room (5 and 3 y-o) and this is a precious time for them. I stay with them in bed, read stories, pray and sing songs until they need me. When I leave the room, they usually talk about their day, sing songs together and fall asleep. It is such a beautiful moment that they both share. However, a few weeks ago their behaviors were difficult. They were not cooperating or listening to me all day long. Normally, the advice would be to punish or create separation between parents and children. Instead, that week at the end of the day I slept with them, creating even more proximity. They were able to talk about their emotions and how they were feeling, things that were not shared with me during the day. All this while falling asleep in my arms. We had a great day when they woke up. As parents, we need to know there are no rules about sleeping arrangements. We should watch and respond to our children bringing proximity and knowing that even when they already sleep by themselves, it is always precious to sleep together. It is in the calmness that the night brings without the rush of the day that they often can find me totally available and share their hearts with me."

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Appendix 6. When Health Issues Influence Night Wakings & Making Referrals

The following **medical conditions can disrupt infant sleep** and when treated can improve infant sleep.

1) **Airway –** indicated by open mouth breathing or snoring – refer to upper airway ear nose ant through doctor or pediatric dentist

2) **Feeding –** indicated by frequent need to feed or sleepiness – refer to IBCLC

3) **Digestion or allergies or nutrient deficiency –** indicated by rashes, mucus in stool, gas, reflux discomfort – refer to IBCLC or doctor

4) **Physical discomfort –** indicated by limited movement of neck or body – refer to pediatric chiropractor or osteopathy.

5) **Sensory issues –** indicated by sensitivity or sensory-seeking behaviors such as avoiding being touched or some textures, avoiding movement, crying constantly as a sign of overstimulation, difficult concentrating or paying attention etc.

6) **Sleep disorders –** restless sleep indicated by constant movement of arms and legs during sleep, breathing pauses during sleep, teeth grinding during sleep, trouble waking up in the morning, problem staying awake during the day or decrease in daytime performance.

Appendix 7. Safe Sleep Guideline

Several evidence-based organizations offer safe infant sleep guidelines.
All these organizations recommend room sharing. In addition, they offer safe guidelines and take a risk minimization approach to bedsharing.
The CSF adheres to these guidelines.

Organizations

The UNICEF via the Baby Friendly Initiative
https://www.unicef.org.uk/babyfriendly/baby-friendly-resources/sleep-and-night-time-resources/caring-for-your-baby-at-night/

The Lullaby Trust by Public Health England
https://www.lullabytrust.org.uk/safer-sleep-advice/co-sleeping/

Basis baby sleep info source by Durham Infancy and Baby Sleep Center at Durham University
https://www.basisonline.org.uk/about-us/

The Academy of Breastfeeding Medicine via Protocol 6
https://www.bfmed.org/protocols

La Leche League International via Safe Sleep 7
https://www.llli.org/breastfeeding-info/sleep-bedshare/

Perinatal Services British Columbia by the Ministry of Health British Columbia, Canada via
http://www.perinatalservicesbc.ca/health-professionals/professional-resources/health-promo/safer-sleep

Mother Baby Behavioral Sleep Laboratory
https://cosleeping.nd.edu/safe-co-sleeping-guidelines/

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Disclaimer

Information in this paper is realized to be to the best of our ability, optimizing the current, available data and information as of May 27, 2022.

We expect that parents, caregivers and professionals to be carefully reviewing the safe sleep guideline references we have provided, and setting up sleep in accordance to these guidelines. As a licensed professional, you are responsible for reviewing the scope of practice, including activities that are defined in law as beyond the boundaries of practice in accordance with and in compliance with your professions standards.

No liability concerning the contents of this paper is assumed by the authors and by the CSF.

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