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The Ferber Method is a behavioral method for sleep training infants and young children that is also known as the “cry it out” method. Behavioral methods of sleep training is often recommended by pediatricians. However, many parents, sleep specialists, psychologists, and experts in infant mental health, find these methods controversial. Supporters of behavioral sleep training claim that it teaches children to “self soothe” and learn to regulate their own emotions. Those against the Ferber Method and other behavioral techniques claim that they not only cause infants and children distress, but they also teach them that their needs will not be met, at least during the periods they are expected to sleep. If the opposition is correct, the Ferber Method and other behavioral sleep training could actually be harmful to the parent-child bond and may even have a lasting impact on physical and psychological wellbeing.

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The Ferber Method and Other Behavioral Sleep Training Methods: Do They Disrupt Attachment and
Impact Physical and Psychological Wellbeing?

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Abstract

The Ferber Method is a behavioral method for sleep training infants and young children that is also known as the “cry it out” method. Behavioral methods of sleep training is often recommended by pediatricians. However, many parents, sleep specialists, psychologists, and experts in infant mental health, find these methods controversial. Supporters of behavioral sleep training claim that it teaches children to “self soothe” and learn to regulate their own emotions. Those against the Ferber Method and other behavioral techniques claim that they not only cause infants and children distress, but they also teach them that their needs will not be met, at least during the periods they are expected to sleep. If the opposition is correct, the Ferber Method and other behavioral sleep training could actually be harmful to the parent-child bond and may even have a lasting impact on physical and psychological wellbeing.

Keywords: infant, attachment, trauma, The Ferber Method, sleep training

Introduction

With two thirds of one month old infants waking more than once per night and being unable to return to sleep on their own (Germon, Goldberg, & Keller, 2009), it is readily expected that parents of newborns may not get much sleep. However, it is a common expectation in North America, Northern Europe and Australia, for babies to learn how to sleep through the night, on their own, within the first year of life (Germon et al., 2009). Some infants never sleep in their parent's room, while others may co-sleep for several months or years (Blunden, Thompson, & Dawson, 2010). An infant's ability to sleep through the night without interruptions or unwanted behaviors can even lead to a baby being viewed as a "good" baby or a "bad" baby (Germon et al., 2009). Children experiencing few night-wakings or children who quickly soothe themselves back to sleep are often associated with having an easy temperament, while children who are fussy or experience multiple night-wakings or have difficulty in self-soothing are associated with having a difficult temperament (Germon et al., 2009).

This value judgment on the child as "good" or "bad" may also be the result of how sleeping or not sleeping may be impacting the parents. Lack of sleep can have detrimental effects on parental wellbeing (Germon et al., 2009). This lack of sleep can result in parental mood disruptions, interference with job related responsibilities and a decrease in the ability to parent effectively (Germon et al., 2009). Children who experience difficulty with sleeping have been associated with a higher risk of maternal depression and strain on the parent-child relationship (Germon et al., 2009). For these reasons, pediatricians and other clinicians often recommend sleep training methods (Germon et al., 2009). It is believed by many clinicians that self-soothing is a coping mechanism that children quickly develop when these methods are applied (Germon et al., 2009). Many of these methods are rooted in behaviorism as sleep disturbances in infants and children are considered behavioral problems (Blunden, Thompson, & Dawson, 2010). These methods are varied in implementation and approach and some may cause more parental distress than a child's lack of sleep (Germon et al., 2009). It can be inferred that once a child

learns to self-soothe, there will be fewer nighttime wakings and this will have a positive impact on parental sleep and overall wellbeing.

The Ferber Method is also known as the “cry it out” method of sleep training, gradual extinction, and self-soothing (Dewar, 2014). These are all variations of a sleep training method that involves leaving an infant or child unattended, even while distressed, so that he or she can learn to fall asleep on his or her own without unwanted behaviors occurring before or during the sleeping period (Whittingham & Douglas, 2014). Unwanted behaviors can include crying, tantrums, stalling, protesting, and awakening during the night (Blunden et al., 2011). The Ferber Method encourages parents to ignore their child’s cries, even if he or she becomes upset to the point of vomiting (Dewar, 2014). This sleep training method may involve ignoring all of a child’s cues for distress or may allow parents to respond to certain cues for distress or at certain intervals in time (Blunden et al., 2011). Gradual Extinction involves leaving the child for progressively longer increments of time over a period of days or weeks (Blunden et al., 2011). “Cry it out” is a layman’s term that has been used to describe any of these methods because the infant is left alone to cry, even if only for a short period of time.

The very nature of “cry it out” behavioral sleep training involves caregivers ignoring a child’s cues for distress. Children bond and develop an attachment with their caregivers based on how well the infant’s needs are met (Karen, 1994). This paper seeks to demonstrate that the Ferber Method directly interferes with an infant’s ability to trust his or her caregivers to reliably respond to his or her cries and therefore the implementation of this method must have an effect on attachment. Furthermore, this paper is proposing that The Ferber Method causes a reaction in infants and children that is consistent with the biological and psychological symptomatology of stress, and may have lasting impacts on development and physical and psychological wellbeing.

Literature Review

Attachment Theory is based in the idea that early experiences with caregivers influence future development of close relationships and lays the foundation for the development of personality (Sukys, Lisinskiene, & Tilindiene, 2015). The Attachment System and the attachment figure, also known as the caregiver, provides the child with a secure base that is supported by physical and emotional presence of the attachment figure (Altenhofen, Clyman, Little, Baker, & Biringen, 2013). Attachment is now thought to be one of the most salient developmental tasks in infancy because the primary need of the infant during the first year is to become attached (Altenhofen, et al., 2013). Many developmental outcomes are thought to be influenced by attachment and the early relationship with caregivers is thought to function as a template for future relationships (Sukys et al., 2015). Sensitive and responsive parenting is consistently linked to attachment security (Altenhofen et al., 2013).

Positive adolescent-parent attachment is related to a range of positive outcomes such as, development of the sense of self and autonomy, interpersonal functioning, mental health, and healthy adult relationships (Sukys et al., 2015). Through the development of trust with a caregiver, kids are able to develop mutual friendships and relationships and experience understanding and interaction (Sukys et al., 2015). Communication in a parent-child attachment is correlated with adaptive emotional expression, effective communication between child and attachment figures, access to accurate memories of emotional experiences, appropriate self-disclosure, confidence and use of effective problem solving strategies (Sukys et al., 2015).

Disruptions or complications in attachment result when caregivers relay contradictory messages to the infant, such as in instances of displaying positive affect followed by negative affect (without provocation) or neglectful responses to infants or their attempts at communication (Altenhofen et al., 2013). Temporary and long term separation from the attachment figure/s can also lead to a disruption

in attachment that increases the likelihood that child will develop behavioral and/or emotional problems at some point in development (Altenhofen et al., 2013). Insecure attachment has been related to a likelihood of developing psychopathology in the general population (Altenhofen et al., 2013).

John Bowlby is usually the first name that comes to mind when Attachment Theory is mentioned, closely followed by Mary Ainsworth. Both of these individuals lead pioneering work in breaking away from the common idea of the time that infants could not feel love and only showed preference to their mothers because the mothers provided nourishment. However, the foundation for Attachment Theory was being laid long before Bowlby and Ainsworth.

Konrad Lorenz is a renowned ethologist who observed the bonds between hatchling geese and whatever moving thing that they imprinted upon (Karen, 1994). Imprinting is thought to be an instinctual form of attachment bonding in some animals, in which the newborn animal immediately attaches to and relentlessly follows, the first thing that it sees move (Karen, 1994). Usually, this is a parent of the animal but can sometimes be a member of another species (Karen, 1994). This work very importantly demonstrates that attachment bonding is a very important survival mechanism in animals. No matter how significant Lorenz's findings, behavior in geese is not easily generalized to human infants.

Non-human primates are much more similar to humans both genetically and behaviorally (Karen 1994). Harry Harlow did experiments on attachment with Rhesus Monkeys (Karen 1994). Harlow set up his experiments by removing infant monkeys from their mothers. The baby monkeys were then offered a wire "mother" and also a softer version that was covered in fabric (van Rosmalen, van der Horst, & van der Veer, 2012). The baby monkeys preferred spending their time with the fabric mother even when a bottle was only attached to the wire mother (van Rosmalen et al., 2012). The baby monkeys would approach the wire mother only to feed and then would return to the cloth mother. This provided contrary evidence to the popular theory at the time, that infants only show preference to their mothers

because of her ability to provide nourishment (Karen 1994). Furthermore, the monkeys that were raised by the wire mother later grew up to be deeply socially and psychologically disturbed (van Rosmalen et al., 2012). The monkeys that were raised with the cloth mother were not as severely impaired as the wire babies but also showed significant social and psychological deficits (van Rosmalen et al., 2012). This demonstrates the importance of early caregivers in healthy social and psychological development (Karen 1994).

Rene Spitz was also able to make a connection between pathological social and emotional development and lack of availability of a caregiver (van Rosmalen et al., 2012). Spitz's work was with human infants in institutional settings (van Rosmalen et al., 2012). Spitz was not the first to observe the "hospitalism" phenomenon, in which infants suffered developmental delays due to the effects of extreme isolation and institutional care during the 1940s. However, he brought a lot of attention to the subject through his research (van Rosmalen et al., 2012). Spitz conducted a longitudinal observational study of infants that were either placed in foundling homes, or being cared for and raised by their incarcerated mothers in a penal nursery (van Rosmalen et al., 2012). A foundling home or hospital is an institution designed to provide basic needs for children that had no other family to care for them due to a myriad of reasons (van Rosmalen et al., 2012). Foundling hospitals provided wet nurses for their infants through the third month of life and up until this point, there were no developmental differences between the babies placed in foundling homes and penal nurseries (van Rosmalen et al., 2012). Development was measured using the Developmental Quotient (DQ) and the deterioration in foundling development began when the infants were weaned from their wet nurses, while the infants in the penal nurseries continued to thrive with good or excellent DQ scores (van Rosmalen et al., 2012). The infants in the penal nurseries received around the clock care from their mothers, while the foundlings received little human interactions but had all of their basic needs met such as food, water, and medical care (van Rosmalen et al., 2012). The foundlings fell behind in development and began displaying strange social

behavior. Some foundling infants even stopped crying completely. This was believed to be because they learned that there was no one to respond to their cries.

Spitz continued to monitor these children for several years. By the time that the infants were between 2-4 years old, approximately one third of the foundlings had died. All of the foundlings were small and thin for their age and the foundlings still in the home were severely developmentally delayed, with only one child being able to speak in full sentences (van Rosmalen et al., 2012). The children that had been reared in the penal nursery were playful, active and social children of normal or advanced development. Spitz was able to observe one instance of the children in the penal nursery displaying similar symptoms of melancholy, withdrawal, and social isolation as in the foundlings, but it only occurred when there was a prolonged absence of the mother. The children returned to their previous affect upon the return of their mother (van Rosmalen et al., 2012). Both Harlow and Spitz were able to correlate pathological behavior that manifested later in life with separation from a caregiver. Harlow and Spitz's work was especially important in demonstrating that physical care was not the issue. Clearly the problem was separation from a caregiver.

John Bowlby is often known as the father of Attachment Theory and began with a publication that demonstrated a connection between early maternal separations and delinquency (Karen, 1994). Very early in his career, Bowlby made it his life's mission to demonstrate the disastrous effect that an infant's separation from its mother can have on development (Karen, 1994). In 1949, Bowlby was appointed to report on the mental health aspect of homeless children in a United Nations Study (Bowlby, 1982). He once again, found the link between inadequate maternal care during early childhood and adverse effects on personality development (Bowlby, 1982). Traditional researchers at the time were very critical of Bowlby and other researchers like him because it was a popular belief that attachment was rooted in a mother's ability to provide nourishment (Bowlby, 1982). Bowlby was one of

the first to go beyond dealing with a clinical syndrome in adulthood and instead traced the syndrome back to events that occurred in early childhood (Bowlby, 1982). While this may sound similar to Freudian psychoanalysis, Bowlby's work was rooted in real childhood events instead of fantasies that had been developed by the afflicted (Bowlby, 1982).

Bowlby also rejected the Freudian ideas of drives and instead saw instinctual behaviors designed to keep the mother close to the infant (Karen, 1994). Bowlby noted clinging, sucking, and following as part of the infant's instincts and proposed that a child's smile was a "social releaser" that prompted the mother to respond with care for her infant (Karen, 1994). Bowlby noted that during the first year of life, children develop a repertoire of attachment behaviors and that these behaviors were actually biologically rooted in the instinct of the child to keep physical proximity to the mother because that proximity is essential to the infant's survival (Karen, 1994). These attachment behaviors included protesting a separation from mother, greeting mother on return, clinging when frightened, and attempts at following mother (Karen, 1994). Bowlby viewed the reciprocity of this proximity as essential to feelings of love, security, and joy and suggested that any disruption brings anxiety, grief, and depression for the infant (Karen, 1994).

Bowlby was heavily impacted by the work of ethologists like Konrad and Lorenz (Bowlby, 1982). He felt that when separation was considered with ethology in mind, the response of fear clearly functions as a basic human disposition (Bowlby, 1982). He called this fear "separation anxiety" and believed that children not only respond to actual separations from their caregivers with heightened anxiety, but that children also respond to threatened separations with heightened anxiety (Bowlby, 1982). Bowlby easily connected this anxiety to its manifestation later in life as anger (Bowlby, 1982). Bowlby found that this anger could be very intense and was often at the root of maladaptive behaviors, especially in adolescence (Bowlby, 1982).

Mary Ainsworth was not fully credited with her important contributions to Attachment Theory until the 1990s (van Rosmalen, van der Horst, & van der Veer, 2016). Ainsworth and her team made observations of infants and their mothers, in the home setting, during the first year of life. Ainsworth's longitudinal observational experiment that was later dubbed "The Strange Situation" led to the understanding of and categorizing of attachment patterns between infants and their mothers (Karen, 1994). The in-home observations played special attention to the mother's style of responding to her infant in five fundamental areas. These fundamental areas were feeding, crying, cuddling, eye contact, and smiling (Karen, 1994).

During the Strange Situation experiment, mothers brought their 12 month old infants into the lab for attachment behaviors to be observed (Karen, 1994). During this experiment, observations were made about the infant's reaction to a separation from their mother. In some instances, a stranger was present during the separation and in some instances the infant was alone during the separation. A clear pattern emerged and the infant reactions were able to be sorted into one of three categories: securely attached, insecure/anxiously attached and avoidant (Karen, 1994). These categories would have held little meaning if Ainsworth and her team had not spent the previous year observing mothers' responses to the infants in their natural environment (Karen, 1994). Certain responses in the mothers were able to easily correlate to the types of attachments that were observed in the lab (Karen, 1994).

The securely attached infants responded to separation by becoming upset or protesting but they were easily soothed and became happy once their mother returned (Karen, 1994). These infants also used their mothers as a secure base when exploring. If anything caused the infants to become unsure, they would either physically return to their mothers or at the very least, look to them for reassurance. The mothers with securely attached infants had earlier been observed to be the most highly responsive to their child's crying, hunger and smiles (Karen, 1994).

The anxiously/ambivalently attached infants appeared clingy and afraid to explore (Karen, 1994). These babies would also become anxious upon separation and would often cry in excess (Karen, 1994). Ambivalently attached children would seek contact with their mother upon her return but would resist her efforts to soothe them, often by pushing away (Karen, 1994). Avoidant babies appeared independent and would explore without using their mother for a secure base (Karen, 1994). These infants also appeared unaffected by their mother's departure and would avoid her upon her return (Karen, 1994). Mothers of anxiously and avoidantly attached children had been observed earlier in the study to be inconsistent, unresponsive or even rejecting of their infant's signals in the fundamental areas of crying, cuddling, feeding, eye contact, and smiling (Karen, 1994). Studies since Ainsworth's pioneering work have been able to demonstrate that attachment patterns tend to persist throughout childhood and can manifest in adaptive or maladaptive behavior later in life, depending on the attachment pattern (Karen, 1994).

A concept very similar to attachment was labeled "Security Theory" by William Blatz (van Rosmalen et al., 2016). Blatz strongly asserted that children need to be able to rely on their parents in order to develop complete trust in their parents (van Rosmalen et al., 2016). Blatz further argued that human infants need consistent nurturing relationships with at least one sensitive caregiver (van Rosmalen et al., 2016). What Blatz called "secure dependency" is very much like secure attachment. Blatz believed that children start off having to depend on caregivers for survival and that once a child realizes that the caregiver will be there no matter what, the child becomes secure in his or her dependence (van Rosmalen et al., 2016). This secure dependence offers a secure base from which the children will comfortably explore their environment. This exploration with a secure base is critical in the child building enough confidence, to one day become independently secure (van Rosmalen et al., 2016). Blatz felt that parental unavailability and unresponsiveness contributes to unwanted behavior and possibly psychopathology (van Rosmalen et al., 2016).

There are many more researchers that have devoted their lives to demonstrating the crucial role of caregivers in early childhood development. All of these theories and theorists have shown how heavily infants, non-human primates, and other animals, rely on caregivers for comfort and security. This comfort and security is crucial to a helpless child's survival. The distress and disruption from not receiving this security can impact development and have implications for future psychological and physical health.

Critical Analysis

In order to determine if leaving a baby to cry alone is harmful to the parent-child bond, and therefore, potentially harmful to the child's development and health, the function of crying in infants must first be explored. Crying is not exclusive to infants, but is observed across the lifespan, particularly when other forms of communication are lacking or absent (Blunden et al., 2011). Crying is believed, even in adults, to express the verbally inexpressible (Blunden et al., 2011). Crying in infants is part of a biological system that initiates a response from parents and prompts them to reflect on their infants (Blunden et al., 2011). Cries are believed to be a signal for caregivers to provide nourishment, attention, comfort, and reassurance in the form of physical contact (Blunden et al., 2011).

Due to the nature of the signal-response pattern that crying initiates, crying may even be a primitive and innate social system that establishes and maintains reciprocity in relationships (Blunden et al., 2011). This template of "I need you, I will help you" and "when I need you, you will help me" may provide the foundation for all future relationships (Blunden et al., 2011). Ignoring cries that occur at night, but responding to cries during the day may send a very confusing message that looks something like "when I need you, you sometimes respond." When this is viewed through the lens of Attachment Theory, ignoring a child's cries can become very worrisome for an infant that relies on his or her caregiver for survival. When viewing the potential impact for future relationships, it is easy to see that

choosing not to respond to pre-linguistic communication can set the stage for the inability of the infant to feel safe and trust in one's environment. Another possible message is "crying during the day is ok but crying at night is not" and this can be very confusing for young children that lack the ability to reason why this may be. Instead, they can easily turn this into a message of "some of my cues for distress are worthy and some are not." From a survival standpoint, a child is most vulnerable at night, alone, and in the dark (Higley, & Dozier, 2009). It seems only natural that a defenseless child may signal for the reassurance and security of physical proximity to a caregiver when they awake in such an instinctually threatening situation.

Physical proximity was easily demonstrated by Harlow's monkeys and the way that they would spend the majority of their time with the cloth mother that provided comfort, as opposed to the wire mother that provided nourishment. Physical proximity is characterized by being in the presence of the caregiver and reassurance is provided to the infant through physical contact. Physical proximity helps ensure the survival of a defenseless infant. Physical proximity is so vital to infant development that an entire method of care in premature infants has been developed around it. Kangaroo Mother Care has become best practice in many Neonatal Intensive Care Units (NICUs) around the world (Namnabati, Talakoub, Mohammedizadeh, & Mousaviasl, 2016). Kangaroo Care involves immediate skin touch between the infant and mother or the infant and another caregiver after birth. This skin to skin contact is then maintained several times a day for at least one hour, for several days after birth (Namnabati et al., 2016). It has been shown to increase the infant's mental and physical wellbeing. It also reduces mortality, shows faster weight gain, demonstrates an increase in sleeping hours, stabilizes infant's physiological indexes and helps to establish the infant-caregiver bond (Namnabati et al., 2016). These findings suggest that infants have a built in survival mechanism for proximity seeking.

Physical proximity is also very important for the caregiver. Parents that do not view night waking as problematic are often co-sleepers (Geramo et al., 2009). Co-sleeping involves a caregiver sleeping in the same room as his or her infant. This means that the infant does not have to signal as intensely to wake the caregiver and the caregiver does not need to rouse as fully to tend to the child (Geramo et al., 2009). Parents that sleep in a separate room from their child may be under the illusion that their child has fewer wakings because it takes much louder and more intense signaling to reach the caregiver (Geramo et al., 2009). This unfortunately, translates into more distress for the infant and a heightened state of arousal that may be more difficult to soothe. It also translates to the parent or caregiver having to rouse fully and move to a different room (Geramo et al., 2009). A study of nighttime interactions and their impact on attachment found that mothers who responded to nighttime signals of crying or fussing with consistent and reliable responses of pickup/soothe, were more likely to have securely attached infants (Higler, & Dozier, 2009). Given the nature of crying as a form of communication and the likelihood that night time crying more than likely represents a need for caregiver proximity or nourishment, it seems that any cue given by an infant is worthy of caregiver attention.

Ignoring the cries of children very often leads to more full blown cries which indicates activation of the HPA axis and the fight or flight response. This response is associated with an increase in the bioavailability of cortisol, commonly known as the stress hormone (Vanaelst et al., 2014). Stress hormones are known to cause metabolic changes and can also result in maladaptive coping behaviors (Vanaelst et al., 2014). Children are not often recognized as being vulnerable to stress and its effects (Vanaelst et al., 2014). Normally, cortisol levels are higher during the day and decline at night (Vanaelst et al., 2014). Salivary cortisol levels are often used as a stress index (Vanaelst et al., 2014). When a child is in a stressful situation, such as crying alone at night, their cortisol levels will climb. Cortisol levels that

spike outside of the normal range or times can have a negative impact on infant physiology and brain development (Vanaelst et al., 2014).

Several studies have shown that events in childhood can have a profound impact on long term physical and mental health. ACE stands for Adverse Childhood Experience and is the foundation of one of the most important studies in the long term effects of childhood experience. The ACE inventory currently measures exposure to physical abuse, psychological abuse, sexual abuse, physical neglect, emotional neglect, parental loss through divorce, death or abandonment, parental imprisonment, parental mental illness, parental substance abuse, and violence against the mother (Finkelhor, Shattuck, Turner, & Hamby, 2015). These experiences have been associated with physical and mental health problems in adulthood (Steele et al., 2016). Elevated ACE scores are predictive of an increased risk for psychosocial problems in adulthood and behaviors that may be detrimental to health, such as smoking, risky sexual behavior and abusing drugs or alcohol (McKelvey, Whiteside-Mansell, Conners-Burrow, Swindle, & Fitzgerald, 2016). Elevated ACE scores have also been associated with serious illness, and early mortality in adulthood from causes such as obesity, cancer, heart disease, lung disease, and liver disease (McKelvey et al., 2016).

ACE scores have also been associated with attachment patterns that are carried over into adulthood and that may have problematic implications for parenting (Steele et al., 2016). An accumulation of risks throughout childhood may have a very negative impact on a child's future wellbeing. While behavioral sleep training such as the Ferber Method may not constitute an Adverse Childhood Experience, there is evidence to support that it may negatively impact attachment. With attachment being heavily implicated in future development and relationships, it can be argued that behavioral sleep training, at the very least, may become a risk factor when combined with other factors.

Summary

With no universally accepted definition of a sleep problem in infancy, and the precise amounts of sleep needed by infants may be subjective, and make it difficult to determine when a sleep intervention is warranted (Hiscock, & Fischer, 2015). Infant sleep patterns are dictated by cultural, social, and societal values and even these can vary between families (Hiscock, & Fischer, 2015). Until these measures can be established, infant sleep problems are diagnosed relevant to how the sleep schedule is experienced by the parents (Hiscock, Fischer, 2015). A family in which both parents work in standard nine to five careers, may find an infant that wakes multiple times during the night, much more distressing than a family in which one parent stays home all the time and is able to sync themselves to the baby's sleep schedule.

It is far-fetched to claim that behavioral sleep training constitutes physical neglect but it does share some similarities with neglect. Neglect is characterized by denying a child their basic needs. Infants and children signal at night to express a need (McKelvey et al., 2016). Whether this need is hunger, thirst, relief from discomfort or pain, or the need for reassurance, it is clear that the child is attempting to fulfill a need. Having needs met consistently during the day but ignored during the night can be very confusing for an infant or child with limited communication skills. Most of the Adverse Childhood Experiences that have been associated with greater risk for psychological and physical health problems, involve a separation from the parent or the unavailability of the parent to consistently meet the child's needs. Repeatedly ignoring a child's cues for distress could very well be a risk factor and contributor to disruptions in development and threats to future wellbeing.

Another possibility that needs to be considered is that sleep training can potentially worsen the problem of sleep resistance. Sleep training has been experienced as emotionally difficult for mothers as well as children. If a mother begins sleep training and then stops or engages in a mixture of ignoring and

responding, this can become confusing to the child. Every time a usually ignored cry is instead responded to, it acts as a positive reinforcement for more crying. The confused message sent by inconsistent responding has already been linked to insecure attachment which in and of itself can worsen the nighttime signals for distress. Insecure attachment can sometimes manifest as clinginess and is often associated with problems with emotional regulation. It may be extremely difficult for an insecurely attached child to successfully self-soothe. Another question that is raised is whether self-soothing is actually a maladaptive behavior that was adopted due to the inconsistency of caregiver response. Furthermore, with evidence that suggests that sleep problems may already be associated with insecure attachment, would ignoring more distress cues from a child, place him or her at higher risk for attachment disruptions and future pathology?

Recommendations

Behavioral sleep training interventions have been frequently recommended by pediatricians and other clinicians for several decades (Higley, & Dozier, 2009). While opposition to behavioral sleep training has become more frequent, there has not been a longitudinal assessment of caregiver-child relationships in families in which the Ferber Method and other behavioral training techniques were used. Even further, longitudinal assessment could incorporate what methods were then implemented by the children who received the sleep training, once they became parents. Another area that needs to be examined is the mental and physical health history of adults that were sleep trained as infants or children.

Areas of future research should compare the effectiveness of various behavioral sleep training methods as well as their possible harmful effects. Until it is established that behavioral sleep training methods are safe and effective, there are many other interventions that can be utilized in maximizing sleep in infants, children and their families. Some interventions that have been suggested by

attachment oriented clinicians and researchers are recommended lifestyle changes that can support healthful sleep, identification of obstacles that interfere with sleep, stimulus control, safe sleep, relaxation techniques for parent and infant, and targeting cognitive processes that may contribute to sleep difficulties (Whittingham, & Douglas, 2014). Lifestyle changes can be as simple as scheduling or adding activities (Whittingham, & Douglas, 2014). Some obstacles that interfere with sleep can include physical problems that lead to fussiness, such as feeding problems or gastrointestinal distress (Whittingham, & Douglas, 2014). Stimulus Control involves allowing infants and parents to fall asleep when sleepy (Whittingham, & Douglas, 2014). Safe sleep involves acknowledging that the safest place sleeping arrangement for an infant that is less than six months old is in the same room as the caregiver (Whittingham, & Douglas, 2014). Cognitive processes that can contribute to sleep issues can be parents holding rigid beliefs about sleep or rumination about not getting enough sleep (Whittingham, & Douglas, 2014). All of these methods can increase sleep quantity but also sleep quality, which may be much more important.

Because sleep problems in infants are identified by the level of distress it is causing to the parent, it is highly recommended that clinical interventions begin to target the caregiver's sleep quality and quantity. While the infant should be thoroughly screened for any underlying medical or emotional conditions, behavioral sleep interventions for the infant should be implemented with extreme caution. In his book, Ferber (1986), addresses sleep disturbances that are clinically significant and what the underlying physical and emotional implications may be. An infant signaling for physical proximity to a caregiver or due to nighttime hunger or thirst should not be labeled as a child with a sleep disorder. Interventions such as, safe co-sleeping, involvement of the other parent, relaxation techniques for the caregiver, and controlling environmental stimuli, are all ways to help improve quality of sleep for the caregiver. Until there is evidence that rules out the potentially harmful long-term and short-term effects of behavioral sleep interventions, alternative solutions should be found whenever possible.

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